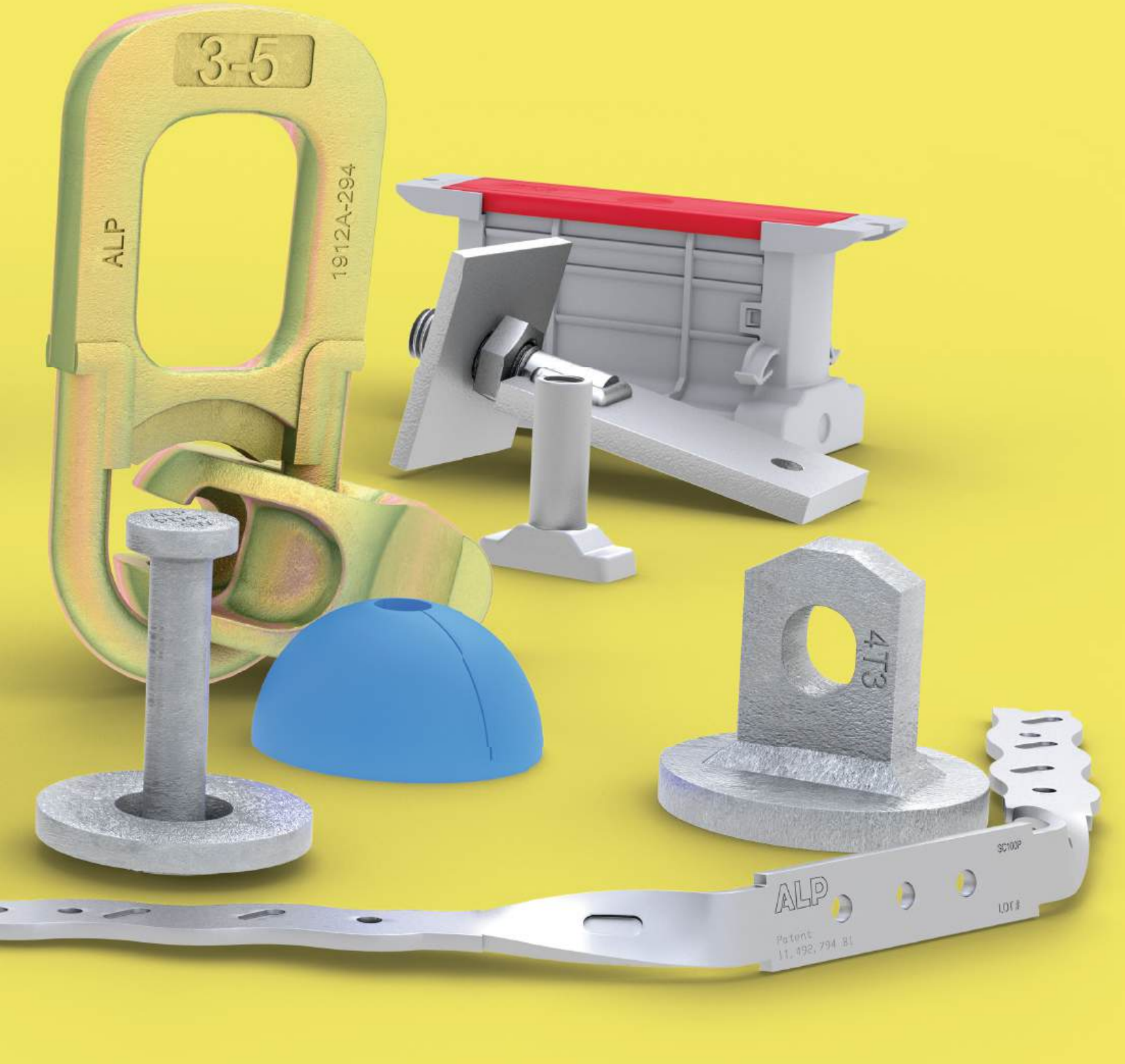
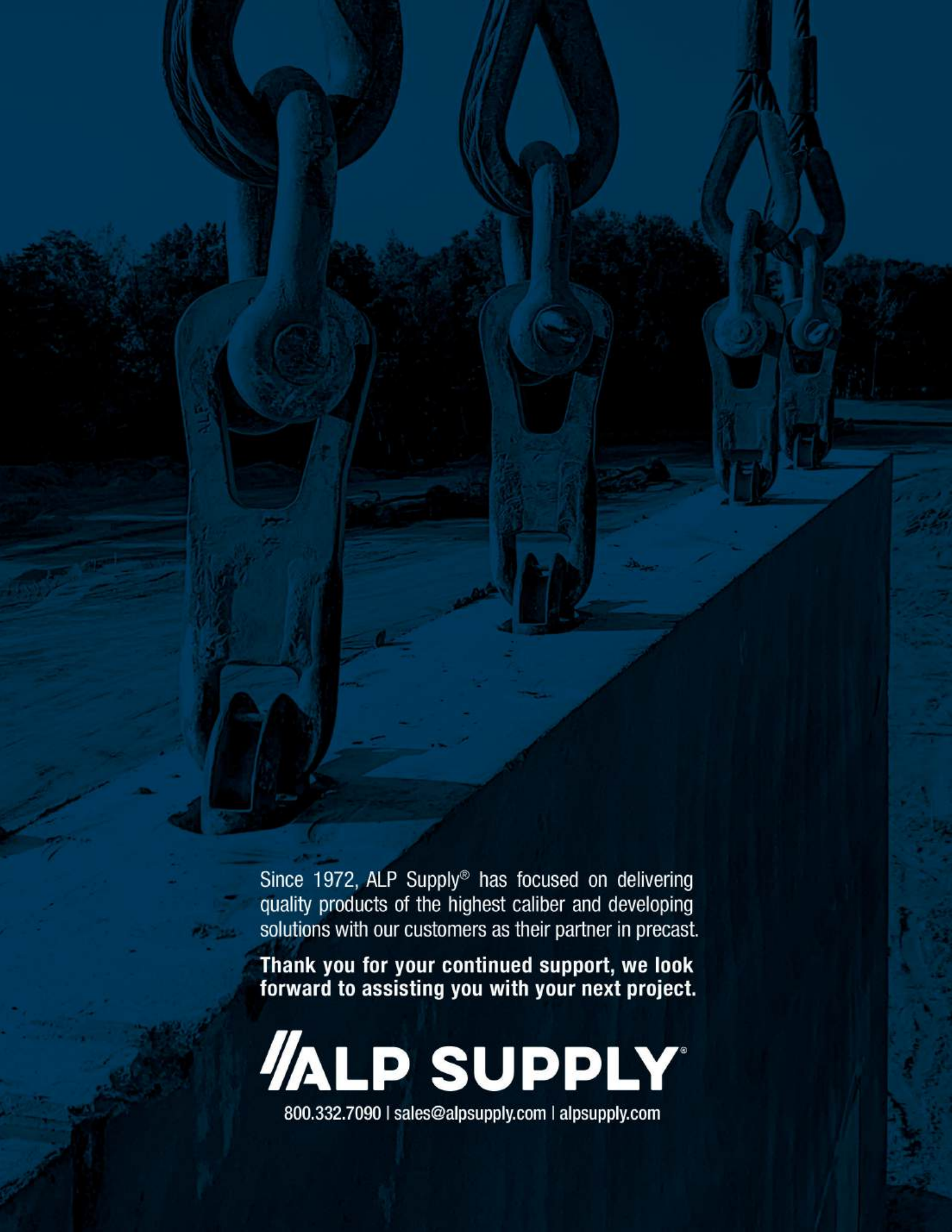
ALP SUPPLY®

2024 PRECAST ACCESSORIES TECHNICAL MANUAL & CATALOG





Since 1972, ALP Supply® has focused on delivering quality products of the highest caliber and developing solutions with our customers as their partner in precast.

Thank you for your continued support, we look forward to assisting you with your next project.

ALP SUPPLY®

800.332.7090 | sales@alpsupply.com | alpsupply.com

ALP Supply® was founded over 50 years ago by the late Albert Lester "Patt" Patterson with a goal to be the "Single Source Supplier" of concrete accessories for manufacturers of precast concrete products. Patt was one of the pioneering fathers of the prestressed industry and was the very first prestressed strand salesman in America. Working for Roebling Wire in the 1940s and 1950s, Patt helped cement the way, including the sale of the strand used for the first prestressed bridge in the country, the Walnut Lane Bridge in Philadelphia in 1950.

In 1982, Barry Fleck partnered with Patt to build upon his vision for the company. ALP has expanded our offering to the precast industry by manufacturing our core product lines, providing engineering support, developing custom solutions and strategically positioning multiple distribution points across the United States.

DEDICATED TO QUALITY

At ALP Supply, we take the quality and safety of our steel products seriously and ensure that everything we produce meets the highest quality control and manufacturing standards. From raw material to finished product, our QC Experts rigorously test every item to meet or exceed industry standards.

Raw Material

We only source raw steel from our approved steel mill partners. Upon receipt of material, we meticulously verify the quality by cutting a small sample and testing for metallurgical analysis by completing a tensile test. After we confirm that the steel meets our standards, our staff assigns it a lot number, allowing for traceability.

Production

Our manufacturing equipment is maintained and calibrated to ensure consistent production quality. ALP QC Experts then inspect the items for dimensional tolerances and test to ensure they meet the established capacities. Each part is marked with a lot number, randomly selected and checked for consistency.

Finished Product

Once production is complete, all products go through a strict quality control check before being delivered to our distribution centers. Additionally, our QC Experts perform ongoing random product inspections at our warehouse as a final step to ensure all items meet industry and ALP Supply's quality standards.

7 LOCATIONS ACROSS THE US

1. Fairless Hills, PA
2. Atlanta, GA
3. Plant City, FL
4. Minneapolis, MN
5. Fort Worth, TX
6. Reno, NV
7. Columbus, OH

PROUD MEMBER OF

PCI Precast/Prestressed Concrete Institute

NPCA NATIONAL PRECAST CONCRETE ASSOCIATION

NRMCA NATIONAL READY MIXED CONCRETE ASSOCIATION

1927 CAST STONE INSTITUTE

APA ARCHITECTURAL PRECAST ASSOCIATION

ONSITE FABRICATION AND TECHNICAL SUPPORT

ALP Domestic Fabrication and Manufacturing

Located in Pennsylvania, ALP Fabrication specializes in custom accessories specific to the precast and prestressed industries. Our domestic manufactured products include a variety of lifting anchors, connections, weld plates and bearing pads. For more information on our custom steel manufacturing capabilities see page 122.

Access to Experts

Our Engineering and Technical Services Departments are available as a benefit to our customers. Our team of experts will work with your engineers to develop safe lift designs and select the proper lifting system. Additionally, our Engineering Department can design custom accessories if a stock product is not suitable for your project.

MULTIPLE WAYS TO ORDER

Online

Sign into your account on alpsupply.com to view the status of your orders and track your shipments. Website ordering capabilities are available 24 hours a day, 7 days a week.

Email

Send your order or request for a quote directly to sales@alpsupply.com.

Phone

Call us toll-free at 800.332.7090 or 215.736.2030 to speak with a sales team member Monday through Friday, 7am-5pm EST.

SHIPPING AND HANDLING

A variety of shipping options are available, from standard to overnight. Costs for these services are calculated per shipment. ALP Supply® also has a free freight policy. See our website for more information.

Volume-Based Discounts & Freight Discounts

You will find price breaks on our website for some products. Please contact our customer service department for more information. Shipments that qualify for a delivered price will be adjusted after the order has been placed.

Order and Shipping Information

When placing an order online, you will receive a confirmation email after your order has been placed and again when the item has shipped.

TERMS AND CONDITIONS

Information Enclosed

The content and data presented in this catalog is intended for those utilizing products within the precast / prestressed concrete industry and can be edited or changed at any time by right of ALP Supply®. For best results, users should assess project requirements and needs before selecting products within the catalog. Please see alpsupply.com for products updates, addendums, and errata.

Intellectual Property

SAFETY GUIDELINES

Products in this catalog should only be used by trained professionals; failure to do so may result in serious injury. Before using any product in this catalog, time should be taken to review all technical and safety information to ensure the safety of workers. If you are ever uncertain about a product or its application, please contact our Technical Support Specialist at tech@alpsupply.com.

Product Modifications

ALP Supply® reserves the right to make alterations to product information and/or design without prior notice to users.

Anchor Loads

Capacity and usage varies drastically with lifting anchor types and sizes. All product information should be checked carefully to make sure the correct anchor is being used properly.

Do Not Modify

Products in this catalog should not be changed (i.e. modified or welded) from their original form. All products should be reviewed by a trained professional to determine effectiveness and disposed of if damaged in any way.

Worn Materials

All items are prone to wear and tear which can affect product performance. Materials should be reviewed to determine if they are in proper condition for use/reuse.

Impact Load

An experienced professional should always evaluate the method of lifting and transporting precast elements. The performance of lifting anchors can be affected by extreme impact and/or acceleration loads being transmitted to the lifting system during handling.

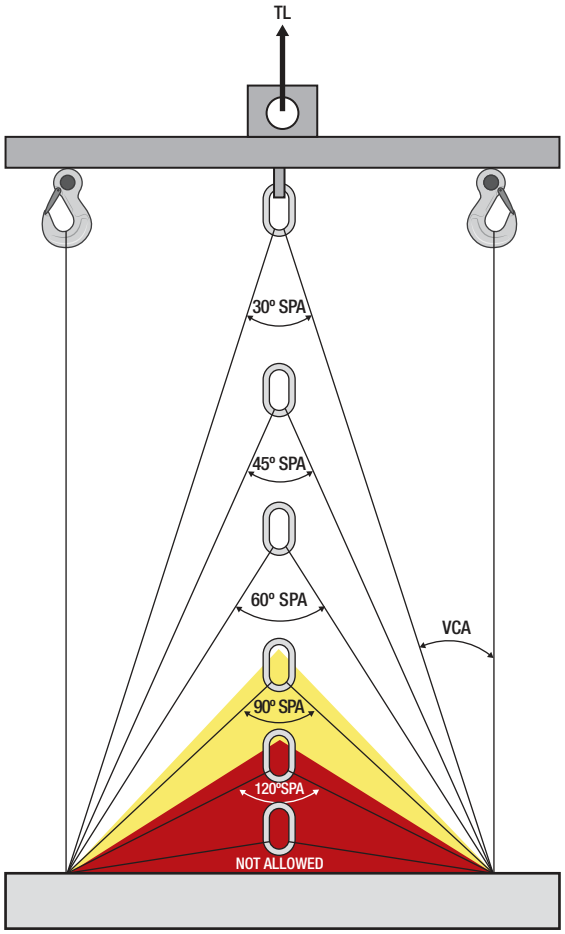
Rigging

All rigging configurations should be carefully reviewed by an engineer before use. Improper rigging techniques can drastically increase loads applied to anchors.

Payment Options

In addition to all major credit cards, ALP Supply® offers credit lines to customers with good credit. Call us for more information.

LIFTING ANGLE LOAD FACTORS

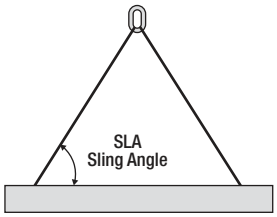


Sharp rigging angles can drastically increase the load transmitted to a lifting anchor. Spread Angles (SPA) less than 60° are preferred to minimize this factor.

Sling Angle (SLA)	Vertical Cable Angle (VCA)	Spread Angle (SPA)	Load Increase %	Load Increase Factor
90°	0°	-	0%	1.00
82.5°	7.5°	15°	1%	1.01
75°	15°	30°	4%	1.04
67.5°	22.5°	45°	8%	1.08
60°	30°	60°	16%	1.16
52.5°	37.5°	75°	26%	1.26
45°	45°	90°	41%	1.41
37.5°	52.5°	105°	64%	1.64
30°	60°	120°	100%	2.00

* Multiply your load by the above factors.

Typical | Maximum allowed, caution advised | Do not use



DYNAMIC/SHOCK LOAD FACTORS

All load values shown in the ALP Supply lifting charts are based upon a smooth engagement of the lifting anchor, utilizing cable rigging on a smooth surface. The load transmitted to the anchor should be increased by the following factors.

	Cable Rigging	Chain Rigging
Stationary Crane	= 1.0	≥ 1.3
Lifting and transporting on a smooth surface	≥ 1.65	≥ 2.5
Lifting and transporting on an uneven surface	≥ 2.0	≥ 4.0

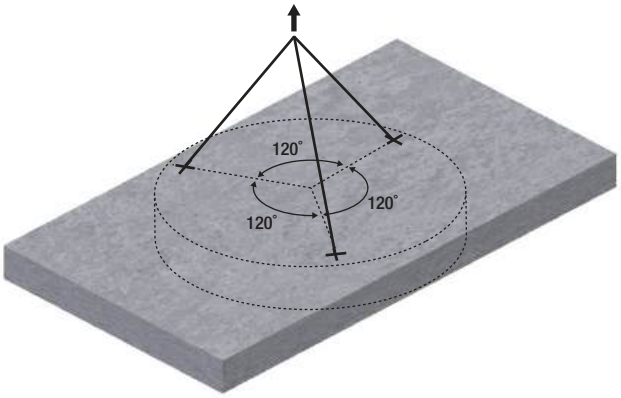
- Lifting with chains is not recommended.
- Multiply your load by the above factors.

Typical | Maximum allowed, caution advised | Do not use

PROPER LOADING OF ANCHORS - SLABS

3-Point Pick

When lifting small slabs, 3-point picks can ensure an even disbursement of the load to the anchors, when spaced about the center of gravity, at 120° spacing.



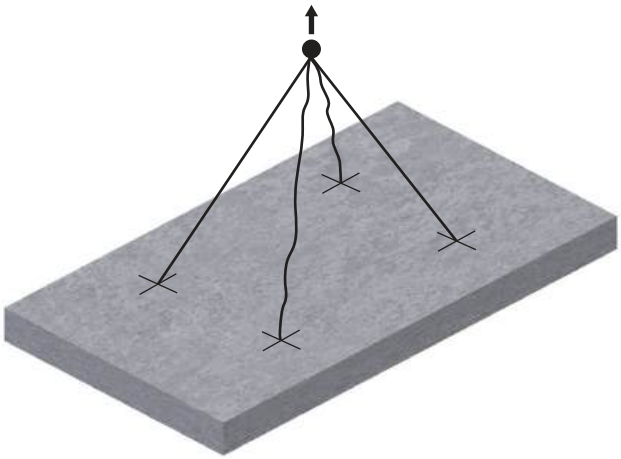
3 anchors take the load

See rigging load charts for increased load factors.

All three anchors receive equal loads if using three equally spaced lifters and rigging as shown.

4-Point Pick

4-point picks require some planning to ensure the load is evenly distributed to the lifting anchors.



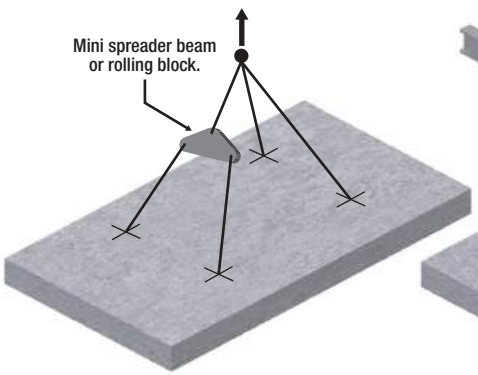
Assume 2 anchors take the load

This rigging does not equalize the load to all 4 anchors.

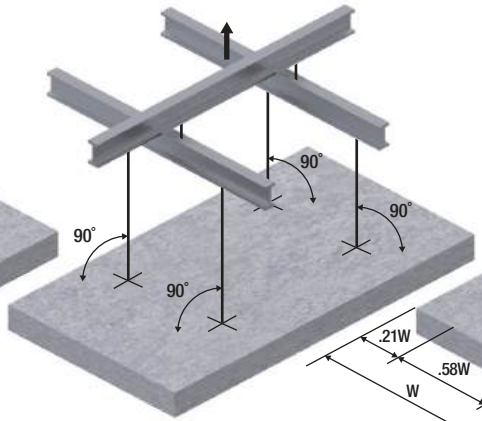
See rigging load charts for increased load factors.

Fixed 4-point rigging should be avoided when possible. When using a fixed 4-point rigging, assume only 2 anchors will take the load.

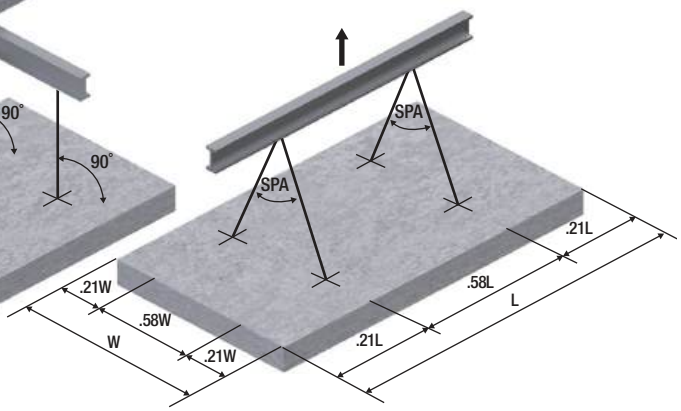
The below images show some rigging layouts that will ensure applied loads are transferred equally to the lifting anchors. Lifting anchor locations are a percentage of element size to minimize flexural stresses, while maintaining minimum edge distance requirements per catalog design criteria.



4 anchors take the load



4 anchors take the load



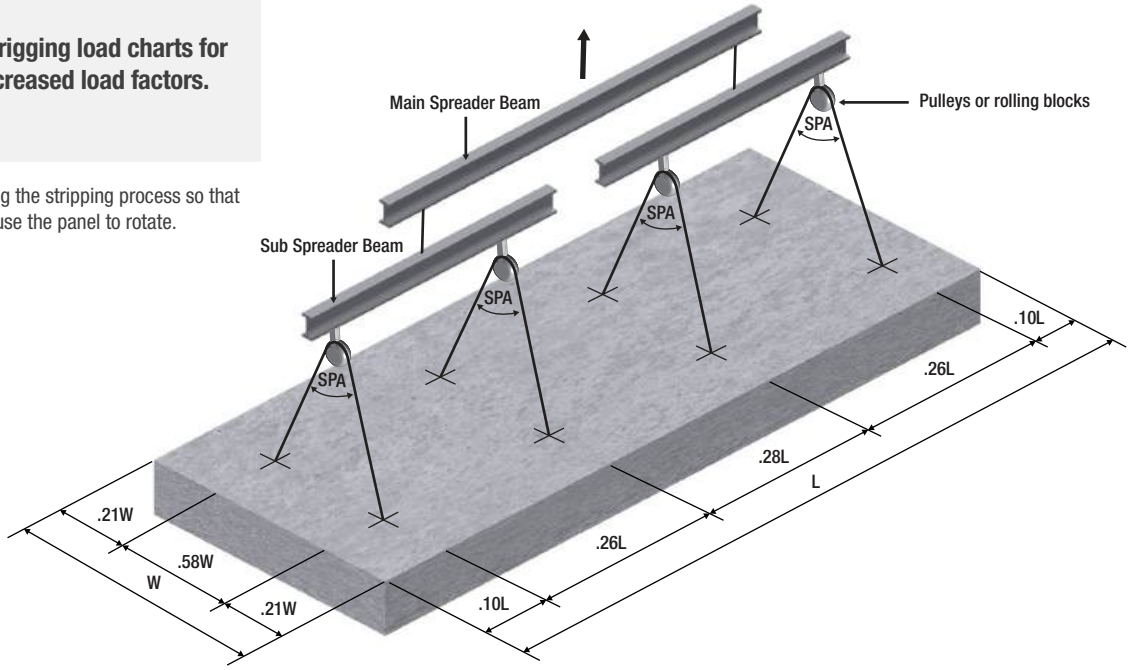
4 anchors take the load

PROPER LOADING OF ANCHORS - SLABS (CONT.)

8-Point Pick

See rigging load charts for increased load factors.

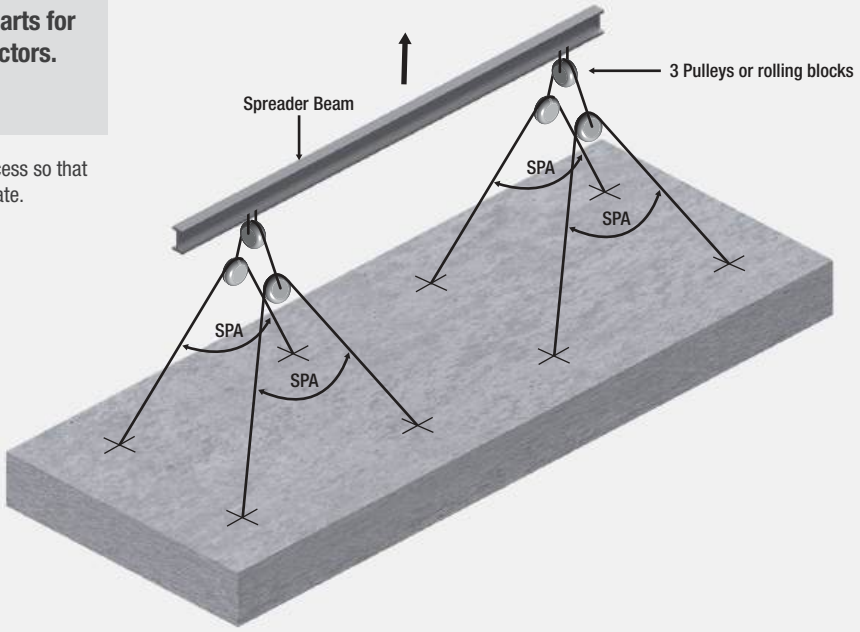
Caution should be taken during the stripping process so that the form adhesion doesn't cause the panel to rotate.



8 anchors take the load

See rigging load charts for increased load factors.

Caution should be taken during the stripping process so that the form adhesion doesn't cause the panel to rotate.



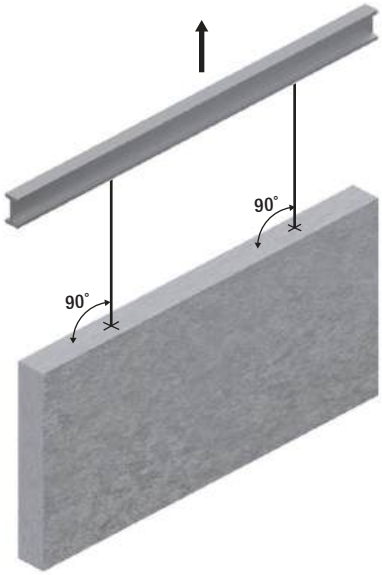
8 anchors take the load

PROPER LOADING OF ANCHORS - WALL PANELS

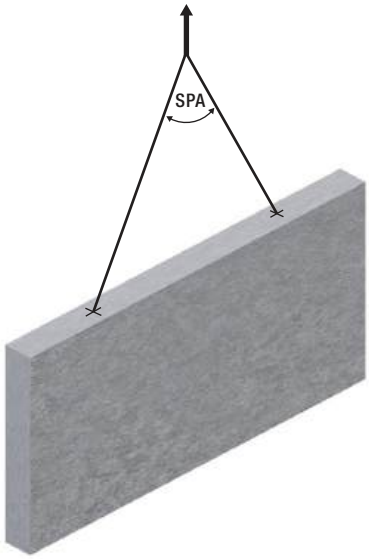
2-Point Pick

A 2-point pick is the easiest to equalize load to the lifting anchors when rigged as shown.

See rigging load charts for increased load factors.



2 anchors take the load



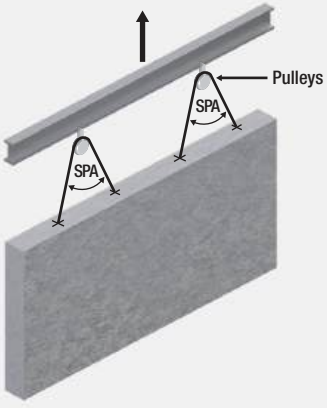
2 anchors take the load

4-Point Pick

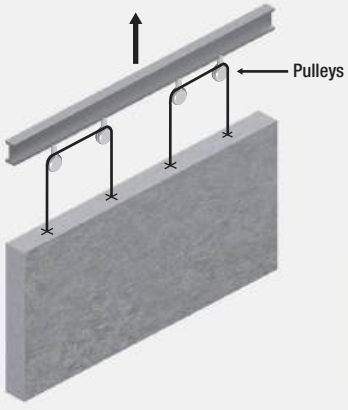
4-point picks require planning to ensure the load is evenly distributed to the lifting anchors.

See rigging load charts for increased load factors.

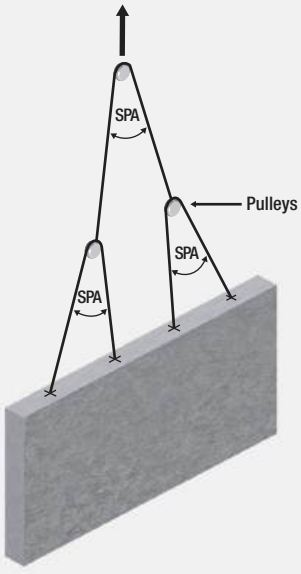
Assume 2 anchors take the load



4 anchors take the load



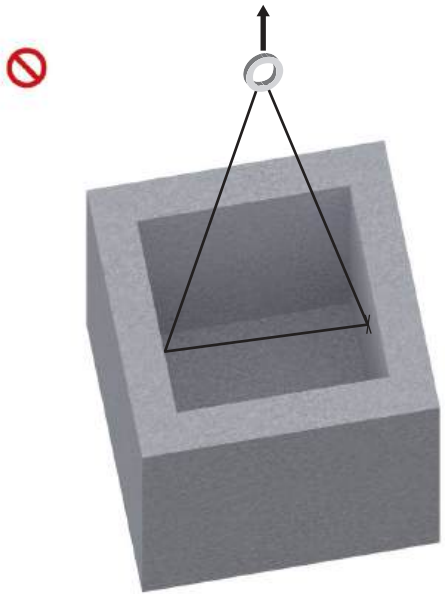
4 anchors take the load

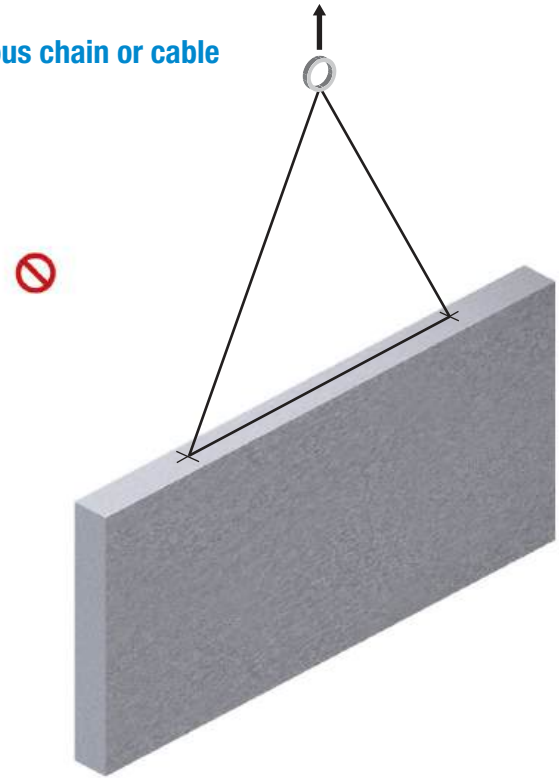


4 anchors take the load

IMPROPER LOADING OF ANCHORS

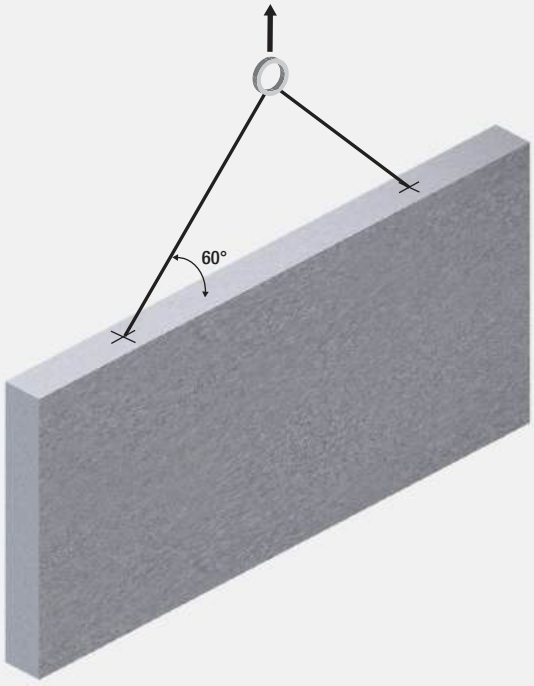
Do not use one continuous chain or cable



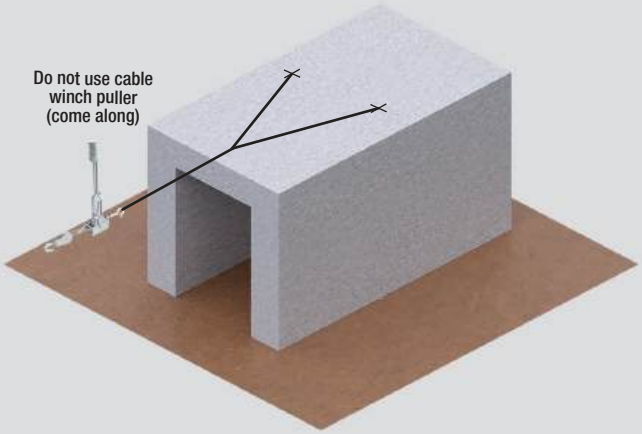


Not recommended less than 60° sling angle

See lifting angle load factors chart.

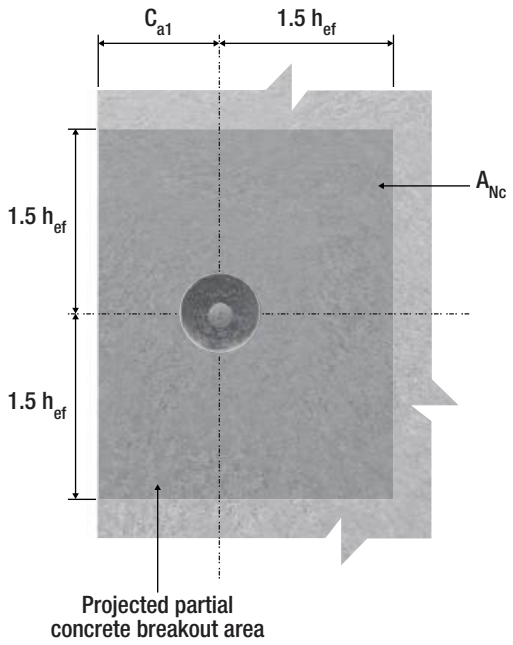


Do not use anchors to drag structures

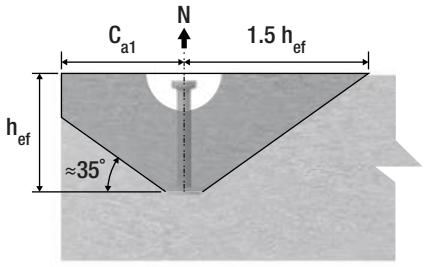


AREA REDUCTION METHOD OF PROJECTED CONCRETE SHEAR CONE FOR DETERMINING REDUCED ANCHOR CAPACITY

$A_{Nc} = (C_{a1} + 1.5h_{ef})\ (2 \times 1.5h_{ef})$
if $C_{a1} < 1.5h_{ef}$



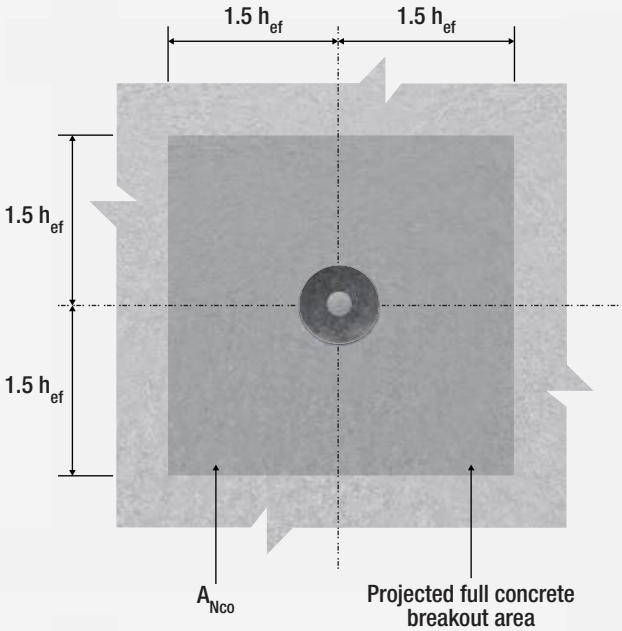
PLAN



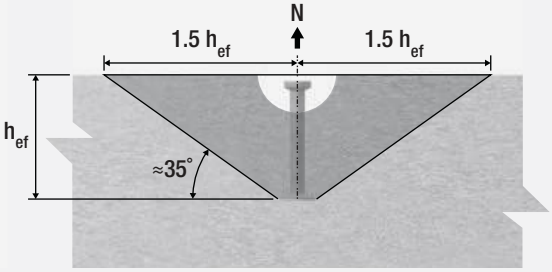
SECTION THROUGH PARTIAL FAILURE CONE

Lift Pin Anchor is used for illustration purposes only.
The equations are applicable for any cast-in concrete anchor.

$A_{Nco} = (2 \times 1.5h_{ef})\ (2 \times 1.5h_{ef}) = 9h_{ef}^2$



PLAN



SECTION THROUGH FAILURE CONE

The critical edge distance for anchors is 1.5 h_{ef} and 3 h_{ef} for anchor to anchor center distance.

$\lambda = 1.0$ for ($Wc > 135pcf$) $\quad \lambda = (0.0075 \times Wc)$ for ($100pcf < Wc \leq 135pcf$) $\quad \lambda = 0.75$ for ($Wc \leq 100pcf$)

To account for the properties of lightweight concrete, a modification factor λ is used as a multiplier of $\sqrt{f'c}$ in all applicable provisions of this code.

The value of λ shall be based on the equilibrium density, Wc (lb./cu.ft.), of the concrete mixture in accordance with Table 19.2.4.1(a) or as permitted in Table 19.2.4.1(b) based on the composition of aggregates in the concrete mixture per ACI 318: Building Code Requirements for Structural Concrete (latest edition).

Area Reduction Factor (R_F) = A_{Nc}/A_{Nco}

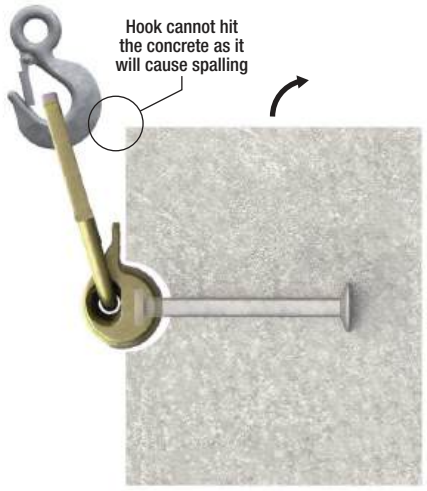
Estimated new allowable anchor tension capacity (N) = $\lambda \times R_F \times P_{SWL}$

Glossary Terms

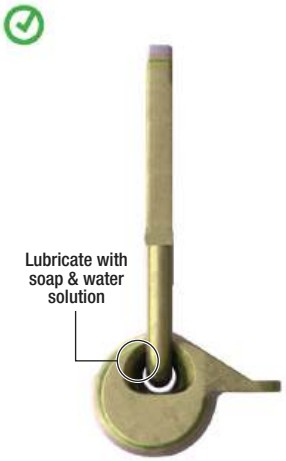
N: Estimated new allowable anchor tension capacity
h_{ef}: Effective embedment depth of anchor
A_{Nc}: Projected concrete failure area of a single anchor in tension
A_{Nco}: Projected concrete failure area of a single anchor not limited to edge distance or anchor spacing
R_F = Area Reduction Factor
P_{SWL} = Published Safe Working Load
Wc = Concrete Equilibrium Density, pcf or lb./ft.^3
λ = light weight concrete modification factors

LIFTING PIN™ SYSTEM

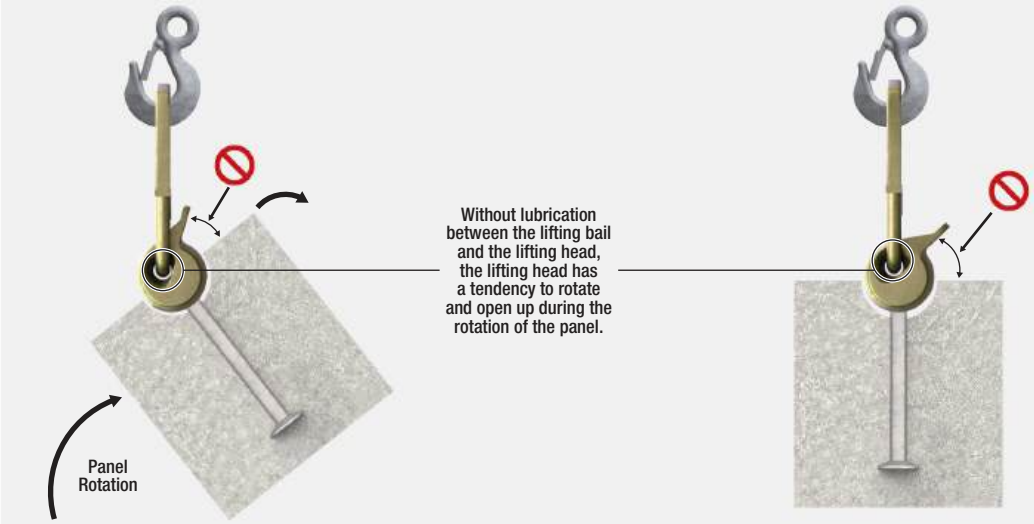
EDGE LIFTING OF SLABS AND WALL PANELS



The Lifting Pin System is **not typically recommended** for lifting in the edge of thin wall panels or slabs due to the system's low shear capacity in that application. For thin panels, the ALP Supply QuikLift® System should be used. In thicker panels and slabs, the ALP Supply Lifting Pin System can be used to rotate slabs or panels, but users should monitor the orientation of the lifting head in relation to the direction of load. Without proper lubrication of the lifting head, it can start to disengage from the lifting anchor as the panel is rotated up. To minimize friction between the lifting head and the bail, a soap and water solution is recommended.



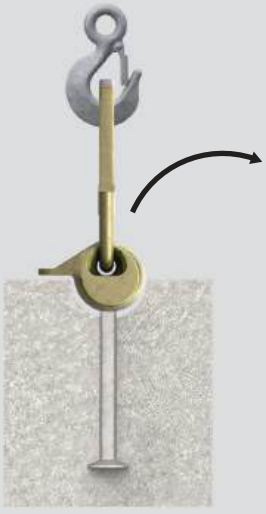
Side View



If laying panel down on opposite side follow these instructions

It may be necessary to disengage the lifting eye from the hook

Rotate Lift Eye



Slowly lay down panel

ALP® LIFTING EYE TERMINOLOGY AND INSPECTION

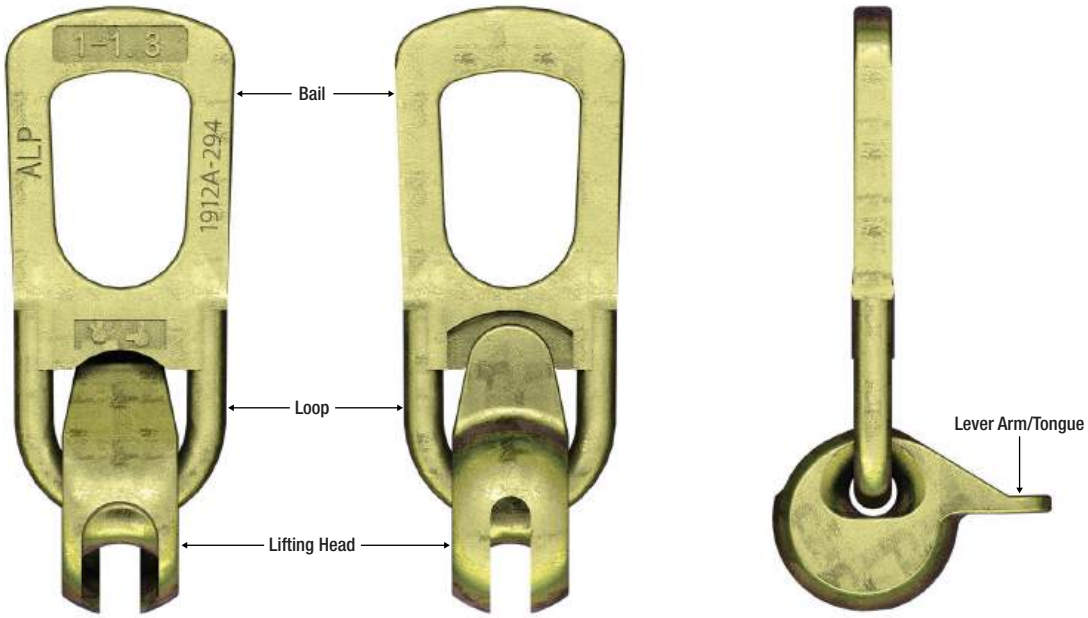
Inspect all Lift Eyes for the following:

- Inspect the Bail and Lifting Head for cracks.
- Inspect the Bail and Loop for any bends.
- Inspect and remove from service if there are signs that excessive external heat was applied to any parts.

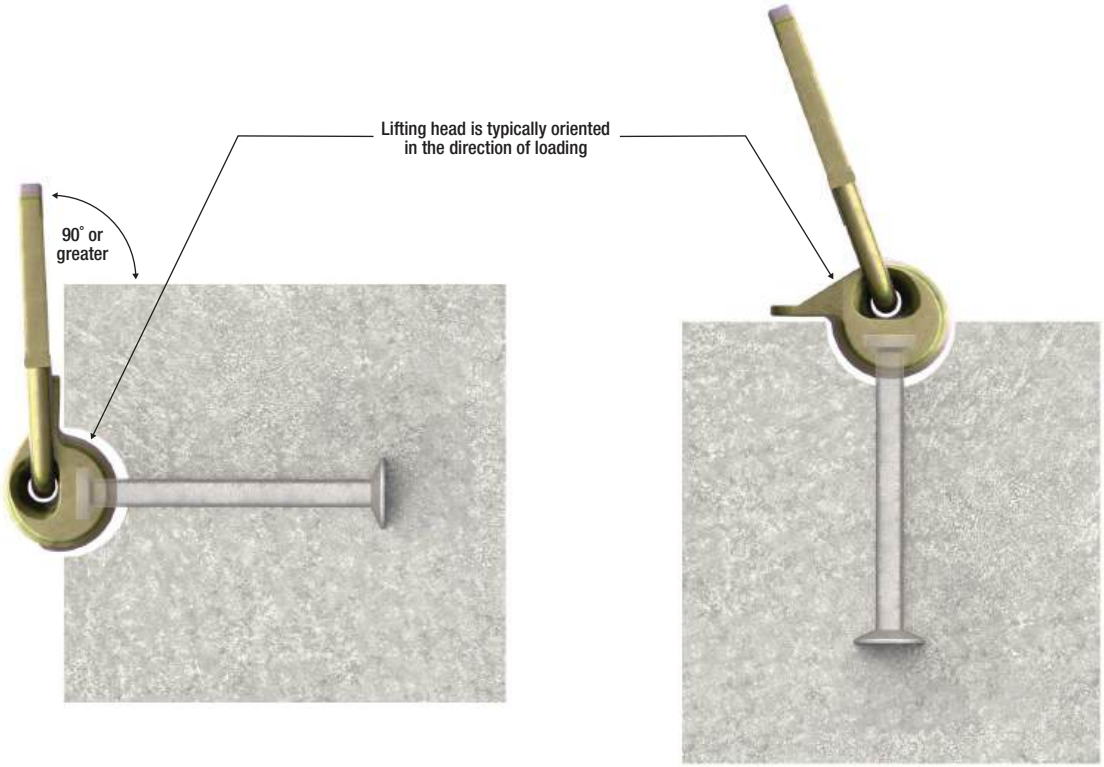
When to remove Lift Eyes from service:

- If the Bail has been bent.
- If a weld has been fractured.

See ALP Supply website for Inspection and Maintenance Guidelines for routine inspection of lifting hardware.

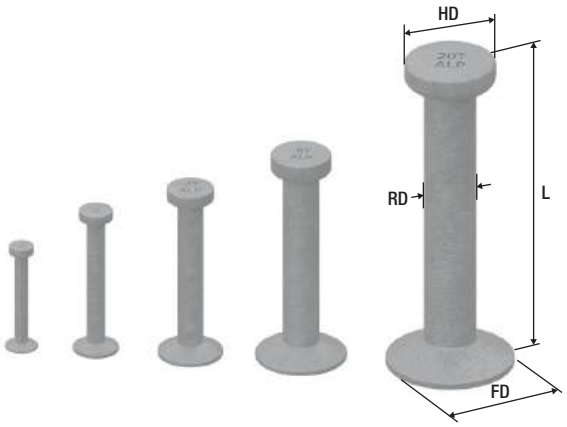


ALP® LIFTING EYE GENERAL USE



ALP® LIFTING PIN ANCHORS

All ALP Lifting Pin Anchors are manufactured using high strength steel with forged ends. The head design provides uniform engagement with the Lifting Eye, and the large forged anchor foot is embedded in the concrete to create the lifting capacity. **Standard finish is hot-dipped galvanized.**
Safe Working Loads (SWL) displayed in the below chart apply to loading in any direction.



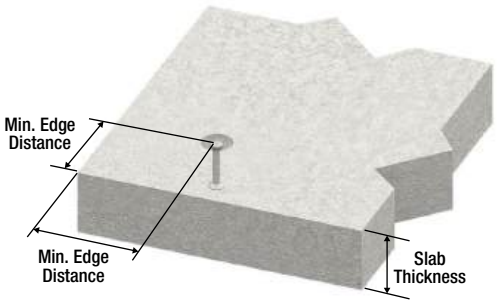
Head Marking

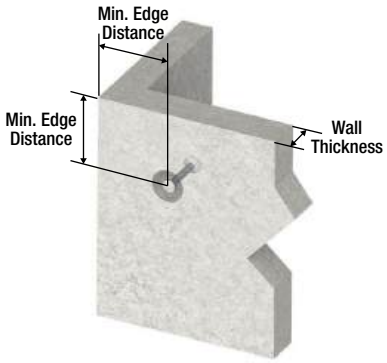
Foot Marking

DIMENSIONS AND CAPACITIES

Part #	Ton	L	HD	RD	FD	Head Marking	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Bag	Qty/Crate
LPA1T238G	1T	2-3/8”	3/4”	3/8”	1”	ALP 1T 238	8,000	0.11	300	15,000
LPA1T258G	1T	2-5/8”	3/4”	3/8”	1”	ALP 1T 258	8,000	0.14	300	15,000
LPA1T338G	1T	3-3/8”	3/4”	3/8”	1”	ALP 1T 338	8,000	0.16	200	5,000
LPA1T434G	1T	4-3/4”	3/4”	3/8”	1”	ALP 1T 434	8,000	0.22	100	5,000
LPA2T234G	2T	2-3/4”	1”	9/16”	1-3/8”	ALP 2T 234	16,000	0.31	100	5,000
LPA2T338G	2T	3-3/8”	1”	9/16”	1-3/8”	ALP 2T 338	16,000	0.35	100	5,500
LPA2T434G	2T	4-3/4”	1”	9/16”	1-3/8”	ALP 2T 434	16,000	0.43	100	5,000
LPA2T512G	2T	5-1/2”	1”	9/16”	1-3/8”	ALP 2T 512	16,000	0.48	50	4,500
LPA2T634G	2T	6-3/4”	1”	9/16”	1-3/8”	ALP 2T 634	16,000	0.57	100	4,000
LPA2T11G	2T	11”	1”	9/16”	1-3/8”	ALP 2T 11	16,000	0.85	30	1,500
LPA4T212G	4T	2-1/2”	1-7/16”	3/4”	2”	ALP 4T 212	32,000	0.67	50	3,000
LPA4T3G	4T	3”	1-7/16”	3/4”	2”	ALP 4T 3	32,000	0.74	50	3,000
LPA4T312G	4T	3-1/2”	1-7/16”	3/4”	2”	ALP 4T 312	32,000	0.77	50	2,500
LPA4T334G	4T	3-3/4”	1-7/16”	3/4”	2”	ALP 4T 334	32,000	0.82	50	2,500
LPA4T414G	4T	4-1/4”	1-7/16”	3/4”	2”	ALP 4T 414	32,000	0.89	50	2,500
LPA4T434G	4T	4-3/4”	1-7/16”	3/4”	2”	ALP 4T 434	32,000	0.94	25	2,500
LPA4T512G	4T	5-1/2”	1-7/16”	3/4”	2”	ALP 4T 512	32,000	1.05	50	2,000
LPA4T718G	4T	7-1/8”	1-7/16”	3/4”	2”	ALP 4T 718	32,000	1.25	25	1,600
LPA4T912G	4T	9-1/2”	1-7/16”	3/4”	2”	ALP 4T 912	32,000	1.60	20	1,500
LPA8T434G	8T	4-3/4”	1-13/16”	1-1/8”	2-3/4”	ALP 8T 434	64,000	1.96	20	1,000
LPA8T6G	8T	6”	1-13/16”	1-1/8”	2-3/4”	ALP 8T 6	64,000	2.31	20	1,000
LPA8T634G	8T	6-3/4”	1-13/16”	1-1/8”	2-3/4”	ALP 8T 634	64,000	2.48	20	1,000
LPA8T834G	8T	8-3/4”	1-13/16”	1-1/8”	2-3/4”	ALP 8T 834	64,000	3.06	15	750
LPA8T10G	8T	10”	1-13/16”	1-1/8”	2-3/4”	ALP 8T 10	64,000	3.33	10	500
LPA8T1338G	8T	13-3/8”	1-13/16”	1-1/8”	2-3/4”	ALP 8T 1338	64,000	4.26	N/A	450
LPA8T2634G	8T	26-3/4”	1-13/16”	1-1/8”	2-3/4”	ALP 8T 2634	64,000	7.83	N/A	270
LPA16T778G	16T	7-7/8”	2-3/4”	1-9/16”	3-7/8”	ALP 16T 778	128,000	6.59	N/A	300
LPA20T10G	20T	10”	2-3/4”	1-9/16”	3-7/8”	ALP 20T 10	160,000	7.82	N/A	200
LPA20T16G	20T	16”	2-3/4”	1-9/16”	3-7/8”	ALP 20T 16	160,000	11.00	N/A	200
LPA20T1934G	20T	19-3/4”	2-3/4”	1-9/16”	3-7/8”	ALP 20T 1934	160,000	13.35	N/A	160

ALP® LIFTING PIN ANCHORS CAPACITY IN CONCRETE



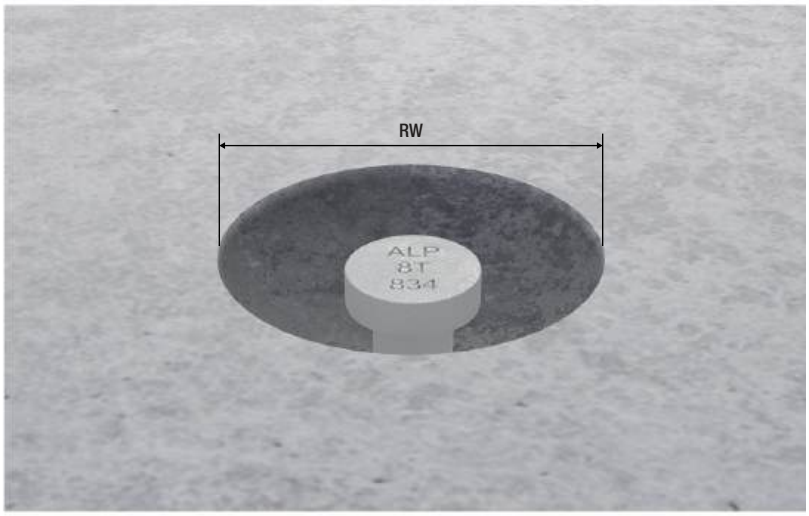


			Capacity in Concrete, 4:1 SWL					
Part #	Ton	L	1500 PSI (lbs)	2500 PSI (lbs)	3500 PSI (lbs)	5000 PSI (lbs)	Min. Edge Distances	
							Tension	Shear
LPA1T238G	1T	2-3/8”	1,045	1,350	1,600	1,910	8”	12”
LPA1T258G	1T	2-5/8”	1,160	1,500	1,770	2,000	8”	12”
LPA1T338G	1T	3-3/8”	1,900	2,000	2,000	2,000	8”	12”
LPA1T434G	1T	4-3/4”	2,000	2,000	2,000	2,000	10”	12”
LPA2T234G	2T	2-3/4”	1,375	1,775	2,100	2,510	8”	12”
LPA2T338G	2T	3-3/8”	2,000	2,700	3,250	3,900	8”	12”
LPA2T434G	2T	4-3/4”	3,250	4,000	4,000	4,000	10”	15”
LPA2T512G	2T	5-1/2”	4,000	4,000	4,000	4,000	11”	17”
LPA2T634G	2T	6-3/4”	4,000	4,000	4,000	4,000	11”	17”
LPA2T11G	2T	11”	4,000	4,000	4,000	4,000	11”	17”
LPA4T212G	4T	2-1/2”	1,400	1,810	2,150	2,560	8”	12”
LPA4T3G	4T	3”	1,960	2,530	2,990	3,570	8”	12”
LPA4T312G	4T	3-1/2”	2,275	2,935	3,475	4,150	8”	12”
LPA4T334G	4T	3-3/4”	2,550	3,250	3,950	4,700	8”	12”
LPA4T414G	4T	4-1/4”	3,000	3,850	4,550	5,450	9”	13”
LPA4T434G	4T	4-3/4”	3,650	4,700	5,600	6,700	10”	15”
LPA4T512G	4T	5-1/2”	4,550	5,850	6,950	8,000	11”	17”
LPA4T718G	4T	7-1/8”	6,900	8,000	8,000	8,000	15”	22”
LPA4T912G	4T	9-1/2”	8,000	8,000	8,000	8,000	17”	26”
LPA8T434G	8T	4-3/4”	4,050	5,200	6,200	7,450	10”	15”
LPA8T6G	8T	6”	5,805	7,495	8,870	10,600	12”	18”
LPA8T634G	8T	6-3/4”	7,000	9,000	10,750	12,850	14”	21”
LPA8T834G	8T	8-3/4”	12,940	16,000	16,000	16,000	18”	27”
LPA8T10G	8T	10”	14,790	16,000	16,000	16,000	20”	30”
LPA8T1338G	8T	13-3/8”	16,000	16,000	16,000	16,000	27”	41”
LPA8T2634G	8T	26-3/4”	16,000	16,000	16,000	16,000	27”	41”
LPA16T778G	16T	7-7/8”	7,000	9,000	10,750	12,850	14”	21”
LPA20T10G	20T	10”	11,750	15,150	17,950	21,500	20”	30”
LPA20T16G	20T	16”	18,920	24,425	28,900	34,540	24”	36”
LPA20T1934G	20T	19-3/4”	26,000	33,800	40,000	40,000	40”	48”

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

- Table is based on normal weight concrete (145-150PCF)
- Minimum anchor spacing is 2x the published edge distance
- Minimal reinforcement required to achieve above load values
- Capacities in radius sections are reduced - consult ALP Supply® Tech Support
- Above capacities are based upon mechanical & concrete testing, calculations and available industry data
- Loads are listed at varying concrete strengths (PSI) to accommodate varying conditions at time of loading
- Proper rigging and all lifting angle load magnifications are to be used to determine actual applied loads
- To achieve published values, a minimum concrete cover of 1” below the foot of anchor is required
- For insulated wall panel and slab applications, the foot of the anchor can sit on or be recessed by the depth of the foot into the insulation, as long as full concrete bearing on the top of the foot is achieved
- For lifting and handling of thin slabs, design needs to ensure slab is properly reinforced to prevent flexural stresses from cracking slab

LIFT PIN ANCHOR DIMENSIONS IN CONCRETE



Lift Pin Anchor Tonnage	X	Y	Rubber Recess System		Plus Recess System	
			RW	RH	RW	RH
1T	3/8”	7/8”	2-3/8”	1-3/16”	-	-
2T	3/8”	1-3/16”	3”	1-9/16”	3-1/4”	1-7/16”
4T	9/16”	1-1/4”	3-3/4”	1-13/16”	4”	1-7/8”
8T	9/16”	1-3/4”	5”	2-5/16”	5”	2-1/8”
16T/20T	11/16”	2-5/16”	6-1/2”	3”	-	-

ALP® ASSEMBLED LIFT PIN ANCHORS

4T 8T

ALP Lifting Pin Anchors are available pre-assembled with a disposable recess member. Sold in carton quantities only. For concrete capacities, please review our ALP® Lifting Pin Anchors page.

DIMENSIONS

Part #	Ton	L	Qty/Ctn	Qty/Pallet
LPADR4T414G	4T	4-1/4”	35	1,260
LPADR4T434G	4T	4-3/4”	35	1,260
LPADR4T512G	4T	5-1/2”	35	1,260
LPADR4T718G	4T	7-1/8”	35	1,050
LPADR8T634G	8T	6-3/4”	20	480
LPADR8T10G	8T	10”	15	400

ALP® ASSEMBLED LIFT PIN DISK ANCHORS™

4T 8T

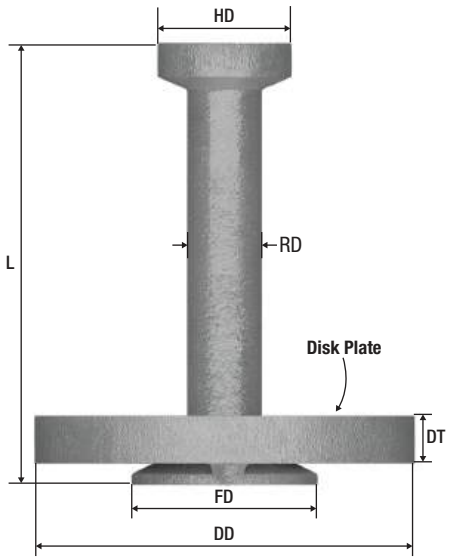
ALP Lift Pin Disk Anchors are available pre-assembled with a disposable recess member. Sold in carton quantities only. For concrete capacities, please review our ALP® Lift Pin Disk Anchors page.

DIMENSIONS

Part #	Ton	LWT*	Qty/Ctn	Qty/Pallet
LPPDDR4T4WG	4T	4”	20	720
LPPDDR4T5WG	4T	5”	20	720
LPPDDR8T6WG	8T	6”	12	432

*Lifting Wythe Thickness based upon anchor sitting directly on top of insulation.

ALP® LIFT PIN DISK ANCHOR™



Head Marking

Foot Marking

The ALP Lift Pin Disk Anchor is the first system designed specifically for lifting insulated wall panels from the top wythe of concrete and does not require any additional reinforcing bars. Disk Anchor heights are optimized to fit specific wythe heights, with anchor heights that factor in the height of the recess member. When project requirements allow, insulation thickness can be reduced to fit deeper anchors to increase capacities. Disk Anchors can also be used in non-insulated panel applications, with 1" cover below the foot, as noted in the load charts. **Standard Finish is Hot Dip Galvanized, impact resistant, even in freezing temperatures. Patent No. EP 4,215,696 A1. Other patent pending.**

DIMENSIONS

Part #	Ton	L	HD	RD	FD	DD	DT	Head Marking	Ultimate Mechanical in Tension (lbs)	Weight (lbs.)	Qty/ Crate
LPPD2T3WG	2T	2-1/2"	1"	9/16"	1-3/8"	3"	3/8"	ALP PD2T 3W	16,000	0.97	2,200
LPPD4T3WG	4T	2-7/16"	1-7/16"	3/4"	2"	3-1/2"	3/8"	ALP PD4T 3W	32,000	1.51	1,400
LPPD4T4WG	4T	3-7/16"	1-7/16"	3/4"	2"	3-1/2"	3/8"	ALP PD4T 4W	32,000	1.64	1,300
LPPD4T5WG	4T	4-7/16"	1-7/16"	3/4"	2"	3-1/2"	3/8"	ALP PD4T 5W	32,000	1.75	1,200
LPPD8T6WG	8T	5-3/8"	1-13/16"	1-1/8"	2-3/4"	4"	1/2"	ALP PD8T 6W	64,000	3.56	600
LPPD8T7WG	8T	6-3/8"	1-13/16"	1-1/8"	2-3/4"	4"	1/2"	ALP PD8T 7W	64,000	3.84	550
LPPD8T8WG	8T	7-3/8"	1-13/16"	1-1/8"	2-3/4"	4"	1/2"	ALP PD8T 8W	64,000	4.10	500

CAPACITIES

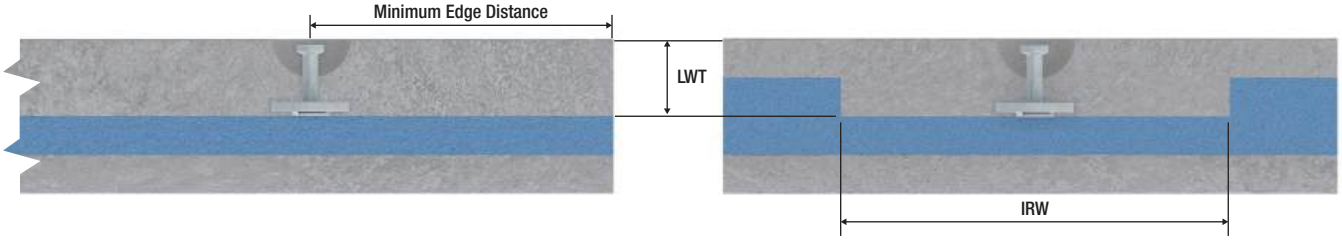
				Capacity in Concrete 4:1 SWL				
Part #	Ton	L	LWT*	1500 PSI (lbs)	2500 PSI (lbs)	3500 PSI (lbs)	5000 PSI (lbs)	Min. Edge Distance (Tension)
LPPD2T3WG†	2T	2-1/2"	3"	2,843	3,671	4,000	4,000	6"
LPPD4T3WG†	4T	2-7/16"	3"	2,648	3,418	4,045	4,834	6-1/2"
LPPD4T4WG†	4T	3-7/16"	4"	4,750	6,133	7,256	8,000	8"
LPPD4T5WG	4T	4-7/16"	5"	5,754	7,428	8,000	8,000	9-1/2"
LPPD8T6WG	8T	5-3/8"	6"	8,440	10,896	12,893	15,410	11"
LPPD8T7WG	8T	6-3/8"	7"	9,128	11,785	13,944	16,000	12-1/2"
LPPD8T8WG	8T	7-3/8"	8"	12,132	15,662	16,000	16,000	14"

†Rebar should not be placed between the recess member and the disk plate as this may reduce the capacity of the system.

*Lifting Wythe Thickness based upon anchor sitting directly on top of insulation. For non-insulated applications, 1" cover required below the bottom of the anchor.

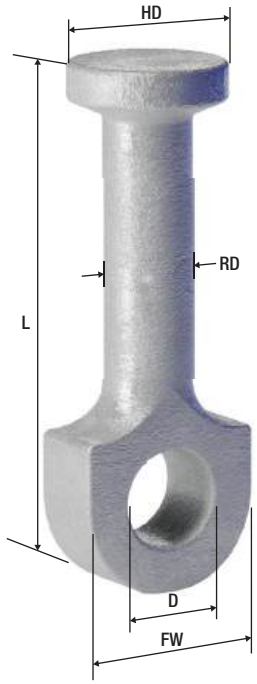
Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

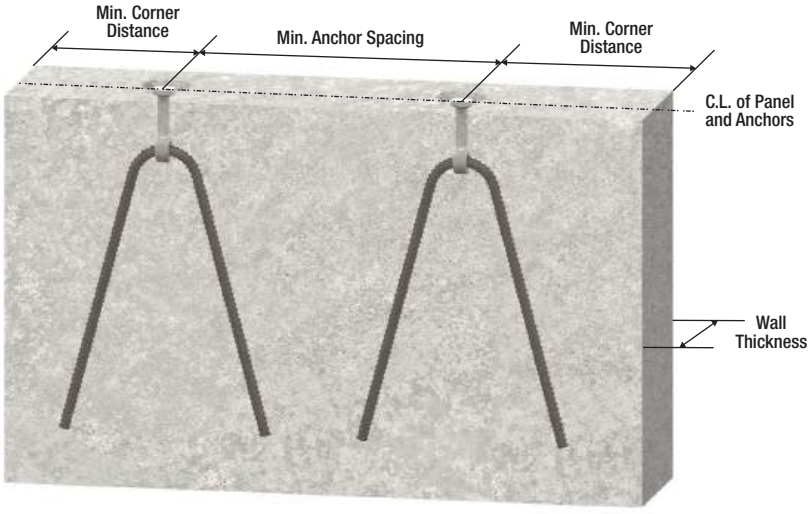
- Table is based on 145 PCF Concrete
- Above capacities are based upon mechanical and concrete testing.
- Tension edges distances are based upon testing in plain concrete.
- Shear edge distances should be based on ACI calculations or testing in plain concrete
- Insulated Recess Width (IRW) = 1.5x Minimum Edge Distance
- Minimum anchor spacing is 2x the published edge distance



ALP® LIFTING PIN EYE ANCHORS

The Lifting Pin Eye Anchor utilizes rebar reinforcement which transfers tension loads deep into the concrete element and produces high safe working loads in thin wall sections.





DIMENSIONS AND CAPACITIES WITH REBAR

Capacity in Concrete 4:1 SWL in tension at 2,000 PSI

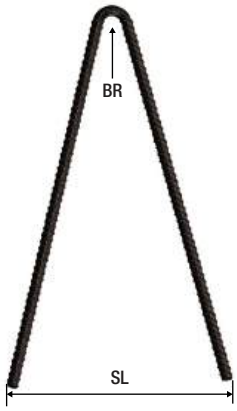
Part #	Ton	L	HD	RD	D	FW	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/ Crate	Min. Wall Thickness	Min. Corner Distance	Min. Anchor Spacing	Tension w/ rebar (lbs)
LPEA1TG	1T	2-9/16”	3/4”	3/8”	3/8”	7/8”	8,000	0.18	10,000	3”	8”	16”	2,000
LPEA2TG	2T	3-1/2”	1-1/32”	9/16”	9/16”	1-5/16”	16,000	0.38	5,500	3”	4”	8”	4,000
LPEA4TG	4T	4-3/4”	1-7/16”	3/4”	7/8”	1-11/16”	32,000	0.97	2,100	4”	5”	10”	8,000
LPEA8TG	8T	7-1/16”	1-7/8”	1-1/8”	1-1/8”	2-3/8”	64,000	2.75	920	5”	7”	14”	16,000
LPEA20TG	20T	9-7/8”	2-3/4”	1-9/16”	1-9/16”	3-5/16”	160,000	7.01	300	6-1/2”	8-1/2”	17”	40,000

- Safe work loads are based on Anchors with tension bar installed.
- Above capacities are based on ACI 318 criteria and mechanical testing.
- Anchors must be centered in wall thickness when installed, otherwise deviations will result in a reduction of safe working loads.

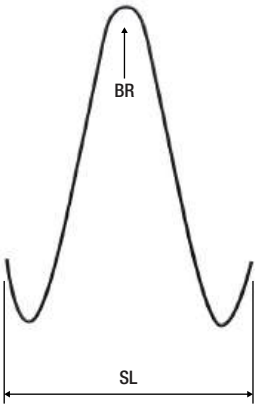
TENSION BAR SELECTION CHART

Anchor Load Rating	Rebar (Grade 60)		SL		BR (Min.)
	Size	Total Length	Min.	Max.	
1T	0.306” Wire	40”	14”	14”	3/4”
2T	#3	41”	6”	7-1/2”	1-1/8”
4T	#5	51”	7”	10”	1-7/8”
8T	#6	81”	10”	15”	2-1/4”
20T	#10	149”	12-1/2”	20”	5”

- Rebar is typically fabricated by precast producer
- Tension Bar Selection Chart is based on ACI-318 criteria
- 0.306” wire is medium grade, high carbon steel



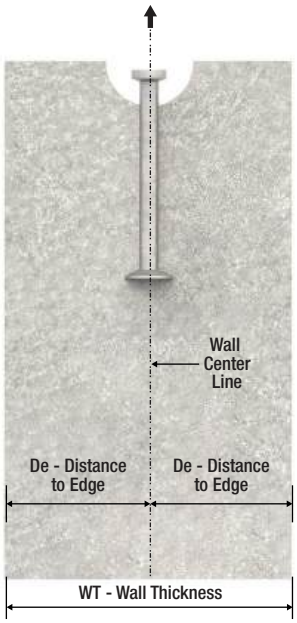
2T-20T Anchors

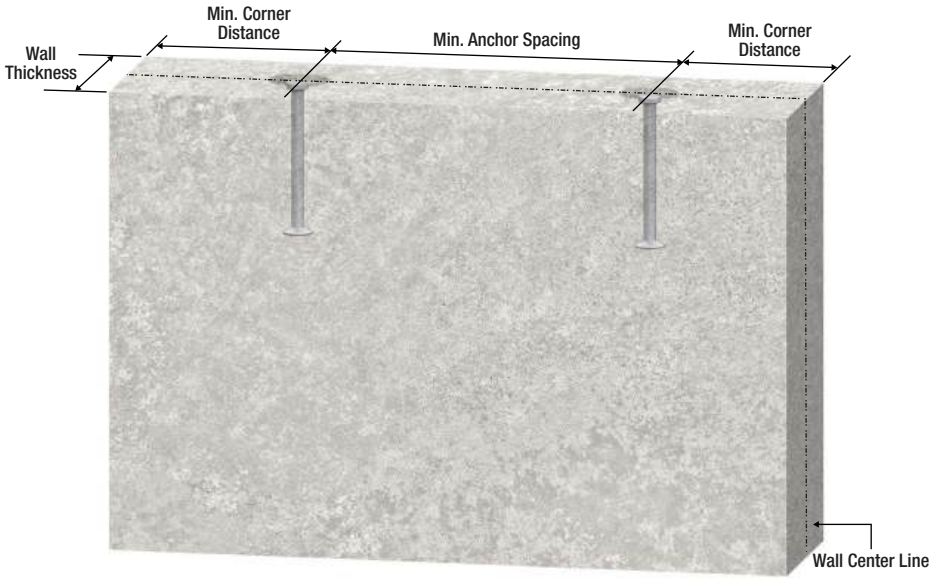


1T Anchor Only

ALP® LIFTING PIN ANCHORS IN THIN WALLS - TENSION ONLY

The ALP Lifting Pin System can be used in tension for lifting thin walls using the following load values.





TENSILE CAPACITY IN THIN WALLS

Lifting Pin Anchor Size	WT (2 x De)	De	Capacity in Concrete, 4:1 SWL in Tension at 4,500 PSI		
			Corner Distance		
			8”	12”	18” or >
1 Ton x 4-3/4” Long	2-1/2”	1-1/4”	1,000 lbs	1,200 lbs	1,300 lbs
	2-3/4”	1-3/8”	1,100 lbs	1,300 lbs	1,400 lbs
	3”	1-1/2”	1,200 lbs	1,400 lbs	1,600 lbs
	3-1/2”	1-3/4”	1,400 lbs	1,700 lbs	1,800 lbs
	4”	2”	1,600 lbs	1,900 lbs	2,000 lbs
	4-1/2”	2-1/4”	1,800 lbs	2,000 lbs	2,000 lbs

Lifting Pin Anchor Size	WT (2 x De)	De	Capacity in Concrete, 4:1 SWL in Tension at 4,500 PSI			
			Corner Distance			
			6”	12”	18”	24” or >
2 Ton x 6-3/4” Long	3”	1-1/2”	1,700 lbs	1,800 lbs	2,000 lbs	2,200 lbs
	3-1/4”	1-5/8”	1,900 lbs	2,000 lbs	2,200 lbs	2,400 lbs
	3-1/2”	1-3/4”	2,000 lbs	2,200 lbs	2,400 lbs	2,600 lbs
	4”	2”	2,300 lbs	2,500 lbs	2,700 lbs	3,000 lbs
	5”	2-1/2”	2,900 lbs	3,100 lbs	3,400 lbs	3,700 lbs
	6”	3”	3,500 lbs	3,700 lbs	4,000 lbs	4,000 lbs
2 Ton x 11” Long	3”	1-1/2”	2,100 lbs	2,700 lbs	2,900 lbs	3,100 lbs
	3-1/4”	1-5/8”	2,300 lbs	2,900 lbs	3,200 lbs	3,400 lbs
	3-1/2”	1-3/4”	2,500 lbs	3,200 lbs	3,400 lbs	3,600 lbs
	4”	2”	2,900 lbs	3,600 lbs	3,900 lbs	4,000 lbs
	5”	2-1/2”	3,600 lbs	4,000 lbs	4,000 lbs	4,000 lbs
	6”	3”	4,000 lbs	4,000 lbs	4,000 lbs	4,000 lbs

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

- For applications where the anchors need to be grouped together less than the required minimum spacing, consult with technical support at 800-332-7090.
- Above capacities are based upon mechanical testing and available industry data.

ALP® LIFTING PIN ANCHORS IN THIN WALLS - TENSION ONLY (CONT.)

TENSILE CAPACITY IN THIN WALLS

Lifting Pin Anchor Size	WT (2 x De)	De	Capacity in Concrete, 4:1 SWL in Tension at 4,500 PSI				
			Corner Distance				
			10”	15”	20”	24”	30”
4 Ton x 9-1/2” Long	3-3/4”	1-7/8”	2,900 lbs	3,200 lbs	3,400 lbs	3,500 lbs	3,800 lbs
	4”	2”	3,100 lbs	3,400 lbs	3,600 lbs	3,600 lbs	4,000 lbs
	5”	2-1/2”	3,600 lbs	4,300 lbs	4,600 lbs	4,800 lbs	5,100 lbs
	6”	3”	4,600 lbs	5,200 lbs	5,500 lbs	5,700 lbs	6,100 lbs
	7”	3-1/2”	5,400 lbs	6,000 lbs	6,400 lbs	6,700 lbs	7,200 lbs
	8”	4”	6,200 lbs	6,900 lbs	7,300 lbs	7,600 lbs	8,000 lbs

Lifting Pin Anchor Size	WT (2 x De)	De	Capacity in Concrete, 4:1 SWL in Tension at 4,500 PSI				
			Corner Distance				
			12”	18”	24”	36”	45”
8 Ton x 13-3/8” Long	5”	2-1/2”	4,800 lbs	5,800 lbs	6,100 lbs	6,700 lbs	7,200 lbs
	6”	3”	5,800 lbs	7,000 lbs	7,400 lbs	8,100 lbs	8,700 lbs
	7”	3-1/2”	6,800 lbs	8,200 lbs	8,600 lbs	9,500 lbs	10,200 lbs
	8”	4”	7,800 lbs	9,300 lbs	9,900 lbs	10,900 lbs	11,700 lbs
	10”	5”	9,800 lbs	11,700 lbs	12,300 lbs	13,600 lbs	14,600 lbs
	12”	6”	11,700 lbs	13,900 lbs	14,700 lbs	16,000 lbs	16,000 lbs

Lifting Pin Anchor Size	WT (2 x De)	De	Capacity in Concrete, 4:1 SWL in Tension at 4,500 PSI				
			Corner Distance				
			12”	18”	24”	36”	45”
20 Ton x 19-3/4” Long	6-1/2”	3-1/4”	7,000 lbs	9,000 lbs	10,500 lbs	11,500 lbs	12,200 lbs
	7”	3-1/2”	8,000 lbs	10,000 lbs	11,500 lbs	12,500 lbs	13,200 lbs
	8”	4”	9,200 lbs	11,200 lbs	13,000 lbs	14,400 lbs	15,100 lbs
	10”	5”	11,500 lbs	14,300 lbs	16,000 lbs	18,000 lbs	19,000 lbs
	12”	6”	14,000 lbs	17,300 lbs	20,000 lbs	21,500 lbs	22,800 lbs
	14”	7”	16,200 lbs	20,200 lbs	23,000 lbs	25,000 lbs	26,600 lbs

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

- For applications where the anchors need to be grouped together less than the required minimum spacing, consult with technical support at 800-332-7090.
- Above capacities are based upon mechanical testing and available industry data.

To adjust the Safe Working Load for anchors used in less than 4,500 PSI, multiply the Safe Working Loads by the below factors.

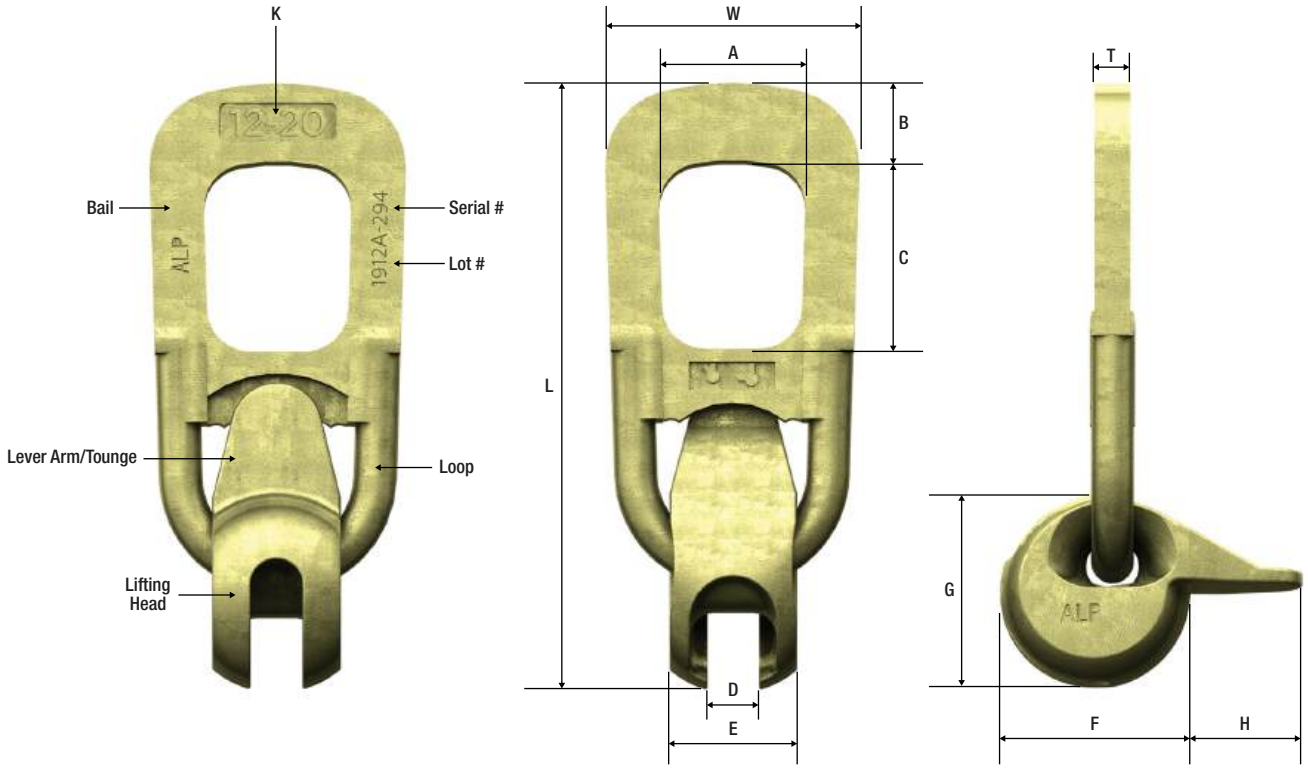
Convert from 4,500 PSI to Lower PSI	Reduction Factor
4,000 PSI	$\sqrt{4,000 / 4,500} = 0.94$
3,500 PSI	$\sqrt{3,500 / 4,500} = 0.88$
3,000 PSI	$\sqrt{3,000 / 4,500} = 0.81$
2,500 PSI	$\sqrt{2,500 / 4,500} = 0.74$
2,000 PSI	$\sqrt{2,000 / 4,500} = 0.66$

ALP® LIFTING EYE

Designed as an attachment link for lifting and transport of precast concrete units in combination with the ALP Lifting Pin Anchor System. The Lifting Eye consists of a Lifting Head with a protruding lever arm and a high strength Bail. The Lifting Head has a "T" slot that engages the head of a Lifting Pin Anchor. The rotation capabilities allow the lifting eye to stay oriented in the direction of loading without binding up.

See pages 14 and 15 for Lifting Eye usage information.

See ALP Supply® website for Inspection and Maintenance Guidelines for routine inspection of lifting hardware.



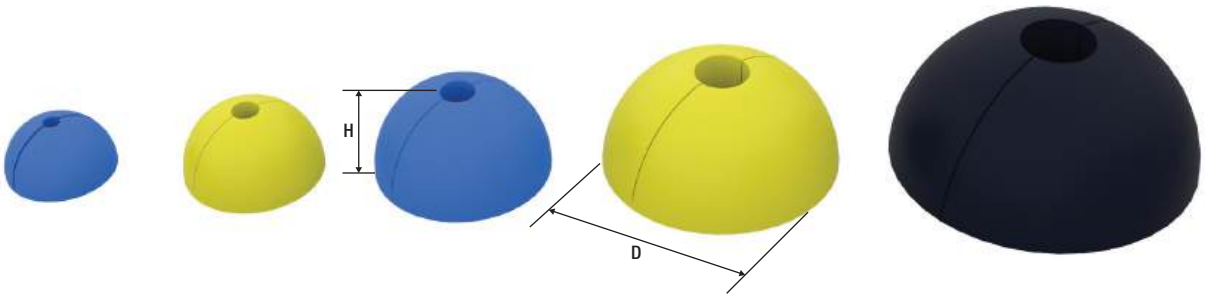
DIMENSIONS

Part #	K - Load Range (Tons)	L	W	T	A	B	C	D	E	F	G	H	Ultimate Capacity in Tension (lbs)	Weight (lbs)
LPLE1T	1T-1.3T	7-23/64"	2-61/64"	15/32"	1-51/64"	53/64"	2-3/4"	29/64"	1-19/64"	2-1/8"	2-7/64"	1-5/64"	13,000	2.07
LPLE2T	1.5T-2.5T	9-1/64"	3-15/32"	19/32"	2-15/64"	31/32"	3-21/64"	39/64"	1-39/64"	2-9/16"	2-33/64"	1-29/64"	25,000	3.35
LPLE4T	3T-5T	10-15/16"	4-5/8"	43/64"	2-43/64"	1-27/64"	3-15/32"	27/32"	2-1/4"	3-25/64"	3-25/64"	2-1/64"	50,000	7.70
LPLE8T	6T-10T	15-25/64"	6-9/32"	1-1/16"	3-3/16"	2"	4-13/32"	1-9/64"	2-57/64"	4-29/64"	4-29/64"	2-27/64"	100,000	21.85
LPLE20T	12T-20T	20"	7-19/32"	1-3/8"	4-31/64"	2-23/32"	6-1/32"	1-21/32"	4-7/16"	5-29/32"	5-21/32"	3-3/64"	200,000	44.93

Rated Load Range (K) has a 5:1 safety factor.

ALP® LIFTING PIN RUBBER RECESS MEMBERS

The ALP Lifting Pin Rubber Recess Members are designed to create a recess for the Lifting Eyes to engage the head of a Lifting Pin anchor.



Part #	Size	Color	D	H	Weight (lbs)	Qty/Ctn
LPRM1T	1T	Blue	2-3/8”	1-3/16”	0.14	300
LPRM2T	2T	Yellow	3”	1-9/16”	0.27	150
LPRM4T	4T	Blue	3-3/4”	1-13/16”	0.60	75
LPRM8T	8T	Yellow	5”	2-5/16”	1.15	40
LPRM20T	20T	Black	6-1/2”	3”	2.43	15

- Petroleum based form release and coatings should not be used with rubber products, as they will degrade the rubber.

ALP® LIFTING PIN STUD PLATES AND WINGNUTS

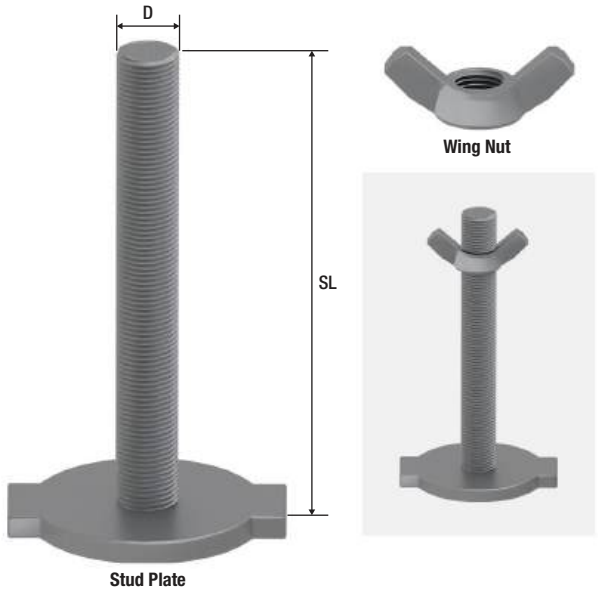
The Stud Plate and Wingnut combination is designed to attach the Lifting Pin Recess Member to the form.

WINGNUT DIMENSIONS

Part #	Description	Size	Weight (lbs)
LPWN1T	For 1T Stud Plate	8mm	0.02
LPWN248T	For 2T, 4T, 8T Stud Plates	12mm	0.04
LPWN20T	For 20T Stud Plate	18mm	0.12

STUD PLATE DIMENSIONS

Part #	Size	D	SL	Weight (lbs)
LPSP1T	1T	8mm	3-3/16”	0.07
LPSP2T	2T	12mm	4”	0.20
LPSP4T	4T	12mm	4”	0.23
LPSP8T	8T	12mm	4”	0.28
LPSP20T	20T	18mm	4”	0.60

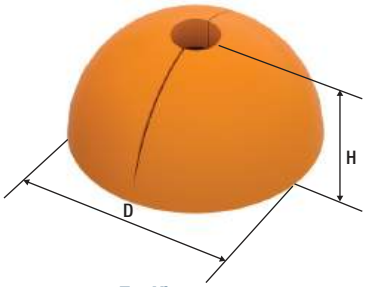


ALP® LIFTING PIN MAGNETIC PROFILE HOLDING PLATE (2-PIECE)

Part #	Size	Fits Recess Member
LPMHP1T	1T	LPRM1T
LPMHP2T	2T	LPRM2T
LPMHP4T	4T	LPRM4T
LPMHP8T	8T	LPRM8T
LPMHP20T	20T	LPRM20T

Caution: Vibration and placement of the concrete can cause the Magnetic Recess to move. It is recommended that the anchor is secured to the reinforcement before concrete placement.

ALP® LIFTING PIN PLUS URETHANE RECESS MEMBER



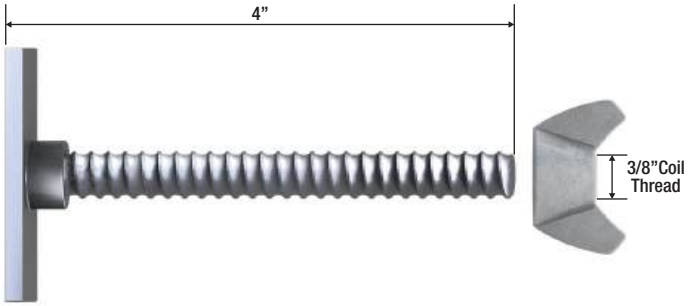
Top View


Bottom View

The ALP Lifting Pin Plus Recess Member is constructed of a durable polyurethane material which improves tear, heat, and chemical resistance compared to the standard rubber material. ALP Plus Stud Plate, Wing Nut, Holding Rod, and Tapped Plates are designed so that they are interchangeable for all sizes of recess members.

Part #	Size	Color	D	H	Weight (lbs)	Qty/Ctn
LPPRM2T	2T	Yellow	3-1/4”	1-7/16”	0.25	240
LPPRM4T	4T	Orange	4”	1-7/8”	0.44	120
LPPRM8T	8T	Green	5”	2-1/8”	1.01	60

ALP® LIFTING PIN PLUS STUD PLATE AND WINGNUT - 3/8” COIL



Stud Plate

Wing Nut

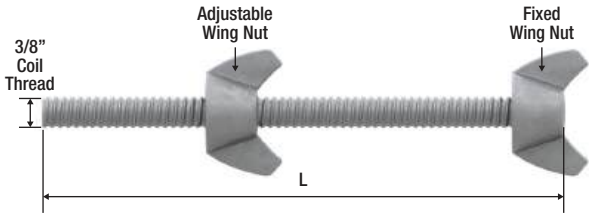
The ALP Stud Plate is used to mount the Plus Recess Members to the form. **Standard finish is plated.**

Installation Instructions:

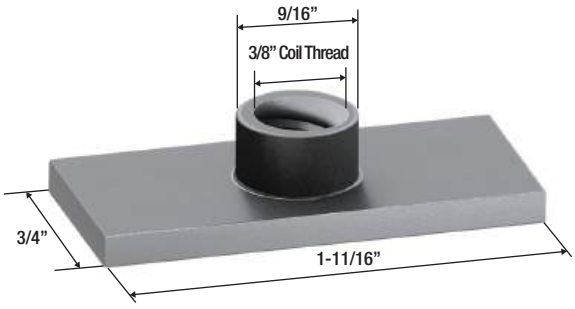
1. Install the stud plate into the recess member.
2. Insert the lift pin into the recess member.
3. Insert the stud plate through a hole in the form.
4. The 3/8” wing nut is then used to tighten the recess member to the outside of the form.

Part #	Fits Size	Weight (lbs)
LPPSP	2T, 4T, 8T	0.17
LPWN38	2T, 4T, 8T	0.11

ALP® HOLDING ROD AND TAPPED PLATE - 3/8” COIL



Holding Rod



Tapped Plate

ALP Holding Rods and Tapped Plate are used to mount the Plus Recess Members to the form. **Standard finish is plated.**

Installation Instructions:

1. Insert the tapped plate into the recess member.
2. Insert the lifting pin to the recess member.
3. Align the recess member to a pre-drilled hole in the form. The holding rod is then threaded into the recess using the fixed end coil nut until the thread bottoms out.
4. The movable wing nut is then tightened down until it is snug against the side of the form.

HOLDING ROD DIMENSIONS

Part #	Fits Size	L	Weight (lbs)
QL202	2T, 4T, 8T	6”	0.33
QL20212	2T, 4T, 8T	12”	0.47

TAPPED PLATE

Part #	Fits Size	Weight (lbs)
LPPTP	2T, 4T, 8T	0.08

ALP® LIFTING PIN PLUS MAGNETIC HOLDING PLATE (2-PIECE)

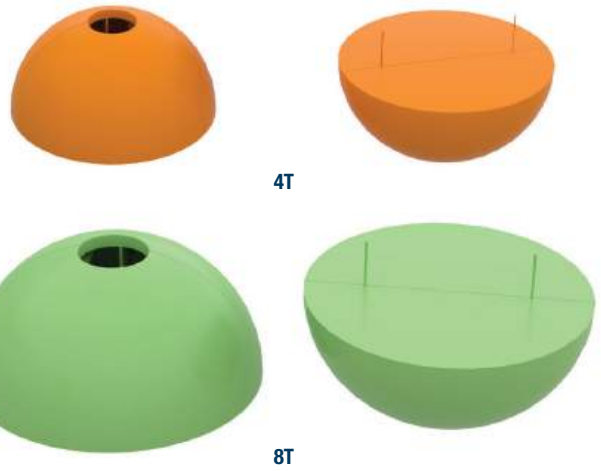
Part #	Size	Fits Recess Member
LPPMHP2T	2T	LPPRM2T
LPPMHP4T	4T	LPPRM4T
LPPMHP8T	8T	LPPRM8T

Caution: Vibration and placement of the concrete can cause the Magnetic Recess to move. It is recommended that the anchor is secured to the reinforcement before concrete placement.

ALP® LIFTING PIN DISPOSABLE RECESS MEMBERS

The ALP Lifting Pin Plastic Recess Member comes in 4T and 8T sizes and are typically used for wet setting applications.

Part #	Size	Color	D	Weight (lbs)	Qty/Ctn	Qty/Crate
LPRMD4T	4T	Orange	3-3/4”	0.12	120	2,160
LPRMD8T	8T	Green	5”	0.27	60	1,080

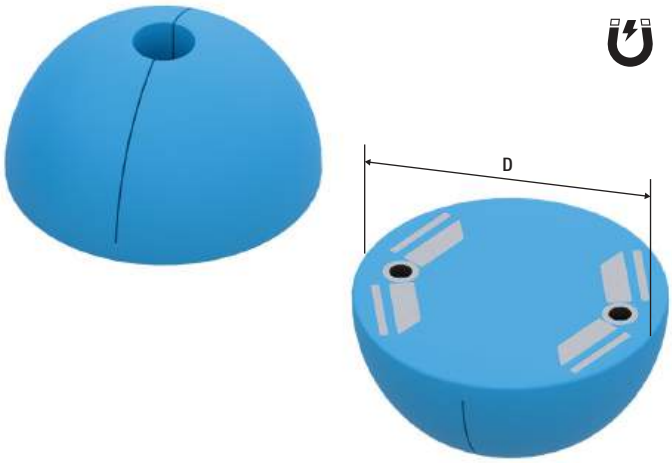


ALP® LIFTING PIN 1 PIECE MAGNETIC RECESS MEMBERS

The ALP Lifting Pin 1 Piece Magnetic Recess Members are used to avoid drilling of steel forms. The magnets are integral to the urethane recess member for efficient mounting of Lifting Pins to the form.

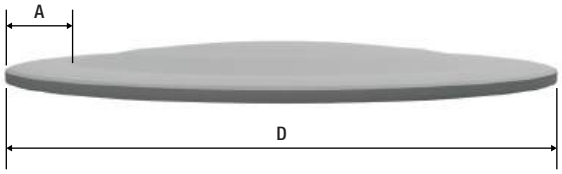
Part #	Size	Color	D	Weight (lbs)
LPRM1TM	1T	Blue	2-3/8”	0.22
LPRM2TM	2T	Yellow	3”	0.52
LPRM4TM	4T	Blue	3-3/4”	0.87
LPRM8TM	8T	Yellow	4-3/4”	1.34
LPRM20TM	20T	Black	8-3/4”	2.66

Caution: Vibration and placement of the concrete can cause the Magnetic Recess to move. It is recommended that the anchor is secured to the reinforcement before concrete placement.



LIFT COVERS

Lift covers are an injection molded, plastic cosmetic cover, commonly used for covering the recessed pockets created by lifting devices including ALP® Lifting Pin and QuikLift® anchors. Lift covers are required to use DAP Dynaflex 230 Caulk or NPC Solar Seal #900 Caulk when being bonded. Nylon Nail-It fasteners are an alternate method of fastening. Two sizes are available to fit 2T-4T anchors and 8T anchors. Standard color is light gray. Other colors made to order.



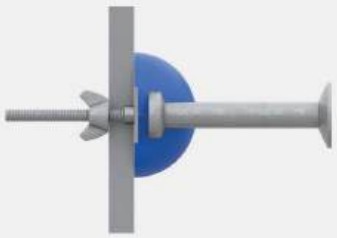
Part #	Fits Lifter Size	Color	D	A	Qty/Ctn	Weight (lbs)
CVLC6	2T, 4T	Light Gray	6”	1/2”	100	0.13
CVLC6B	2T, 4T	Beige	6”	1/2”	100	0.13
CVLC6CW	2T, 4T	Cream White	6”	1/2”	100	0.13
CVLC818	8T	Light Gray	8-1/8”	1-1/8”	100	0.26
CVLC818B	8T	Beige	8-1/8”	1-1/8”	100	0.26
CVLC818CW	8T	Cream White	8-1/8”	1-1/8”	100	0.26

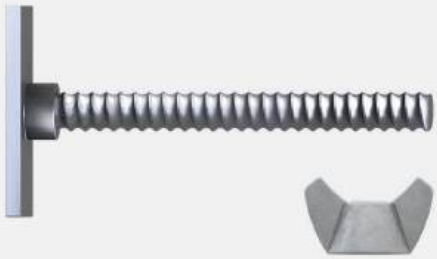
ALP® LIFTING PIN MOUNTING INSTRUCTIONS

Plus Urethane Recess Members

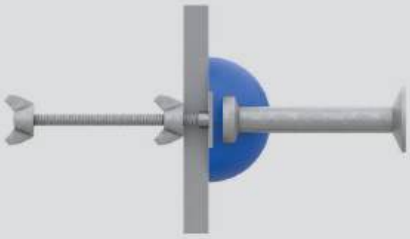
Rubber Recess Members

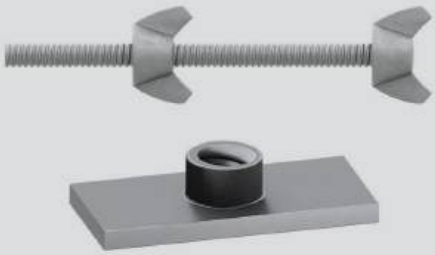
Stud Plate and Wing Nut



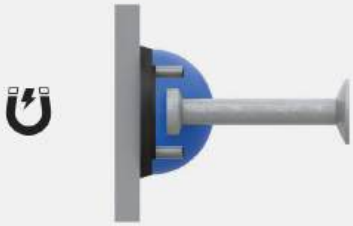


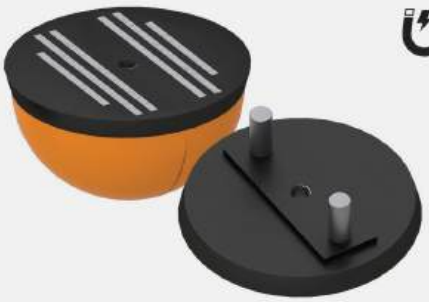
Holding Rod and Tapped Plate



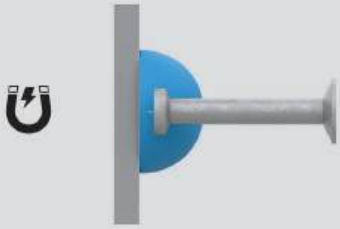


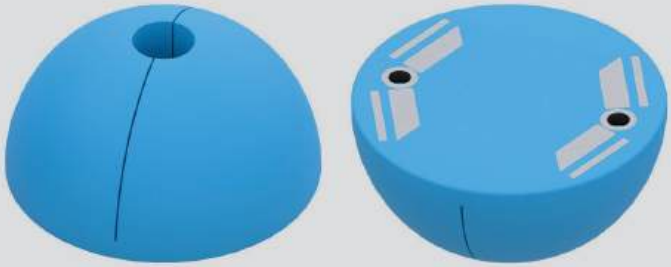
Magnetic Profile Holding Plate and Recess



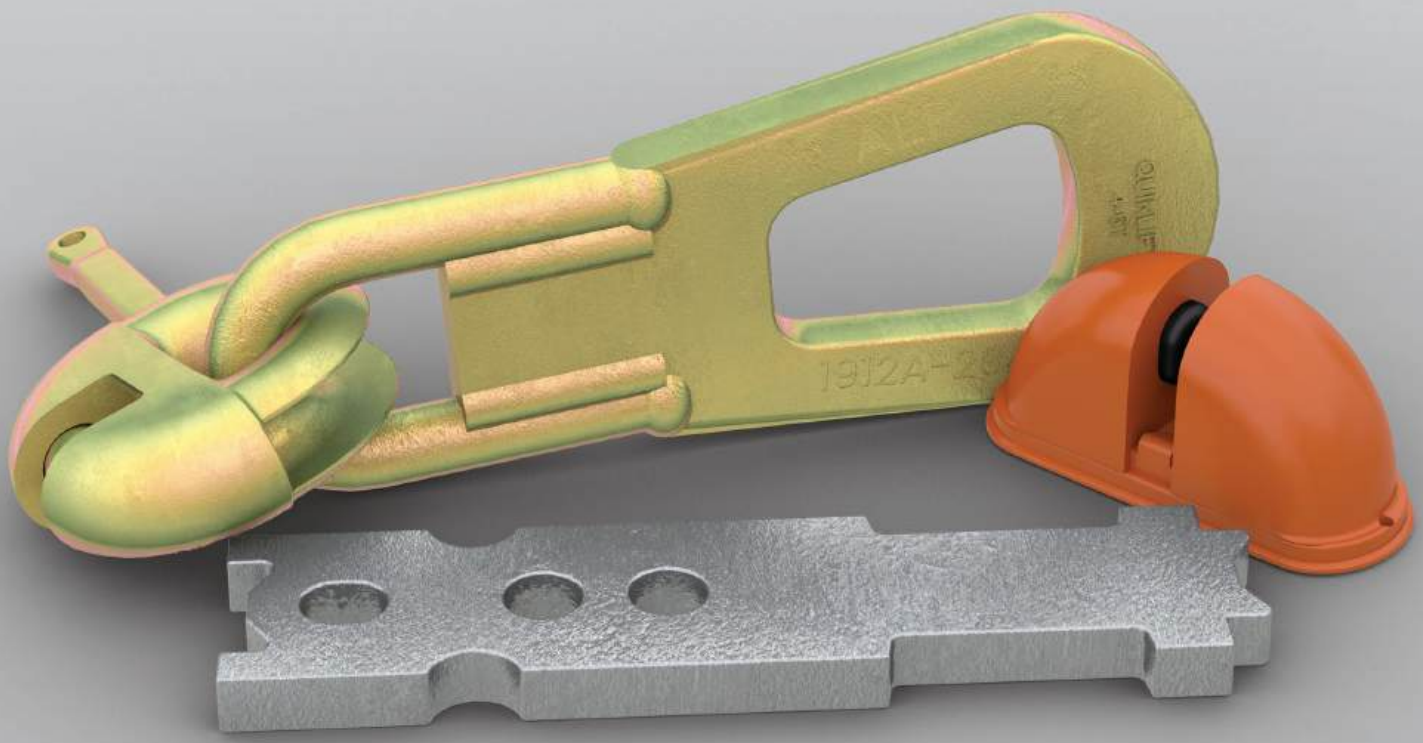


1 Piece Magnetic Recess





QUIKLIFT® SYSTEM



ALP® QUIKLIFT® - SAFETY AND QUALITY

High Performance Steel

ALP Lifting Devices and Anchors meet or exceed OSHA 1926.704 requirements. ALP® Lifting Anchors are designed and manufactured with materials that provide increased toughness for normal and cold weather environments. The use of tougher materials allows ALP® Lifting Anchors the ability to absorb more energy caused by impact loading to provide safer lifting and handling, especially in cold weather conditions.

High Quality Steel

High Impact

Cold Weather

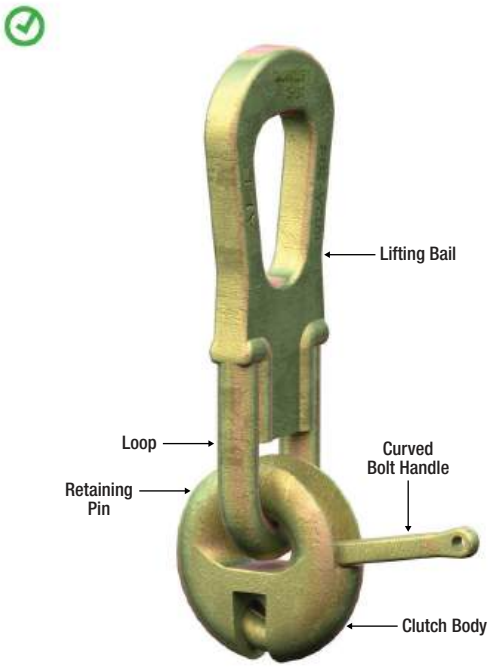
ALP® RING CLUTCH TERMINOLOGY AND INSPECTION

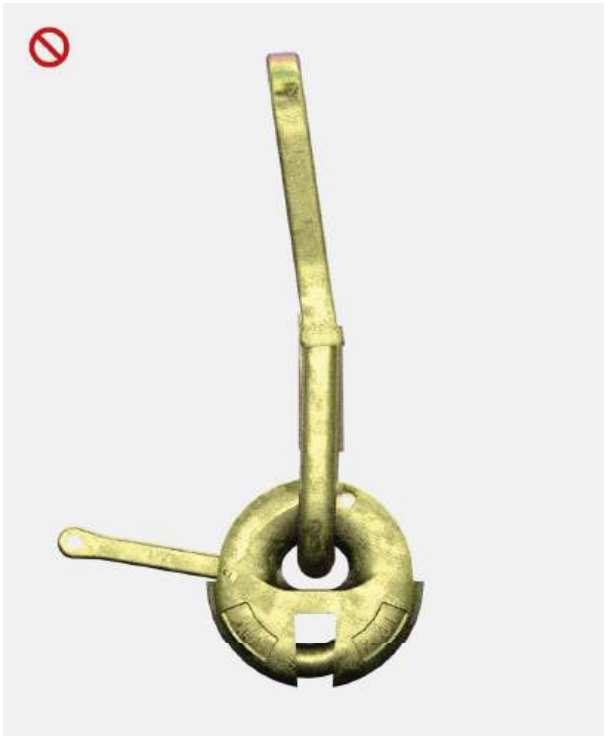
Inspect all ring clutches for the following:

- Inspect the Lifting Bail, Curved Bolt Handle and Clutch Body for cracks.
- Inspect the Lifting Bail and Loop for any bends.
- Verify that the Curved Bolt Handle retention pins are secure and functional, preventing the handle from being removed or falling out.
- Inspect and remove from service if there are signs that excessive external heat was applied to any parts.

When to remove ring clutches from service:

- If the Bail has been bent.
- If a weld has been fractured.
- If the Clutch body is bent or crushed, the Ring Clutch must be destroyed.
- If the curved bolt handle has been bent.





See ALP Supply® website for Inspection and Maintenance Guidelines for routine inspection of lifting hardware.

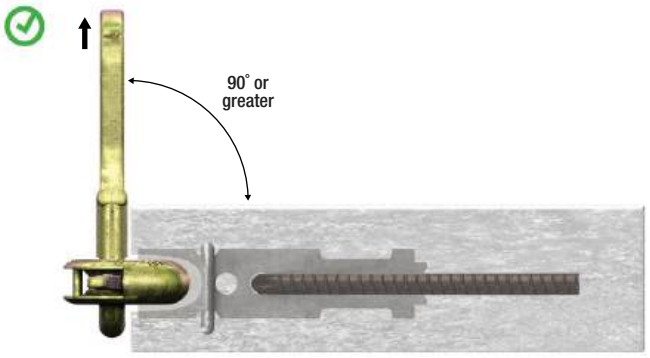
QUIKLIFT® RING CLUTCH ORIENTATION

Before loading the QuikLift Ring Clutch

Proper positioning is required in order to ensure that the Ring Clutch correctly engages the anchor.

Correct Ring Clutch positioning for edge lifting

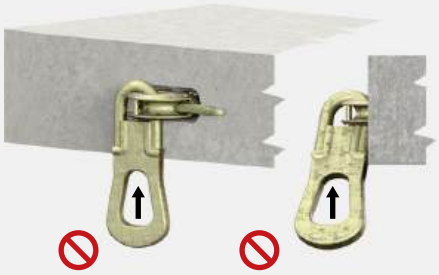
Position the Ring Clutch so that it is perpendicular to the anchor. Do not pull toward the panel, as it may cause spalling.



Incorrect Ring Clutch positioning

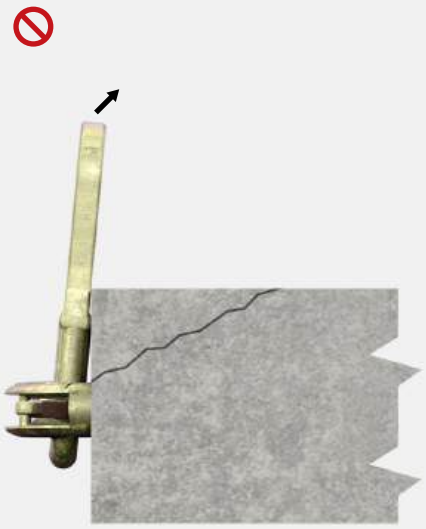
Lifting the Ring Clutch when the bail is positioned below the plane of the anchor can cause the Ring Clutch to lock up which will lead to one of two scenarios:

1. Ring Clutch bail will bend and possibly cause it to fail. If the Ring Clutch is bent, the bail should be cut off and disposed of.
2. Ring Clutch will suddenly unlock causing an impact load to the anchor and Ring Clutch possibly causing the concrete and/or anchor to fail.

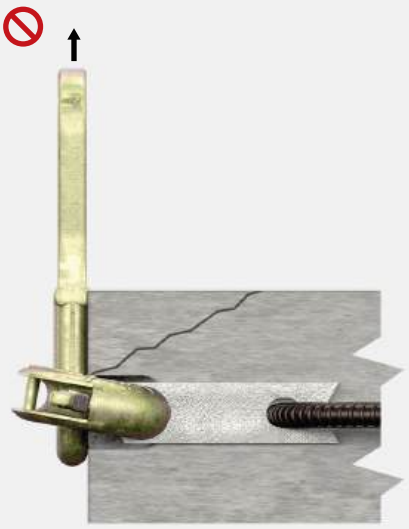


Clutch can bind-up, bend, fail or cause impact loading to anchor

Pulling the Ring Clutch toward the panel will bend the Ring Clutch or spall the panel. Spalling the panel will often lead to overloading the lifting anchor which could cause the anchor to fail.



When lifting in the edge of panels, anchors with erection ears should be used. Without erection ears, the bail can rotate around the anchor until it hits and spalls the concrete.



Improper Recess Member installation

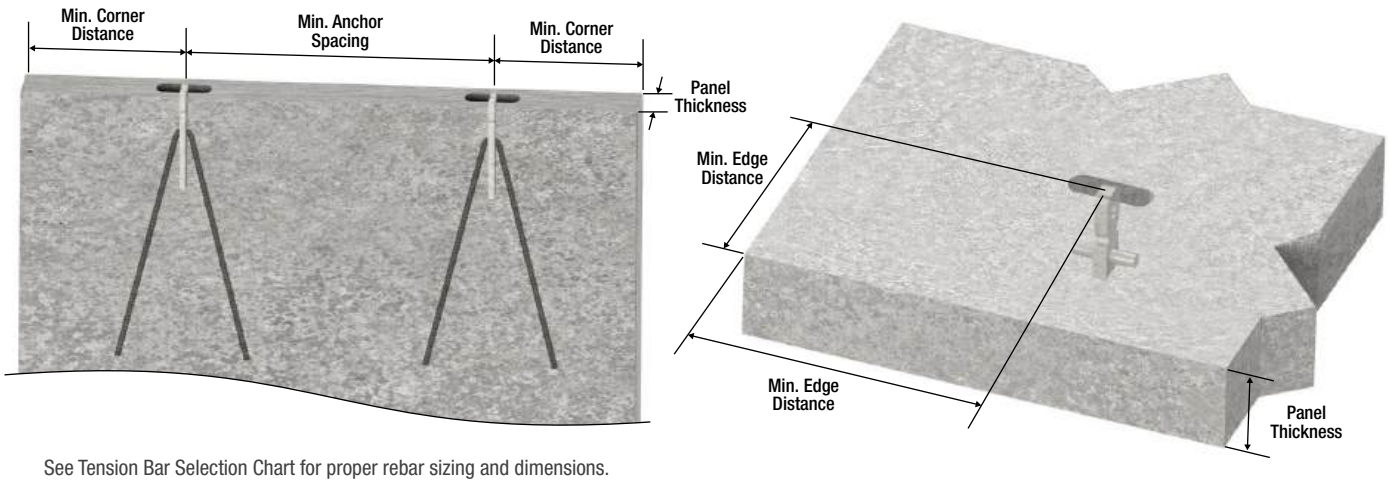
Recess Members should be installed flush with the form and should be oriented so that no concrete is covering the ears of the QuikLift Erection Anchor.

When concrete covers the erection ear the clutch will engage the concrete and spall the panel. This can cause a failure.

No concrete covering the Erection Anchor ear.

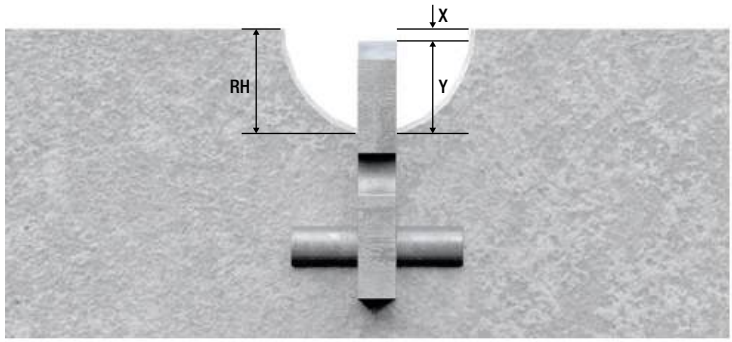
Concrete is covering the Erection Anchor ear, which can cause a shear crack.

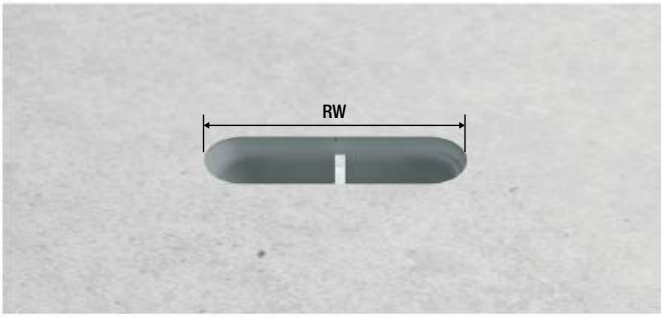
QUIKLIFT® ANCHOR - MINIMUM EDGE DISTANCES



See Tension Bar Selection Chart for proper rebar sizing and dimensions.

QUIKLIFT® ANCHOR RECESSED DIMENSIONS





Part #	QL Anchor Tonnage	X	Y	RW	RH
QL051*	1T	.39”	1.48”	4-1/16”	1-7/8”
QL200	2T-3T	.39”	1.48”	4-1/16”	1-7/8”
QL062	4T-6T	.42”	2.02”	5”	2-7/16”
QL121	8T-12T	.61”	2.64”	7-7/16”	3-1/4”
QL166	12.5T-22T	.83”	3.80”	9-3/16”	4-5/8”

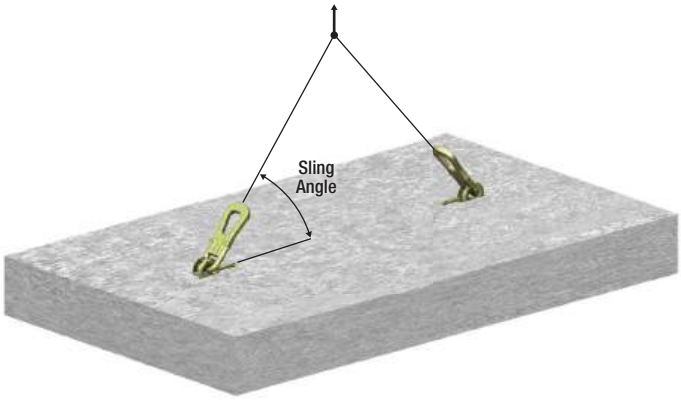
*For use with 1T QL050G and QL050LG anchors

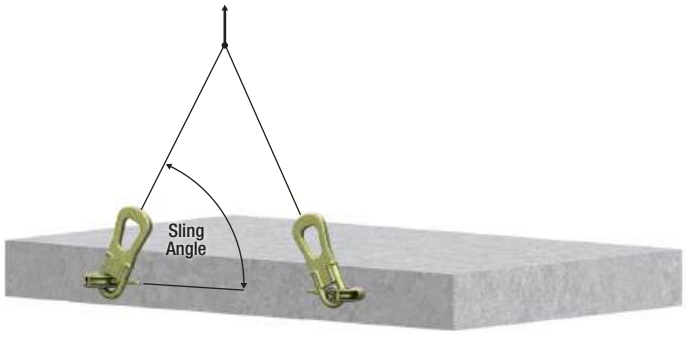
QUIKLIFT® LOAD CALCULATIONS

Lifting angle load factors for face lifting

Sling Angle less than 90° will increase loads to the anchors. This factor must be considered when determining the proper anchor capacity, length and type.

Sling Angle less than 60° are not recommended and, if used, precautions must be taken to ensure the anchor and rigging are not over loaded. The Lifting Angle Load Table below illustrates the increase at various angles.





LIFTING ANGLE LOAD FACTORS

Sling Angle	90°	75°	60°	45°	30°
Load Increase Factor	1.00	1.04	1.16	1.41	2.00

Typical

Maximum allowed, caution advised

Do not use

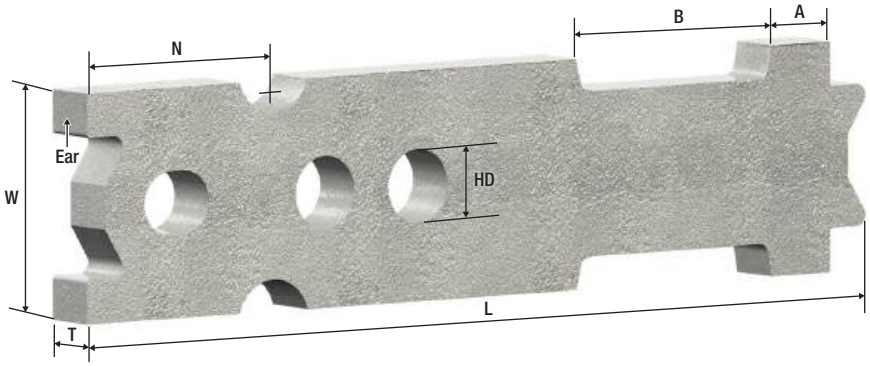
Concrete Strength Anchor Embedment Strength Adjustments

These factors are used to determine the increased embedment capacity of an anchor in tension at a higher or lower concrete strength. To maintain the required 4:1 factor of safety, the capacity increase used cannot exceed 25% of the ultimate mechanical capacity of the anchor. The increase cannot be used in shear conditions unless approved by the design engineer.

CONCRETE STRENGTH ADJUSTMENT FACTORS

Convert from 3,500 PSI to Higher PSI	Increase Factor
4,000 PSI	$\sqrt{4,000 / 3,500} = 1.07$
4,500 PSI	$\sqrt{4,500 / 3,500} = 1.13$
5,000 PSI	$\sqrt{5,000 / 3,500} = 1.20$
6,000 PSI	$\sqrt{6,000 / 3,500} = 1.31$
Convert from 3,500 PSI to Lower PSI	**Reduction Factor**
3,000 PSI	$\sqrt{3,000 / 3,500} = 0.93$
2,500 PSI	$\sqrt{2,500 / 3,500} = 0.85$
2,000 PSI	$\sqrt{2,000 / 3,500} = 0.76$
1,500 PSI	$\sqrt{1,500 / 3,500} = 0.65$

QUIKLIFT® TECH ERECTION ANCHOR

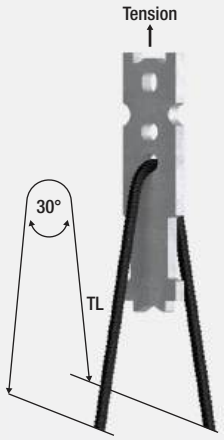


Designed for horizontal to vertical edge lifting and handling of thin-walled precast elements. The two "ears" on the head of the anchor prevent the clutch from coming in contact and spalling the concrete. The "ears" transfer the shear loads into the anchor and concrete. The shear bar is required with this anchor. A tension bar is typically required to reach the higher tension capacities. Available in 2T, 4T and 8T capacities. **Standard finish is hot-dipped galvanized.**

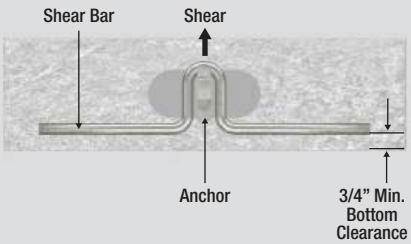
Impact resistant, even in freezing temperatures. *Domestic available.*

DIMENSIONS

Part #	Ton	Ring Clutch System	W	L	T	HD	A	B	N	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QL527G	2T	2T-3T (QL001)	2"	8-11/16"	3/8"	5/8"	5/8"	2-5/8"	1-13/16"	16,000	1.55	2,000
QL548G	4T	4T-6T (QL002)	2-1/2"	10-7/16"	5/8"	3/4"	3/4"	2-5/8"	2-1/2"	32,000	3.73	500
QL589G	8T	8T-12T (QL003)	3-3/4"	13-1/2"	3/4"	1"	1"	3-5/8"	3-1/8"	64,000	8.44	250



Tension Bars provide a simple and economical method to increase tension capacity.
(See Tension Bar Selection Chart)



QuikLift Shear Bar is required to achieve shear strength shown in chart.

CAPACITIES

			Capacity in Concrete					
Part #	Ton	Ring Clutch System	Panel Thickness	2.66:1 SWL* Shear w/ Shear Bar (lbs)	4:1 SWL Shear w/ Shear Bar (lbs)	4:1 SWL Tension w/o Tension Bar (lbs)	4:1 SWL Tension w/ Tension Bar (lbs)	Min. Corner Distance
QL527G	2T	2T-3T (QL001)	4" min.	2,240	1,490	3,190	4,000	12"
			5"	3,173	2,110	3,900		
			5-1/2"	3,203	2,130	4,000		
			6"	3,789	2,520	4,000		
			7"	4,000	2,870	4,000		
			8"	4,000	3,160	4,000		
			9"	4,000	3,420	4,000		
			10"	4,000	3,640	4,000		
			11"	4,000	3,840	4,000		
			12"	4,000	4,000	4,000		
QL548G	4T	4T-6T (QL002)	5-1/2" min.	4,015	2,670	4,970	8,000	15"
			6"	4,496	2,990	5,170		
			7"	4,767	3,170	6,030		
			8"	5,158	3,430	6,910		
			9"	5,489	3,650	7,750		
			10"	5,804	3,860	8,000		
			11"	5,910	3,930	8,000		
			12"	6,032	4,010	8,000		
QL589G	8T	8T-12T (QL003)	7-1/2" min.	6,032	4,010	7,220	16,000	18"
			8"	6,032	4,010	7,690		
			9"	6,195	4,120	8,640		
			10"	6,436	4,280	9,580		
			11"	6,647	4,420	10,610		
			12"	6,842	4,550	11,680		

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

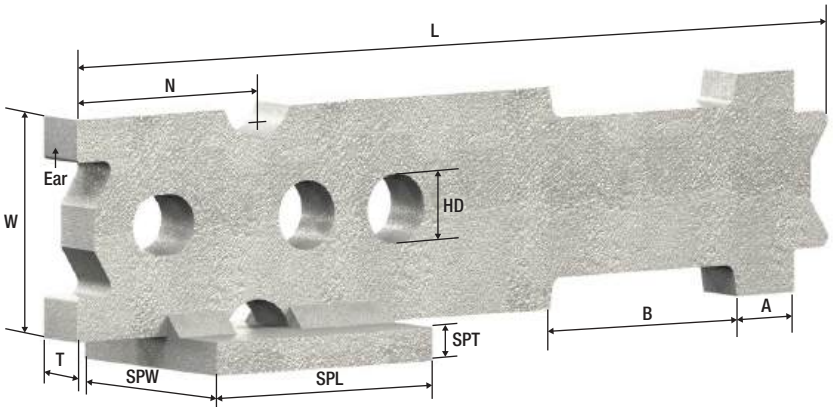
- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing and available industry data.
- Minimum anchor spacing is double the corner distance for anchors without tension bars

QUIKLIFT® TECH ERECTION ANCHOR WITH SHEAR PLATE

Designed for horizontal to vertical edge lifting and handling of thin-walled precast elements. The two "ears" on the anchor head prevent the clutch from coming in contact and spalling the concrete. The "ears" transfer the shear loads into the anchor and concrete. A tension bar is typically required to reach the higher tension capacities. Available in 2T, 4T and 8T capacities. **Standard finish is hot-dipped galvanized.**

Impact resistant, even in freezing temperatures.

Domestic available.

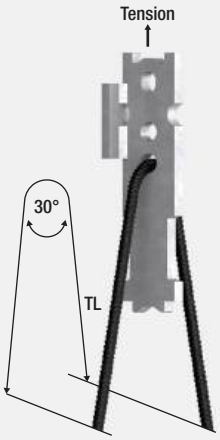


DIMENSIONS

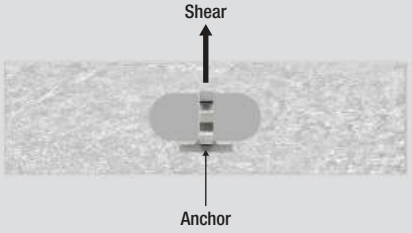
Part #	Ton	Ring Clutch System	W	L	T	HD	A	B	N	SPW	SPL	SPT	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QL527SPG	2T	2T-3T (QL001)	2"	8-11/16"	3/8"	5/8"	5/8"	2-5/8"	1-13/16"	2-1/2"	3"	1/4"	16,000	2.05	1,000
QL548SPG	4T	4T-6T (QL002)	2-1/2"	10-7/16"	5/8"	3/4"	3/4"	2-5/8"	2-1/2"	2-1/2"	3"	3/8"	32,000	4.54	400
QL589SPG	8T	8T-12T (QL003)	3-3/4"	13-1/2"	3/4"	1"	1"	3-5/8"	3-1/8"	3"	3-1/2"	3/8"	64,000	9.64	200

CAPACITIES

			Capacity in Concrete					
Part #	Ton	Ring Clutch System	Panel Thickness	2.66:1 SWL* Shear (lbs)	4:1 SWL Shear (lbs)	4:1 SWL Tension w/o Tension Bar (lbs)	4:1 SWL Tension w/ Tension Bar (lbs)	Min. Corner Distance
QL527SPG	2T	2T-3T (QL001)	3-1/2" min.	2,150	1,430	2,640	4,000	12"
			4"	2,932	1,950	3,190		
			4-1/2"	3,037	2,020	3,550		
			5"	3,157	2,100	3,900		
			6"	3,789	2,520	4,000		
			7"	4,000	2,870	4,000		
			8"	4,000	3,160	4,000		
			9"	4,000	3,420	4,000		
			10"	4,000	3,640	4,000		
			11"	4,000	3,840	4,000		
			12"	4,000	4,000	4,000		
QL548SPG	4T	4T-6T (QL002)	4" min.	2,706	1,800	3,400	8,000	15"
			4-1/2"	3,714	2,470	3,860		
			5"	4,000	2,660	4,730		
			5-1/2"	4,015	2,670	4,970		
			6"	4,496	2,990	5,170		
			7"	4,766	3,170	6,030		
			8"	5,157	3,430	6,910		
			9"	5,488	3,650	7,750		
			10"	5,804	3,860	8,000		
			11"	5,909	3,930	8,000		
			12"	6,030	4,010	8,000		
QL589SPG	8T	8T-12T (QL003)	7" min.	6,030	4,010	7,100	16,000	18"
			7-1/2"	6,030	4,010	7,220		
			8"	6,030	4,010	7,690		
			9"	6,195	4,120	8,640		
			10"	6,436	4,280	9,580		
			11"	6,646	4,420	10,610		
			12"	6,842	4,550	11,680		



Tension Bars provide a simple and economical method to increase tension capacity.
(See Tension Bar Selection Chart)

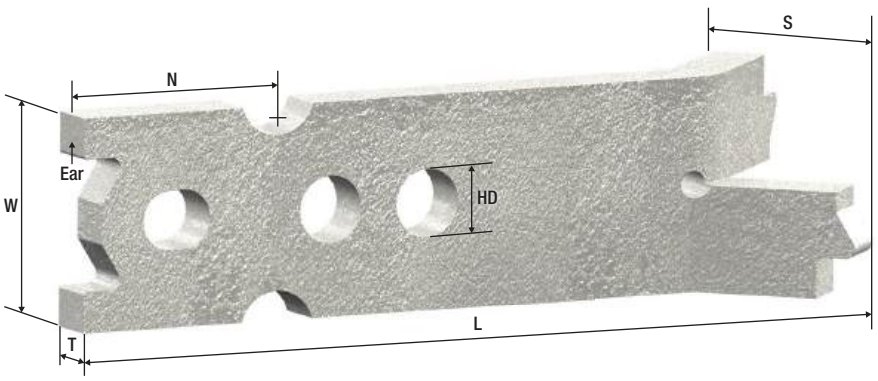


Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing and available industry data.
- Minimum anchor spacing is double the corner distance for anchors without tension bars

QUIKLIFT® SPLIT FOOT ERECTION ANCHOR

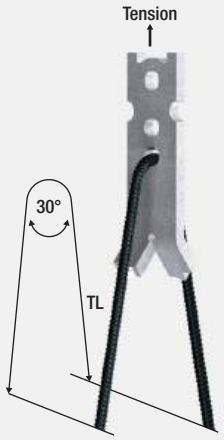


The Split Foot Erection Anchor is designed for horizontal to vertical edge lifting and handling of thin-walled precast elements. The two "ears" on the head of the anchor prevent the clutch from coming in contact and spalling the concrete. The "ears" transfer the shear loads into the anchor and concrete. The shear bar is required with this anchor. A tension bar is typically required to reach the higher tension capacities. Available in 2T, 4T and 8T capacities. **Standard finish is hot-dipped galvanized.**

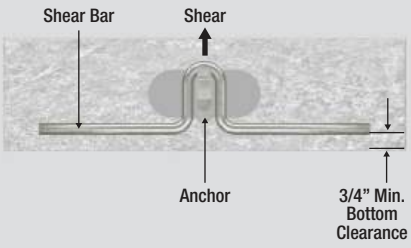
Impact resistant, even in freezing temperatures.

DIMENSIONS

Part #	Ton	Ring Clutch System	W	L	T	HD	S	N	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QL047G	2T	2T-3T (QL001)	2"	8"	3/8"	5/8"	2-3/4"	1-13/16"	16,000	1.60	1,100
QL048G	4T	4T-6T (QL002)	2-1/2"	10-1/2"	5/8"	3/4"	3-3/8"	2-1/2"	32,000	4.40	400
QL049G	8T	8T-12T (QL003)	3-3/4"	12-13/16"	3/4"	1"	5"	3-1/8"	64,000	9.41	200



Tension Bars provide a simple and economical method to increase tension capacity.
(See Tension Bar Selection Chart)



QuikLift Shear Bar is required to achieve shear strength shown in chart.

CAPACITIES

			Capacity in Concrete					
Part #	Ton	Ring Clutch System	Panel Thickness	2.66:1 SWL* Shear w/ Shear Bar (lbs)	4:1 SWL Shear w/ Shear Bar (lbs)	4:1 SWL Tension w/o Tension Bar (lbs)	4:1 SWL Tension w/ Tension Bar (lbs)	Min. Corner Distance
QL047G	2T	2T-3T (QL001)	4" min.	2,240	1,490	3,190	4,000	12"
			5"	3,172	2,110	3,900		
			5-1/2"	3,203	2,130	4,000		
			6"	3,789	2,520	4,000		
			7"	4,000	2,870	4,000		
			8"	4,000	3,160	4,000		
QL048G	4T	4T-6T (QL002)	5-1/2" min.	4,015	2,670	4,970	8,000	15"
			6"	4,496	2,990	5,170		
			7"	4,766	3,170	6,030		
			8"	5,157	3,430	6,910		
			9"	5,488	3,650	7,750		
			10"	5,804	3,860	8,000		
			11"	5,909	3,930	8,000		
			12"	6,030	4,010	8,000		
QL049G	8T	8T-12T (QL003)	7-1/2" min.	6,030	4,010	7,220	16,000	18"
			8"	6,030	4,010	7,690		
			9"	6,195	4,120	8,640		
			10"	6,436	4,280	9,580		
			11"	6,646	4,420	10,610		
			12"	6,842	4,550	11,680		

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

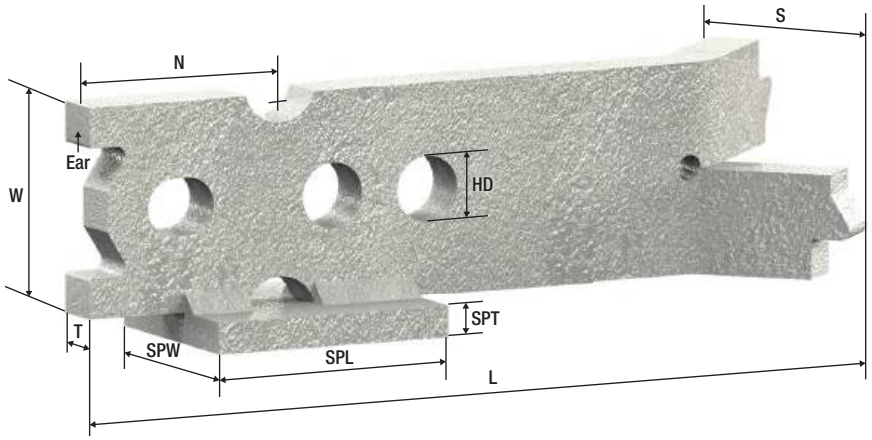
*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing and available industry data.
- Minimum anchor spacing is double the corner distance for anchors without tension bars

QUIKLIFT® SPLIT FOOT ERECTION ANCHOR WITH SHEAR PLATE

The Split Foot Erection Anchor with Shear Plate is designed for horizontal to vertical edge lifting and handling of thin-walled precast elements. The two "ears" on the anchor head prevent the clutch from coming in contact and spalling the concrete. The "ears" transfer the shear loads into the anchor and concrete. The attached shear plate replaces the shear bar, increases shear capacity and reduces minimum panel thickness. A tension bar is typically required to reach the higher tension capacities. Available in 2T, 4T and 8T capacities. **Standard finish is hot-dipped galvanized.**

Impact resistant, even in freezing temperatures.



DIMENSIONS

Part #	Ton	Ring Clutch System	W	L	T	HD	S	N	SPW	SPL	SPT	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/ Crate
QL147G	2T	2T-3T (QL001)	2"	8"	3/8"	5/8"	2-3/4"	1-13/16"	2-1/2"	3"	1/4"	16,000	2.12	850
QL148G	4T	4T-6T (QL002)	2-1/2"	10-1/2"	5/8"	3/4"	3-3/8"	2-1/2"	2-1/2"	3"	3/8"	32,000	5.18	350
QL149G	8T	8T-12T (QL003)	3-3/4"	12-13/16"	3/4"	1"	5"	3-1/8"	3"	3-1/2"	3/8"	64,000	10.52	170

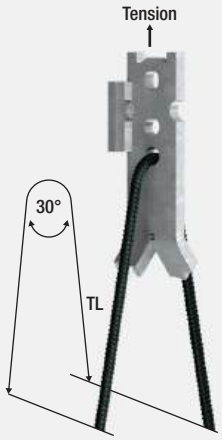
CAPACITIES

			Capacity in Concrete						
Part #	Ton	Ring Clutch System	Panel Thickness	2.66:1 SWL* Shear (lbs)	4:1 SWL Shear (lbs)	4:1 SWL Tension w/o Tension Bar (lbs)	4:1 SWL Tension w/ Tension Bar (lbs)	Min. Corner Distance
QL147G	2T	2T-3T (QL001)	3-1/2" min.	2,150	1,430	2,640	4,000	12"
			4"	2,932	1,950	3,190		
			4-1/2"	3,037	2,020	3,550		
			5"	3,157	2,100	3,900		
			6"	3,789	2,520	4,000		
QL148G	4T	4T-6T (QL002)	4" min.	2,706	1,800	3,400	8,000	15"
			4-1/2"	3,714	2,470	3,860		
			5"	4,000	2,660	4,730		
			5-1/2"	4,165	2,770	4,970		
			6"	4,300	2,860	5,170		
QL149G	8T	8T-12T (QL003)	7" min.	6,030	4,010	7,100	16,000	18"
			7-1/2"	6,030	4,010	7,220		
			8"	6,030	4,010	7,690		

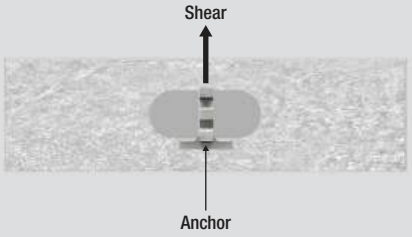
Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

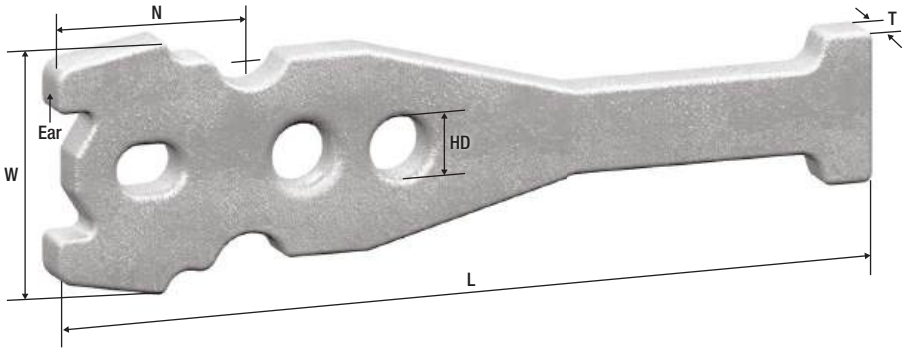
- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing and available industry data.
- Minimum anchor spacing is double the corner distance for anchors without tension bars



Tension Bars provide a simple and economical method to increase tension capacity.
(See Tension Bar Selection Chart)



QUIKLIFT® FORGED ERECTION ANCHORS

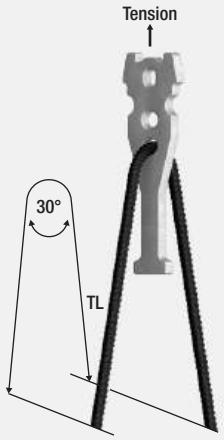


The QuikLift Forged Erection Anchor is designed for horizontal to vertical edge lifting and handling of thin-walled precast elements. The two "ears" on the head of the anchor prevent the ring clutch from coming in contact and spalling the concrete. The "ears" transfer the shear loads into the anchor and concrete. The shear bar is required with this anchor. A tension bar is required to reach the full tension capacity of the anchor. **Standard finish is hot-dipped galvanized.**

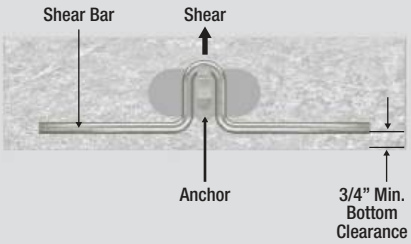
Impact resistant, even in freezing temperatures.

DIMENSIONS

Part #	Ton	Ring Clutch System	W	L	T	HD	N	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QLF527G	3T	2T-3T (QL001)	2-3/8"	8"	3/8"	5/8"	1-13/16"	24,000	1.00	1,800
QLF548G	6T	4T-6T (QL002)	3-3/16"	10-1/2"	5/8"	7/8"	2-1/2"	48,000	3.13	700
QLF589G	12T	8T-12T (QL003)	3-3/4"	12-1/2"	3/4"	1-3/16"	3-1/8"	96,000	5.09	400



Tension Bars provide a simple and economical method to increase tension capacity.
(See Tension Bar Selection Chart)



QuikLift Shear Bar is required to achieve shear strength shown in chart.

CAPACITIES

			Capacity in Concrete					
Part #	Ton	Ring Clutch System	Panel Thickness	2.66:1 SWL* Shear w/ Shear Bar (lbs)	4:1 SWL Shear w/ Shear Bar (lbs)	4:1 SWL Tension w/o Tension Bar (lbs)	4:1 SWL Tension w/ Tension Bar (lbs)	Min. Corner Distance
QLF527G	3T	2T-3T (QL001)	4" min.	2,090	1,390	2,500	6,000	12"
			5"	2,526	1,680	3,130		
			6"	2,977	1,980	3,760		
			7"	3,458	2,300	4,380		
			8"	3,954	2,630	5,010		
			9"	4,481	2,980	5,640		
			10"	5,022	3,340	6,000		
			11"	5,593	3,720	6,000		
			12"	6,000	4,110	6,000		
QLF548G	6T	4T-6T (QL002)	5-1/2" min.	4,270	2,840	4,720	12,000	16"
			6"	4,556	3,030	5,150		
			7"	5,157	3,430	6,010		
			8"	5,774	3,840	6,870		
			9"	6,421	4,270	7,730		
			10"	7,082	4,710	8,590		
			11"	7,533	5,010	9,450		
			12"	8,330	5,540	10,310		
QLF589G	12T	8T-12T (QL003)	7-1/2" min.	6,285	4,180	7,920	24,000	19"
			8"	6,646	4,420	8,440		
			9"	7,398	4,920	9,500		
			10"	8,165	5,430	10,560		
			11"	8,947	5,950	11,610		
			12"	9,759	6,490	12,670		

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

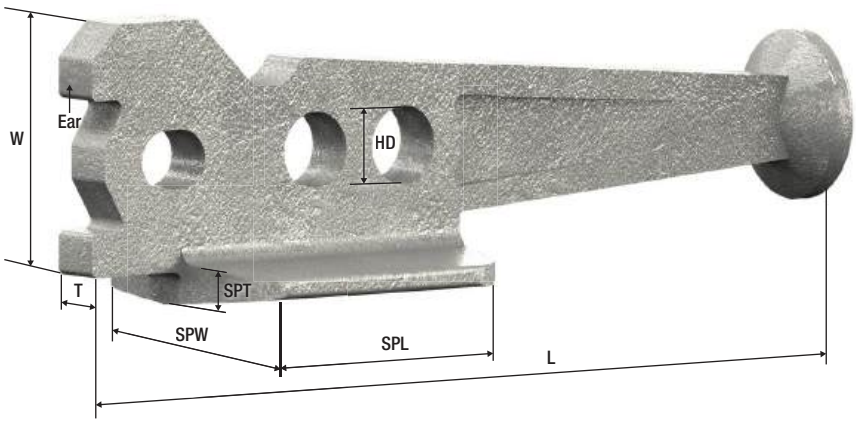
*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing, concrete testing, and available industry data.

QUIKLIFT® FORGED ERECTION ANCHOR WITH SHEAR PLATE

The Forged Erection Anchor with Shear Plate is designed for horizontal to vertical edge lifting and handling of thin-walled precast elements. The two "ears" on the anchor head prevent the clutch from coming in contact and spalling the concrete. The "ears" transfer the shear loads into the anchor and concrete. A tension bar is typically required to reach full tension capacities. **Standard finish is hot-dipped galvanized.**

Impact resistant, even in freezing temperatures.

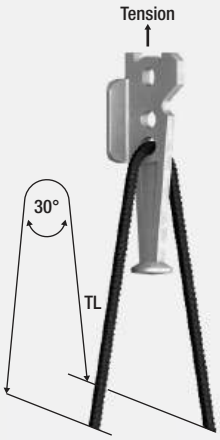


DIMENSIONS

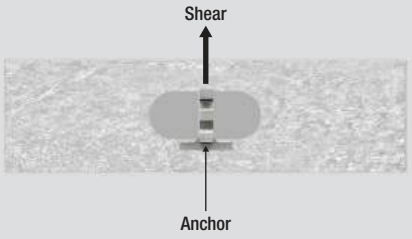
Part #	Ton	Ring Clutch System	W	L	T	HD	SPW	SPL	SPT	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/ Crate
QLF527SPG	3T	2T-3T (QL001)	2-5/16"	8"	3/8"	5/8"	2-1/2"	3-1/2"	7/16"	24,000	2.21	1,000
QLF548SPG	6T	4T-6T (QL002)	2-15/16"	10-1/2"	5/8"	7/8"	3-1/8"	4"	1/2"	48,000	4.84	400
QLF589SPG	12T	8T-12T (QL003)	4-1/4"	12-3/4"	3/4"	1-3/16"	3-1/4"	4"	1/2"	96,000	8.60	250

CAPACITIES

			Capacity in Concrete					
Part #	Ton	Ring Clutch System	Panel Thickness	2.66:1 SWL* Shear (lbs)	4:1 SWL Shear (lbs)	4:1 SWL Tension w/o Tension Bar (lbs)	4:1 SWL Tension w/ Tension Bar (lbs)	Min. Corner Distance
QLF527SPG	3T	2T-3T (QL001)	4" min.	2,090	1,390	2,500	6,000	12"
			5"	2,526	1,680	3,130		
			6"	2,977	1,980	3,760		
			7"	3,458	2,300	4,380		
			8"	3,954	2,630	5,010		
			9"	4,481	2,980	5,640		
			10"	5,022	3,340	6,000		
			11"	5,593	3,720	6,000		
			12"	6,000	4,110	6,000		
QLF548SPG	6T	4T-6T (QL002)	5-1/2" min.	4,015	2,670	4,720	12,000	16"
			6"	4,496	2,990	5,150		
			7"	4,766	3,170	6,010		
			8"	5,157	3,430	6,870		
			9"	5,488	3,650	7,730		
			10"	5,804	3,860	8,590		
			11"	5,909	3,930	9,450		
			12"	6,030	4,010	10,310		
QLF589SPG	12T	8T-12T (QL003)	7-1/2" min.	6,030	4,010	7,920	24,000	19"
			8"	6,030	4,010	8,440		
			9"	6,195	4,120	9,500		
			10"	6,436	4,280	10,560		
			11"	6,646	4,420	11,610		
			12"	6,842	4,550	12,670		



Tension Bars are required for Forged Erection Anchor to achieve tension values shown in chart.

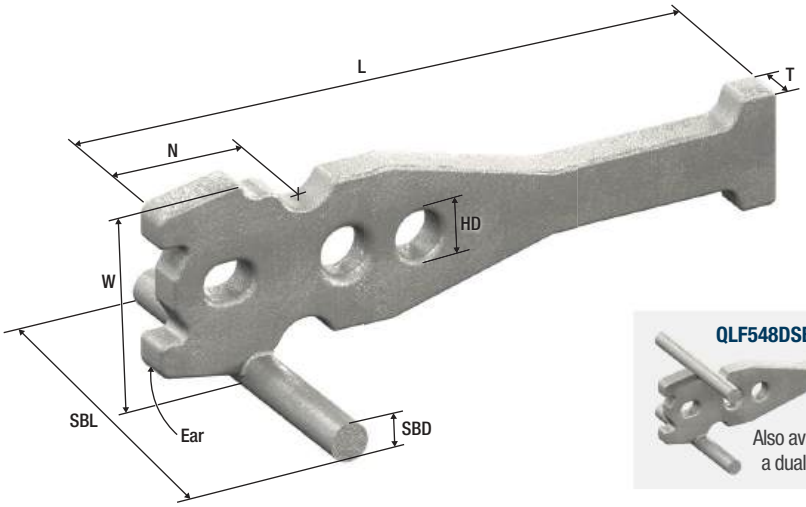


Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing, concrete testing, and available industry data.
- Erection Anchor is to be located at the centerline of panel thickness.

QUIKLIFT® 6T FORGED ERECTION ANCHOR WITH WELDED SHEAR BAR



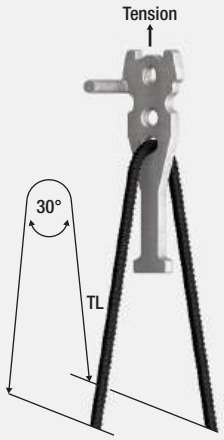
Also available with a dual shear bar

The QuikLift Forged Erection Anchor is designed for horizontal to vertical edge lifting and handling of thin-walled precast elements. The two "ears" on the head of the anchor prevent the ring clutch from coming in contact and spalling the concrete. The "ears" transfer the shear loads into the anchor and concrete. The unique shear bar design of this anchor replaces the standard large shear plate, with a welded shear bar to minimize the interference with prestressed strands or reinforcing. **Standard finish is hot-dipped galvanized.**

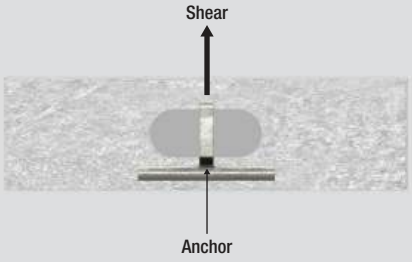
Impact resistant, even in freezing temperatures.

DIMENSIONS

Part #	Ton	Ring Clutch System	W	L	T	HD	N	SBD	SBL	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QLF548SBG	6T	4T-6T (QL002)	3-5/8"	10-1/2"	5/8"	7/8"	2-1/2"	5/8"	6"	48,000	3.73	600
QLF548DSBG	6T	4T-6T (QL002)	4-1/8"	10-1/2"	5/8"	7/8"	2-1/2"	5/8"	6"	48,000	4.18	500



Tension Bars provide a simple and economical method to increase tension capacity.
(See Tension Bar Selection Chart)



CAPACITIES

Part #	Ton	Ring Clutch System	Capacity in Concrete: Panel Thickness	2.66:1 SWL* Shear (lbs)	4:1 SWL Shear (lbs)	4:1 SWL Tension w/o Tension Bar (lbs)	4:1 SWL Tension w/ Tension Bar (lbs)	Min. Corner Distance
QLF548SBG, QLF548DSBG	6T	4T-6T (QL002)	6"	4,375	2,910	5,150	12,000	16"
			8"	6,240	4,150	6,870		
			12"	7,909	5,260	10,310		

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

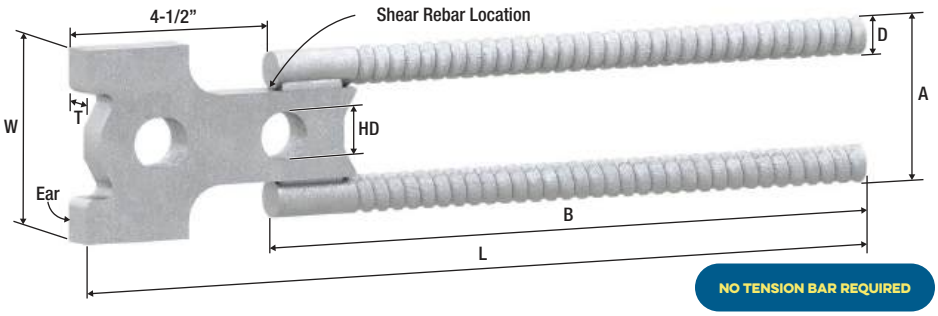
*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing, concrete testing, and available industry data.

- Unique design minimizes interference with prestressed strand and reinforcing.
- Welded shear bar design allows sufficient concrete consolidation under the anchor.

QUIKLIFT® SPIRAL ERECTION ANCHOR™, 9 TON

Designed for horizontal to vertical edge lifting of thin-walled precast elements. The ALP Spiral Erection anchor uses two of ALP's patented spiral legs to eliminate the need for tension bars and minimize interference with reinforcement. The "ears" transfer the shear loads into the anchor and concrete. A shear bar is required with this anchor. Available in 9T capacity. **Standard finish is hot-dip galvanized. US Patent No: 11,421,431 B1.**



DIMENSIONS

Part #	Ton	Ring Clutch System	W	L	T	HD	A	B	D	Ultimate Mechanical in Tension (lbs)	Weight (lbs)
QLSE9T18G	9T	8T-12T (QL003)	4"	18"	0.787"	1"	3-7/16"	13-1/2"	0.787"	72,000	7.07

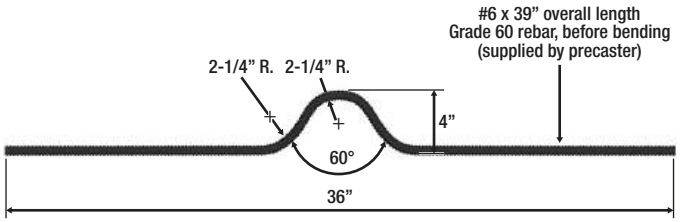
CAPACITIES

				Capacity in Concrete					
Part #	Ton	Ring Clutch System	Min. Panel Thickness	Required Steel Reinforcement	2.66:1 SWL* Shear w/ Shear Rebar (lbs)	4:1 SWL Shear w/ Shear Rebar (lbs)	4:1 SWL w/o Tension Rebar (lbs)	4:1 SWL Max Tension		Min. Corner Distance w/o Tension Rebar
								4:1 SWL Max Tension Capacity	Concrete Strength f'c	
QLSE9T18G	9T	8T-12T QL003	8"	None	9,398	6,250	8,675	11,355	6,000 psi	28"
				0.084 in.² / ft.	11,323	7,530	14,900	18,000	5,110 psi	28"
				0.240 in.² / ft.	11,323	7,530	17,800	18,000	3,580 psi	28"

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

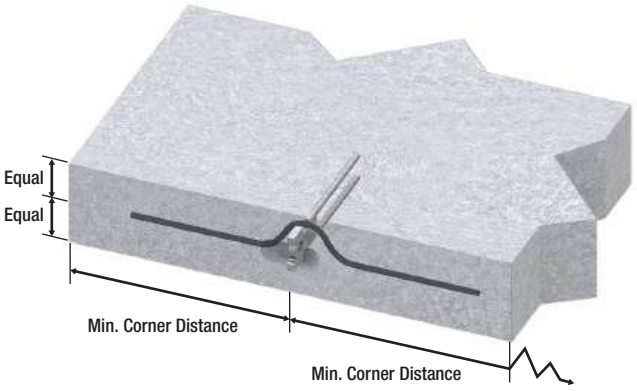
*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

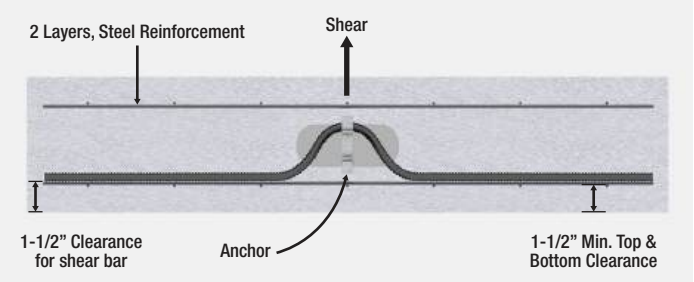
- Table is based on 3,500 psi and 145 PCF concrete, unless otherwise noted.
- For corner distances between 19" and 28", use a #6 tension rebar (max allowable size) per ALP tension bar chart to achieve a reduced 16,000 lbs capacity.
- Above capacities are based upon mechanical and concrete testing.
- Minimum anchor spacing is double the corner distance for anchors with or without tension bars
- Required reinforcement are minimums and capacities are based upon a top and bottom layer of mesh.



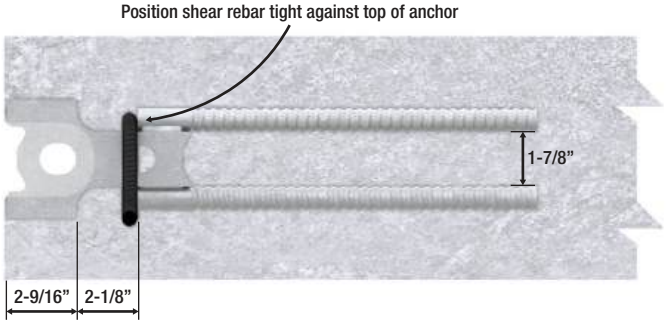
- Shear rebar required to achieve above capacities

Shear Rebar Detail



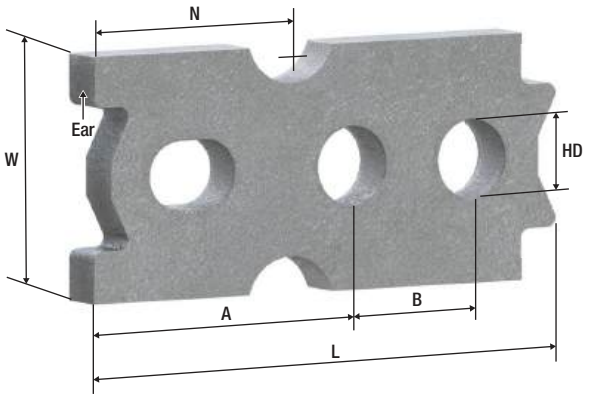


End View



Side View

QUIKLIFT® ERECTION HEAD ANCHOR



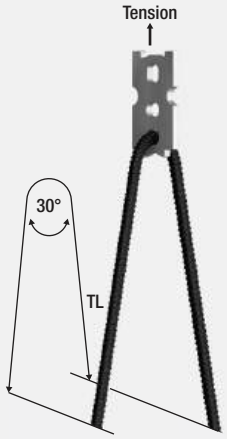
The Erection Head Anchor is designed for horizontal to vertical edge lifting and handling of thin-walled precast elements. The two "ears" on the head of the anchor prevent the clutch from coming in contact and spalling the concrete. The "ears" transfer the shear loads into the anchor and concrete. The shear capacities below require a shear bar. A tension bar is required to achieve any tension capacity. Available in 2T, 4T and 8T capacities. **Standard finish is hot-dipped galvanized.**

Impact resistant, even in freezing temperatures.

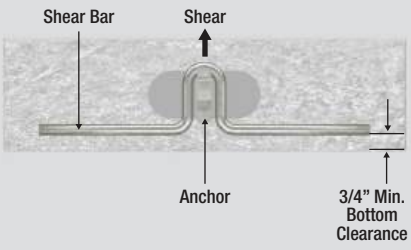
Domestic available.

DIMENSIONS

Part #	Ton	Ring Clutch System	W	L	T	HD	A	B	N	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QL403G	2T	2T-3T (QL001)	2"	4-1/4"	3/8"	5/8"	2-3/8"	1-3/32"	1-13/16"	16,000	0.71	3,000
QL075G	4T	4T-6T (QL002)	2-1/2"	7-7/16"	5/8"	3/4"	3-3/16"	1-1/4"	2-1/2"	32,000	2.72	720
QL185G	8T	8T-12T (QL003)	3-3/4"	13-1/4"	3/4"	1"	4"	1-3/4"	3-1/8"	64,000	9.46	200



- Tension Bars are required to be used for Erection Head Anchors to achieve tension values shown in chart.
- Erection Head Anchors have no foot to achieve tension values without a tension bar.



QuikLift® Shear Bar is required to achieve shear strength shown in chart.

CAPACITIES

			Capacity in Concrete				
Part #	Ton	Ring Clutch System	Panel Thickness	2.66:1 SWL* Shear w/ Shear Bar (lbs)	4:1 SWL Shear w/ Shear Bar (lbs)	4:1 SWL Tension w/ Tension Bar (lbs)	Min. Corner Distance
QL403G	2T	2T-3T (QL001)	4"	N/A	N/A	4,000	12"
QL075G	4T	4T-6T (QL002)	5-1/2"	N/A	N/A	8,000	15"
QL185G	8T	8T-12T (QL003)	7-1/2"	6,030	4,010	16,000	18"
			8"	6,030	4,010		
			9"	6,195	4,120		
			10"	6,436	4,280		
			11"	6,646	4,420		
			12"	6,842	4,550		

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing and available industry data.
- A shear bar is required to obtain the shear values shown

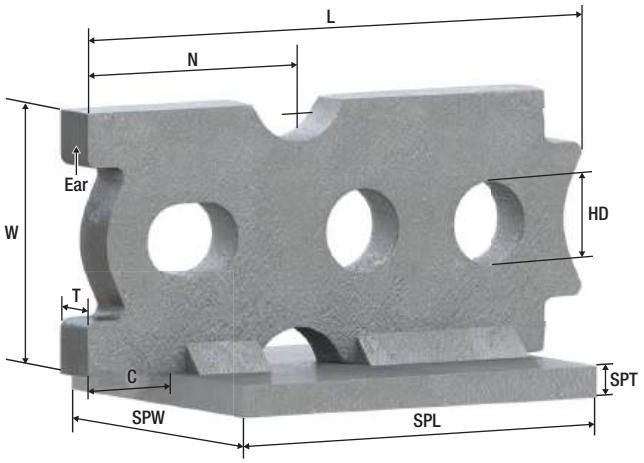
2T 4T 8T

QUIKLIFT® ERECTION HEAD ANCHOR WITH SHEAR PLATE

The Erection Head Anchor with Shear Plate is designed for horizontal to vertical edge lifting and handling of thin-walled precast elements. The two "ears" on the head of the anchor prevent the clutch from coming in contact and spalling the concrete. The "ears" transfer the shear loads into the anchor and concrete. The shear bar is not required with this anchor. A tension bar is required to achieve any tension capacity. Available in 2T, 4T and 8T capacities. **Standard finish is hot-dipped galvanized.**

Impact resistant, even in freezing temperatures.

Domestic available.



DIMENSIONS

Part #	Ton	Ring Clutch System	W	L	T	HD	SPW	SPL	SPT	C	N	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QL403SPG	2T	2T-3T (QL001)	2"	4-1/4"	3/8"	5/8"	2-1/2"	3"	1/4"	3/4"	1-13/16"	16,000	1.21	1,800
QL075SPG	4T	4T-6T (QL002)	2-1/2"	7-7/16"	5/8"	3/4"	2-1/2"	3"	3/8"	1-1/4"	2-1/2"	32,000	3.48	500
QL185SPG	8T	8T-12T (QL003)	3-3/4"	13-1/4"	3/4"	1"	3"	3-1/2"	3/8"	1-5/8"	3-1/8"	64,000	11.07	170

CAPACITIES

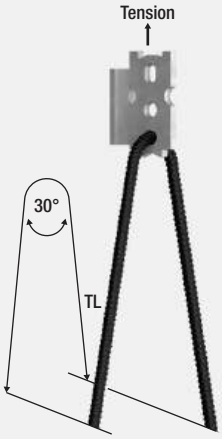
			Capacity in Concrete				
Part #	Ton	Ring Clutch System	Panel Thickness	2.66:1 SWL* Shear (lbs)	4:1 SWL Shear (lbs)	4:1 SWL Tension w/ Tension Bar (lbs)	Min. Corner Distance
QL403SPG	2T	2T-3T (QL001)	4"	1,857	1,235	4,000	12"
QL075SPG	4T	4T-6T (QL002)	5-1/2"	4,015	2,670	8,000	15"
QL185SPG	8T	8T-12T (QL003)	7"	6,030	4,010	16,000	18"
			7-1/2"	6,030	4,010		
			8"	6,030	4,010		

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

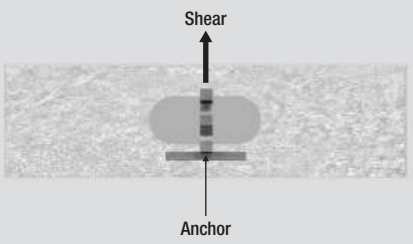
*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing and available industry data.

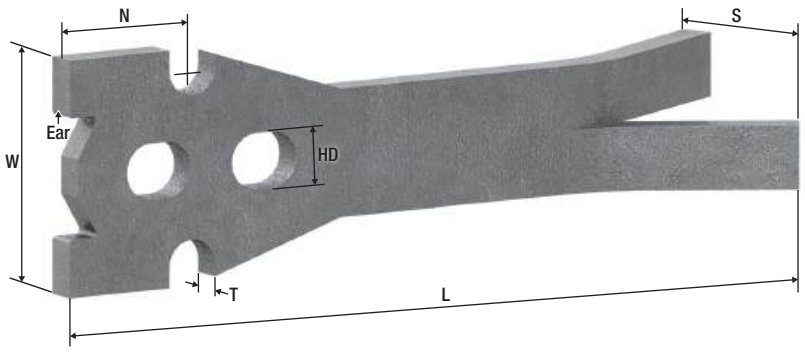
2T 4T 8T



- Tension Bars are required to be used for Head Anchors to achieve tension values shown in chart.
- Head Anchors have no foot to achieve tension values without a tension bar.



QUIKLIFT® Y ERECTION ANCHOR



The Y Erection Anchor is designed for horizontal to vertical edge lifting and handling of thick-walled precast elements. The two "ears" on the head of the anchor prevent the clutch from coming in contact and spalling the concrete. The "ears" transfer the shear loads into the anchor and concrete. Available in 12.5T, 17T and 22T capacities. **Standard finish is hot-dipped galvanized.**

Impact resistant, even in freezing temperatures.

DIMENSIONS

Part #	Ton	Ring Clutch System	W	S	L	T	HD	N	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QL307G	12.5T	12.5T-22T (QL004)	5-7/8"	3-1/8"	19-5/8"	3/4"	1-3/8"	3-1/2"	100,000	15.08	130
QL308G	17T	12.5T-22T (QL004)	5-7/8"	3-1/8"	19-5/8"	1"	1-3/8"	3-1/2"	136,000	20.09	110
QL309G	22T	12.5T-22T (QL004)	5-7/8"	3-1/8"	19-5/8"	1-3/16"	1-3/8"	3-1/2"	176,000	23.11	90

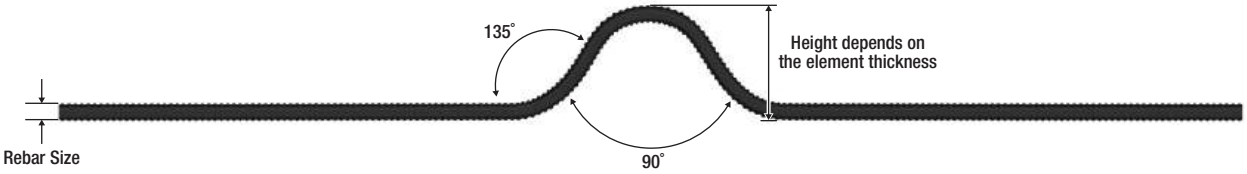
CAPACITIES

			Capacity in Concrete					
Part #	Ton	Ring Clutch System	Minimum Panel Thickness	2.66:1 SWL* Shear w/ Shear Bar (lbs)	4:1 SWL Shear w/ Shear Bar (lbs)	4:1 SWL Tension w/ Tension Bar (lbs)	Minimum Edge Distance	Minimum Anchor Spacing
QL307G	12.5T	12.5T-22T (QL004)	10"	15,846	10,538	25,000	30"	60"
QL308G	17T	12.5T-22T (QL004)	12"	21,551	14,332	34,000	36"	72"
QL309G	22T	12.5T-22T (QL004)	14"	27,890	18,547	44,000	36"	72"

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

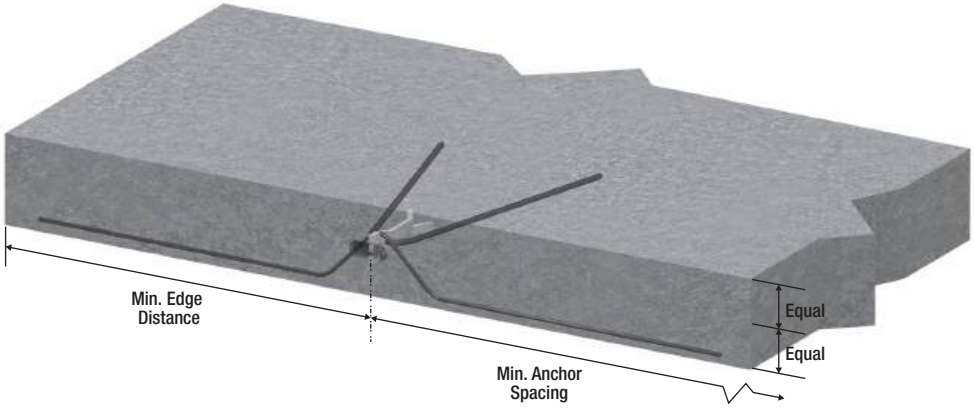
* A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- **Tension Bar and Shear Bar required for all Y-Series Erection Anchors, per ALP® Tension Bar and Shear Bar charts.**
- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon available industry data.
- Cannot increase capacity with higher concrete strength



Ton	Rebar Size (Grade 60)	Rebar Length (Before Bending)
12.5T	#8	60"
17T	#8	72"
22T	#8	72"

* Rebar should be a minimum of 3/4" cover and maximum of 1-1/2" cover from the bottom of the element, or as determined by the design engineer.

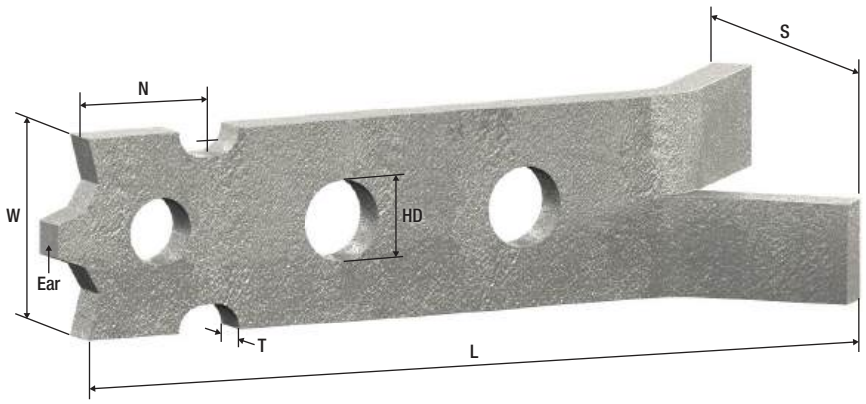


QUIKLIFT® SPLIT FOOT ERECTION ANCHOR - 1 TON

The Split Foot 1 Ton Anchor is designed for horizontal to vertical edge lifting and handling of thin-walled precast elements. The single "ear" on the head of the anchor prevents the clutch from coming in contact and spalling the concrete. The "ear" prevents the ring clutch from rotating and hitting the concrete. The shear bar is required to achieve published shear loads with this anchor. A tension bar is required to reach the higher tension capacities.

Standard finish is hot-dipped galvanized.

Impact resistant, even in freezing temperatures.



DIMENSIONS

Part #	Ton	Ring Clutch System	W	L	T	HD	S	N	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QL046G	1T	1T (QL216CB)	1-3/16"	4-15/16"	1/4"	7/16"	1-3/4"	3/4"	8,000	0.34	5,000

CAPACITIES

			Capacity in Concrete					
Part #	Ton	Ring Clutch System	Min. Panel Thickness	2.66:1 SWL* Shear w/ Shear Bar (lbs)	4:1 SWL Shear w/ Shear Bar (lbs)	4:1 SWL Tension w/o Tension Bar (lbs)	4:1 SWL Tension w/ Tension Bar (lbs)	Min. Corner Distance
QL046G	1T	1T (QL216CB)	3"	918	611	1,160	2,000	12"

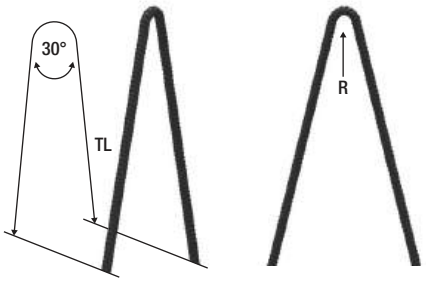
Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing and available industry data.
- A shear bar is required to obtain the shear values shown.

TENSION BAR CHART

Concrete Strength (PSI)	Rebar (Grade 60)		R-Radius
	Size	TL	
1,500	#3	35"	1-1/8"
2,000	#3	31"	1-1/8"
2,500	#3	27"	1-1/8"
3,000	#3	25"	1-1/8"
3,500 or greater	#3	24"	1-1/8"

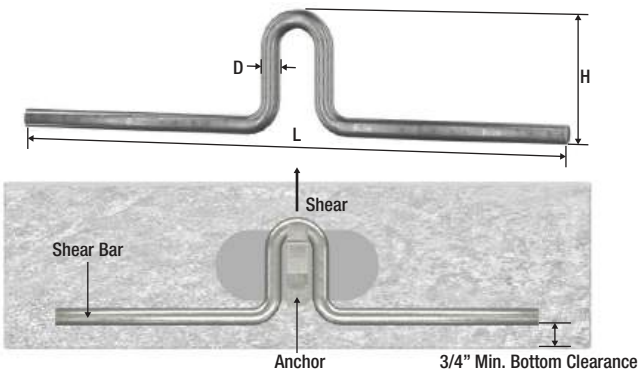


TL = Total length of rebar, before bend

QL139G SHEAR BAR CHART

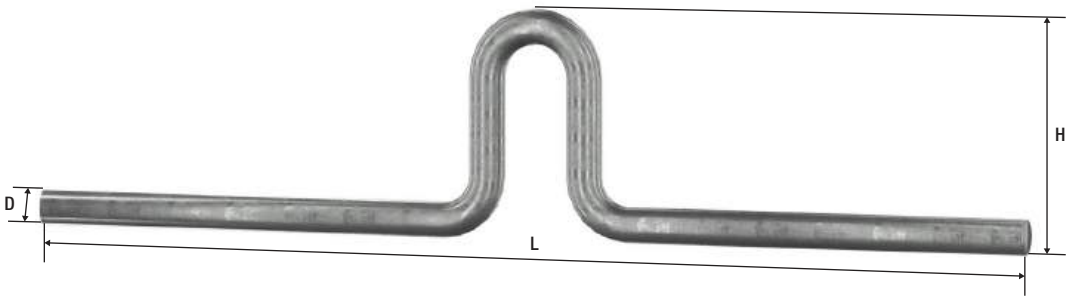
D	H	L
3/8"	1-5/8"	13"

QuikLift Shear Bar is required to achieve shear strength shown in chart.



QUIKLIFT® SHEAR BARS

The QuikLift Shear Bar is used to increase the shear capacity of the Erection Anchor in thin panels. The Shear Bar fits over the anchor at the cutout and is secured tightly against the anchor. Proper installation allows the Shear Bar to transfer the shear loads deeper into the concrete to prevent spalling. **Standard finish is hot-dipped galvanized.**

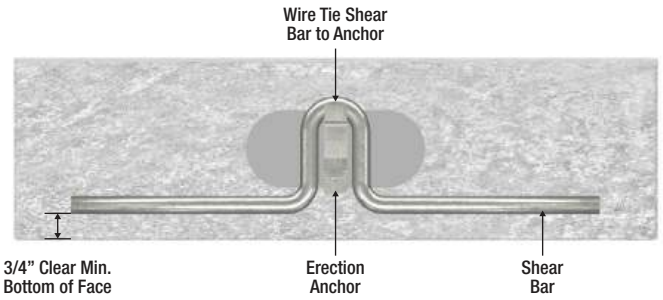


DIMENSIONS

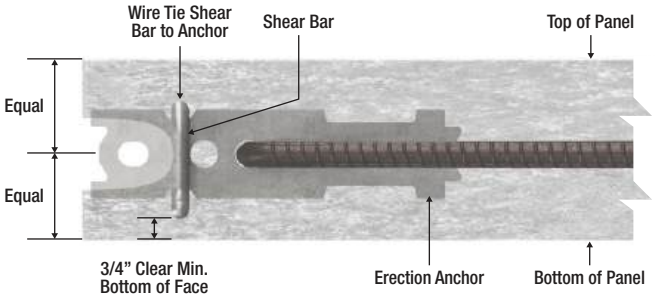
Part #	Ton	Ring Clutch System	H	L	D	Weight (lbs)	Qty/Crate
QL140G	2T-3T	2T-3T (QL001)	2-1/2”	14-3/4”	1/2”	0.97	2,200
QL141G	4T-6T	4T-6T (QL002)	3-5/16”	14-3/4”	1/2”	1.03	2,000
QL142G	8T-12T	8T-12T (QL003)	4-15/16”	14-3/4”	1/2”	1.22	1,800

Note: The unique shape and size of the QuikLift Shear Bars directly influences the performance. When a shear bar is required, the shear capacities listed in this manual rely on the QuikLift Shear Bars being used. Any other shape, material or strength bar may not perform properly, reducing shear capacities dramatically.

End View



Side View

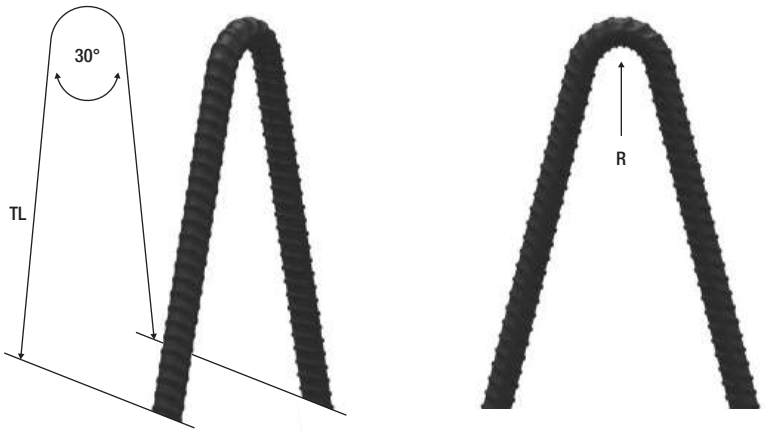


Tension Bars provide a simple and economical method to increase tension capacity. (See Tension Bar Selection Chart)

TENSION BARS

Tension Bars are required on most QuikLift® anchors to achieve the maximum tension capacity in some wall thicknesses (see anchor information charts). Tension bars are always required on the Two-Hole Anchors and Erection Head Anchors.

The chart below lists the tension bar overall length and diameter. To be fully functional the 30° angle is required. A minimum of 145 PCF concrete is also required.



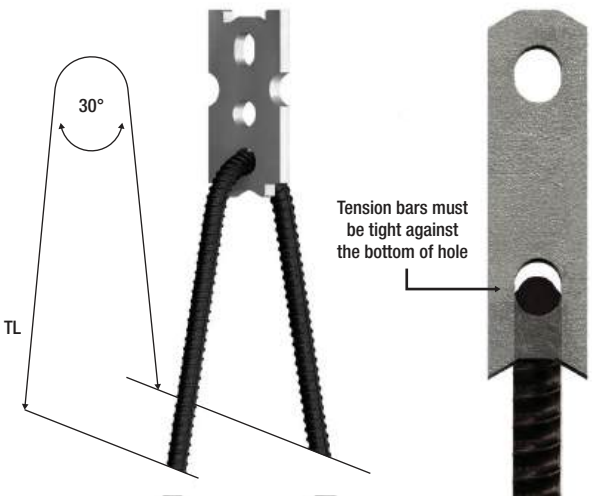
TL = Total length of rebar, before bending

DIMENSIONS

Ton	Rebar Size (Grade 60)		R - Radius	TL- Total Length						
				Concrete Strength (PSI)						
	Inch	Metric		1,500	2,000	2,500	3,000	3,500	4,000	5,000
1 Ton	#3	#10	1-1/8”	35”	31”	27”	25”	24”	24”	24”
2 Ton	#3	#10	1-1/8”	47”	41”	37”	34”	31”	29”	26”
3 Ton	#4	#13	1-1/2”	52”	45”	40”	37”	34”	32”	29”
4 Ton	#5	#16	1-7/8”	59”	51”	45”	42”	39”	36”	32”
6 Ton	#6	#19	2-1/4”	71”	61”	55”	50”	46”	43”	39”
8 Ton	#6	#19	2-1/4”	94”	81”	73”	67”	62”	58”	52”
9 Ton	#7	#22	2-5/8”	113”	98”	88”	80”	74”	69”	62”
10 Ton	#7	#22	2-5/8”	125”	109”	97”	89”	82”	77”	69”
11 Ton	#8	#25	3”	120”	104”	93”	85”	79”	74”	66”
12 Ton	#8	#25	3”	131”	113”	101”	92”	86”	80”	72”
12.5 Ton	#8	#25	3”	136”	118”	105”	96”	89”	83”	75”
17 Ton	#9	#29	4-1/2”	165”	143”	128”	117”	108”	101”	90”
20 Ton	#10	#32	5”	172”	149”	133”	122”	113”	105”	94”
22 Ton	#10	#32	5”	189”	164”	146”	134”	124”	116”	104”

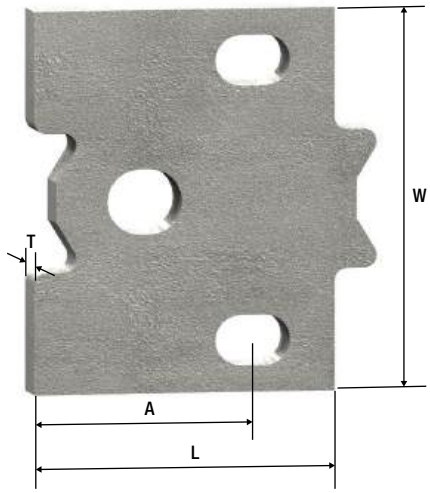
Tension Bar Selection Chart is based on ACI 318 criteria.

Typical Tension Bar Application

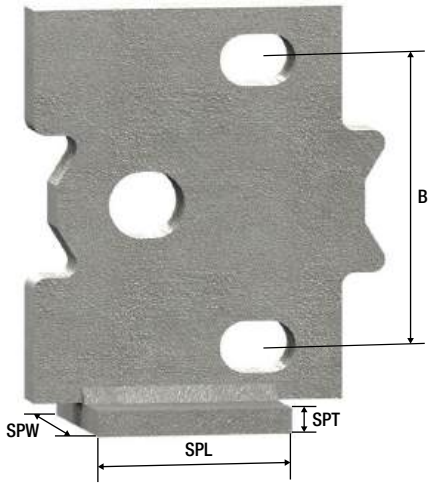


QUIKLIFT® INSULATED PANEL ANCHORS

The QuikLift Insulated Panel Anchor is specifically designed to edge-lift insulated panels efficiently and economically. The anchor spans the insulation and connects the exterior and interior wythes, distributing the shear and tension loads through the added reinforcement. The anchor has a very small profile, minimizing the disruption of the insulation during installation. The anchor supports each wythe during the erection process, decreasing the shear stress on the insulated panel tie system. Reinforcement is required as shown in the details below. **Standard finish is hot-dipped galvanized. Impact resistant, even in freezing temperatures.** *Domestic available.*



Insulated Panel Anchor



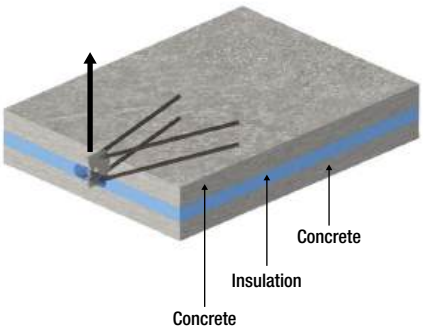
Insulated Panel Anchor w/ Shear Plate

DIMENSIONS

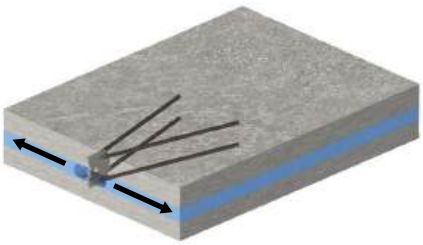
Part #	Ton	Ring Clutch System	W	L	T	A	B	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QL077G	4T	4T-6T (QL002)	6”	3-1/4”	5/8”	1-13/16”	4-3/8”	32,000	2.98	650
QL184G	8T	8T-12T (QL003)	6”	4-3/4”	3/4”	3-1/2”	4-3/8”	64,000	5.62	350
QL242G	10T	8T-12T (QL003)	7”	4-3/4”	3/4”	3-3/8”	4-3/8”	80,000	6.61	320
QL243G	10T	8T-12T (QL003)	8”	4-3/4”	3/4”	3-3/8”	5-1/2”	80,000	7.66	230

DIMENSIONS WITH SHEAR PLATE

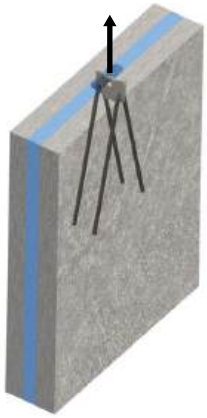
Part #	Ton	Ring Clutch System	W	L	T	A	B	SPW	SPL	SPT	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QL217SPG	4T	4T-6T (QL002)	4”	3-1/4”	5/8”	2-5/16”	2-3/8”	3”	2”	1/4”	32,000	2.34	900
QL184SPG	8T	8T-12T (QL003)	6”	4-3/4”	3/4”	3-1/2”	4-3/8”	3-1/2”	3”	3/8”	64,000	6.84	350
QL242SPG	10T	8T-12T (QL003)	7”	4-3/4”	3/4”	3-3/8”	4-3/8”	8”	3”	1/2”	80,000	10.44	280
QL243SPG	10T	8T-12T (QL003)	8”	4-3/4”	3/4”	3-3/8”	5-1/2”	8”	3”	1/2”	80,000	11.45	220



Shear Parallel to Panel Thickness

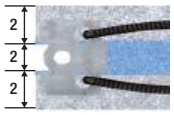
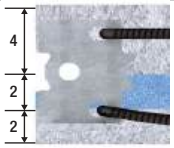
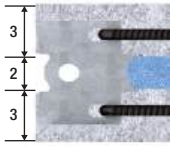
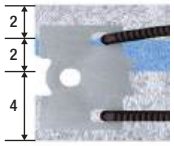
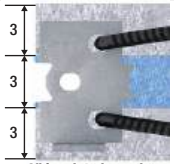
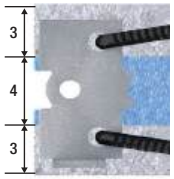


Shear Perpendicular to Panel Thickness



Tension

QUIKLIFT® INSULATED PANEL ANCHOR CAPACITIES

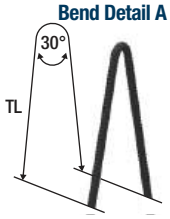
	Part #	Ton	Concrete PSI	Capacity in Concrete: 2.66:1 SWL* Shear Parallel to Panel Thickness (lbs)	Capacity in Concrete: 4:1 SWL Shear Parallel to Panel Thickness (lbs)	Capacity in Concrete: 4:1 SWL Shear Perpendicular to Panel Thickness (lbs)	Capacity in Concrete: 4:1 SWL Reinforced Tension Load (lbs)	Required Reinforcement Rebar (Grade 60): Size	Bottom Bend: TL- Total Length	Bottom Bend: Bend Detail	Top Bend: TL- Total Length	Top Bend: Bend Detail
 6" insulated panel (2" x 2" x 2")	QL217SPG	4T	3,000	2,500	1,667	4,520	7,580	#4	43"	C	43"	C
		4T	3,500	2,700	1,800	4,890	7,580	#4	41"	C	41"	C
		4T	4,000	2,890	1,922	5,230	7,580	#4	39"	C	39"	C
 8" insulated panel (2" x 2" x 4")	QL184SPG	8T	4,500	6,900	4,600	9,870	16,000	#5	49"	B	39"	A
 8" insulated panel (3" x 2" x 3 ")	QL077G	4T	3,500	5,137	3,425	8,000	8,000	#4	31"	A	31"	A
	QL184G	8T	4,500	5,775	3,850	9,900	16,000	#5	39"	A	39"	A
	QL184SPG	8T	4,500	6,600	4,400	8,800	16,000	#5	39"	A	39"	A
 8" insulated panel (4" x 2" x 2")	QL077G	4T	4,500	4,950	3,300	8,000	8,000	#4	27"	A	37"	B
	QL184G	8T	4,500	5,175	3,450	10,500	16,000	#5	39"	A	49"	B
 9" insulated panel (3" x 3" x 3")	QL242G	10T	4,500	5,775	3,850	9,200	20,000	#6	51"	B	51"	B
	QL242SPG	10T	4,500	7,050	4,700	10,900	20,000	#6	51"	B	51"	B
 10" insulated panel (3" x 4" x 3")	QL243G	10T	4,500	5,775	3,850	9,200	20,000	#6	51"	B	51"	B
	QL243SPG	10T	4,500	6,600	4,400	9,200	20,000	#6	51"	B	51"	B

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

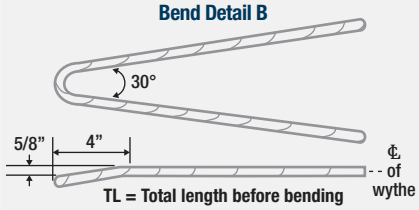
* A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- Above capacities are based upon mechanical testing and available industry data.
- Above rebar development length requirements based upon ACI-318 and concrete testing.
- Minimum rebar bend radius: 1-1/2" for #4, 1-7/8" for #5, 2-1/4" for #6

Bend Detail A

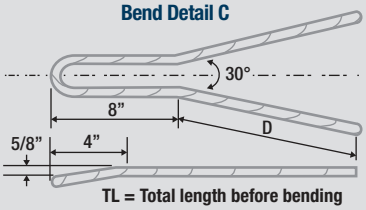


Bend Detail B



TL = Total length before bending

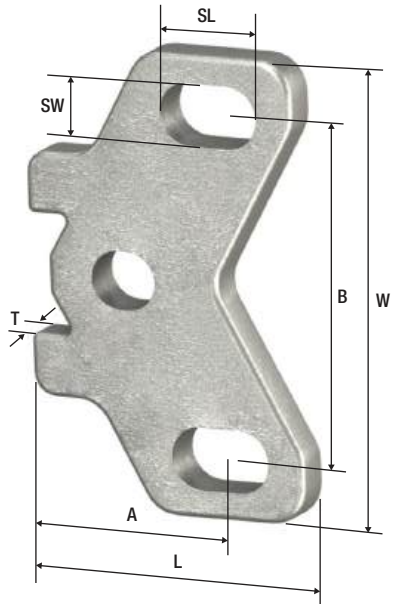
Bend Detail C



TL = Total length before bending

PSI	TL - Total Length	D
3,000	43"	13-1/2"
3,500	41"	12-1/2"
4,000	39"	11-1/2"

QUIKLIFT® FORGED INSULATED PANEL ANCHORS



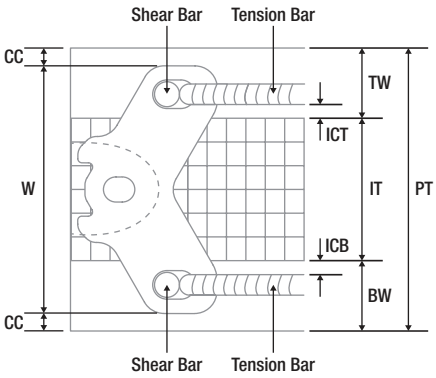
The QuikLift Forged Insulated Panel Anchor is specifically designed to edge-lift insulated panels efficiently and economically. The anchor spans the insulation and connects the exterior and interior wythes, distributing the shear and tension loads through the added reinforcement. The anchor has a very small profile, minimizing the disruption of the insulation during installation. The anchor supports each wythe during the erection process, decreasing the shear stress on the insulated panel tie system. Reinforcement is required as shown in the details below.

Standard finish is hot-dipped galvanized.

Impact resistant, even in freezing temperatures.

DIMENSIONS

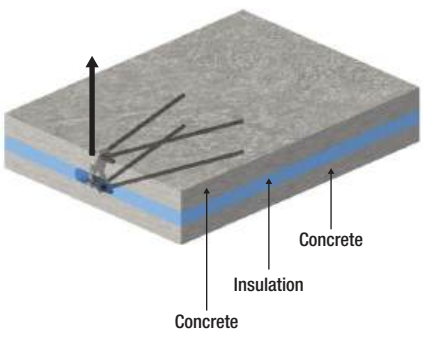
Part #	Ton	Ring Clutch System	W	L	T	A	B	SL	SW	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QLFIP6T7G	6T	4T-6T (QL002)	7”	3-15/16”	5/8”	2-3/4”	5-3/8”	1-3/16”	13/16”	48,000	2.69	850
QLFIP9T534G	9T	8T-12T (QL003)	5-3/4”	4-3/16”	3/4”	2-3/4”	3-3/4”	1-1/2”	15/16”	72,000	3.23	700
QLFIP12T7G	12T	8T-12T (QL003)	7”	4-13/16”	3/4”	3-3/16”	5”	1-13/16”	1-1/8”	96,000	4.00	550
QLFIP12T8G	12T	8T-12T (QL003)	8”	5”	3/4”	3-7/16”	6”	1-13/16”	1-1/8”	96,000	4.80	480



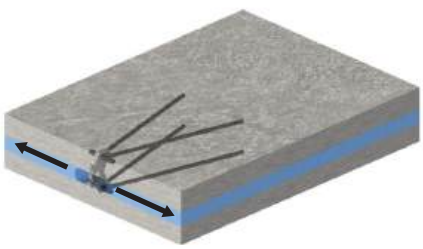
INSTALLATION DETAILS

Part #	Ton	W	PT	BW	IT	TW	ICB	ICT	CC*
QLFIP6T7G	6T	7”	8”	2”	4”	2”	7/16”	7/16”	1/2”
			9”	3”	3”	3”	15/16”	15/16”	1”
QLFIP9T534G	9T	5-3/4”	8”	3”	2”	3”	9/16”	9/16”	1-1/8”
QLFIP12T7G	12T	7”	9”	3”	3”	3”	5/8”	5/8”	1”
QLFIP12T8G	12T	8”	10”	3”	4”	3”	5/8”	5/8”	1”

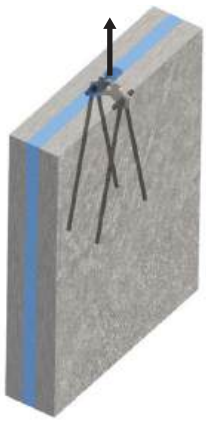
* Minimum of 1/2” cover required on top and bottom of anchor



Shear Parallel to Panel Thickness

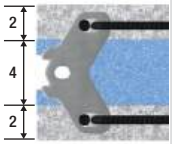
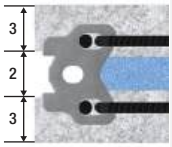
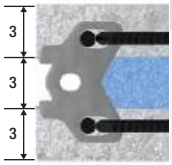
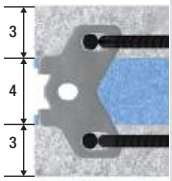


Shear Perpendicular to Panel Thickness



Tension

QUIKLIFT® FORGED INSULATED PANEL ANCHOR CAPACITIES

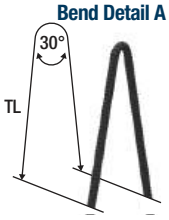
	Part #	Ton	Concrete PSI	Capacity in Concrete: 2.66:1 SWL* Shear Parallel to Panel Thickness (lbs)	Capacity in Concrete: 4:1 SWL Shear Parallel to Panel Thickness (lbs)	Capacity in Concrete: 4:1 SWL Shear Perpendicular to Panel Thickness (lbs)	Capacity in Concrete: 4:1 SWL Reinforced Tension Load (lbs)	Required Reinforcement: Shear Rebar (Grade 60)	Required Reinforcement: Tension Rebar (Grade 60) Size	TL - Total Length	Bend Detail
 8" insulated panel (2" x 4" x 2")	QLFIP6T7G	6T	3,500	4,022	2,675	8,200	12,000	#5 x 6"	#4	62"	A
 8" insulated panel (3" x 2" x 3")	QLFIP9T534G	9T	4,500	6,616	4,400	8,700	18,000	#6 x 6"	#5	66"	A
										54"	B
 9" insulated panel (3" x 3" x 3 ")	QLFIP6T7G	6T	3,500	6,781	4,510	9,600	12,000	#5 X 6"	#4	41"	A
	QLFIP12T7G	12T	4,500	7,067	4,700	10,900	24,000	#7 x 6"	#6	74"	A
										59"	B
 10" insulated panel (3" x 4" x 3")	QLFIP12T8G	12T	4,500	6,616	4,400	9,200	24,000	#7 x 6"	#6	74"	A
										59"	B

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

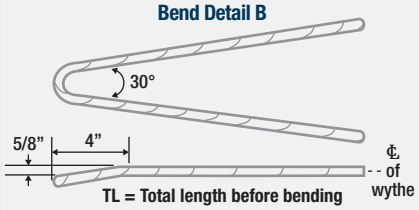
*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- Above capacities are based upon mechanical testing and available industry data.
- Above rebar development length requirements based upon ACI-318 and concrete testing.
- Minimum of 1/2" cover required on top and bottom of anchor.

Bend Detail A



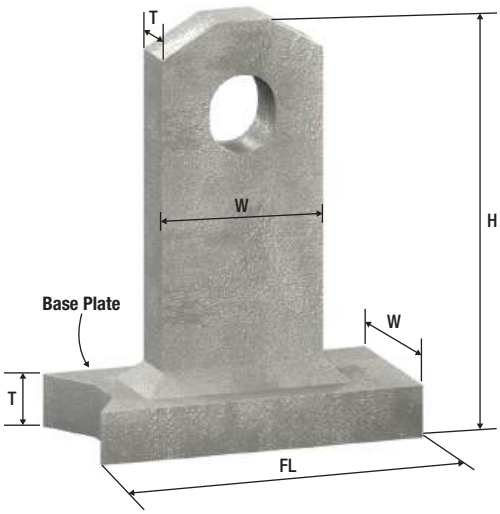
Bend Detail B



TL = Total length before bending

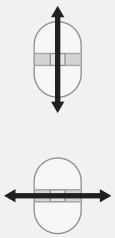
Tension rebar published lengths have been updated per the latest ACI-318 provisions. Bend Detail A requires additional rebar length to achieve development length for deformed bars. Bend Detail B can be used to reduce the length of deformed bars for only the 9 Ton and 12 Ton anchors.

QUIKLIFT® PLATE ANCHORS



The Plate Anchors are designed for the back-stripping of panels from the form. The Plate Anchors are designed with a plate welded to the bottom to provide anchorage in a low profile anchor. Rebar reinforcement should not be added over the base plate of this Plate Anchor system.

Standard finish is hot-dipped galvanized. Impact resistant, even in freezing temperatures. *Domestic available.*



1. Shear loads should be perpendicular to the face of the anchor and center line of recess.

2. **Warning:** Spalling may occur when pulling in shear parallel to the face of the anchor. This may also lead to overloading the anchor.

DIMENSIONS

Part #	Ton	Ring Clutch System	W	H	T	FL	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QL128G	2T	2T-3T (QL001)	1-1/4”	2-1/4”	3/8”	3-3/4”	16,000	0.79	2,000
QL846G	4T	4T-6T (QL002)	1-1/2”	3”	5/8”	3”	32,000	1.23	2,000
QL847G	4T	4T-6T (QL002)	1-1/2”	3-1/2”	5/8”	3”	32,000	1.42	1,700
QL044G	4T	4T-6T (QL002)	1-1/2”	4-3/8”	5/8”	3-7/8”	32,000	1.81	1,000
QL054G	8T	8T-12T (QL003)	2-1/2”	6-1/4”	3/4”	5”	64,000	5.43	400
QL042G	8T	8T-12T (QL003)	2-1/2”	7-1/8”	3/4”	5”	64,000	5.55	400

CAPACITIES

			Capacity in Concrete 4:1 SWL		
Part #	Ton	Ring Clutch System	Tension Load (lbs)	Shear Load (lbs)	Min. Edge Distance (Tension)
QL128G†	2T	2T-3T (QL001)	950	950	6”
QL846G†	4T	4T-6T (QL002)	3,570	3,570	6”
QL847G†	4T	4T-6T (QL002)	4,700	4,700	7”
QL044G	4T	4T-6T (QL002)	4,730	4,730	9”
QL054G	8T	8T-12T (QL003)	6,350	6,350	12”
QL042G	8T	8T-12T (QL003)	10,000	10,000	13”

†Rebar should not be placed between the recess member and the base plate as this may reduce the capacity of the system.

- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing, concrete testing, and available industry data.
- Shear edge distances should be based on ACI calculations or testing in plain concrete
- Minimum anchor spacing is 2x the published edge distance
- Typically 3/4” concrete cover is required below anchor

2T

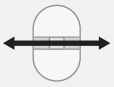
4T

8T

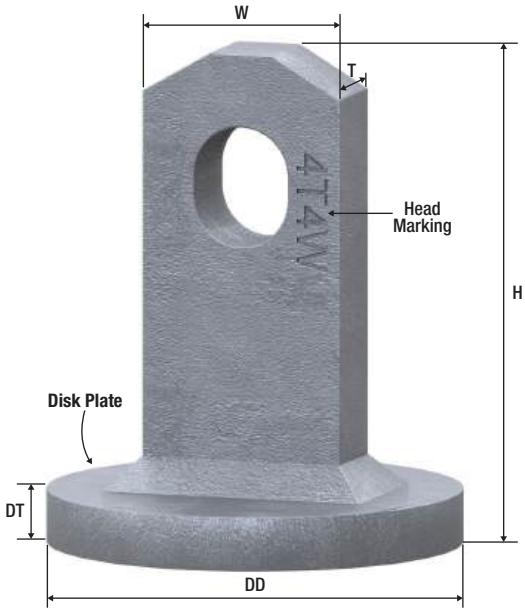
QUIKLIFT® DISK ANCHOR™

The ALP QuikLift Disk Anchor System is the first system designed specifically for lifting insulated wall panels from the top wythe of concrete and does not require any additional reinforcing bars. Disk Anchor heights are optimized to fit specific wythe heights, with anchor heights that factor in the height of the recess member. When project requirements allow, insulation thickness can be reduced to fit deeper anchors to increase capacities. Disk Anchors can also be used in non-insulated panel applications, with 1" cover below the foot, as noted in the load charts. **Standard Finish is Hot Dip Galvanized, impact resistant, even in freezing temperatures. Patent pending.** *Domestic available.*

1. Shear loads should be perpendicular to the face of the anchor and center line of recess.



2. **Warning:** Spalling may occur when pulling in shear parallel to the face of the anchor. This may also lead to overloading the anchor.



DIMENSIONS

Part #	Ton	Ring Clutch System	H	W	T	DD	DT	Head Marking	Ultimate Mechanical in Tension (lbs)	Weight (lbs.)	Qty/Crate
QLPD2T3WG	2T	2T-3T (QL001)	2-9/16"	1-1/4"	3/8"	3"	3/8"	2T3W	16,000	1.09	2,000
QLPD4T3WG	4T	4T-6T (QL002)	2-9/16"	1-1/2"	5/8"	3"	3/8"	4T3W	32,000	1.29	1,600
QLPD4T4WG	4T	4T-6T (QL002)	3-9/16"	1-1/2"	5/8"	3"	3/8"	4T4W	32,000	1.53	1,300
QLPD4T5WG	4T	4T-6T (QL002)	4-9/16"	1-1/2"	5/8"	3"	3/8"	4T5W	32,000	1.80	1,100
QLPD8T6WG	8T	8T-12T (QL003)	5-3/8"	2-1/2"	3/4"	4"	1/2"	8T6W	64,000	3.97	500
QLPD8T7WG	8T	8T-12T (QL003)	6-3/8"	2-1/2"	3/4"	4"	1/2"	8T7W	64,000	4.50	450
QLPD8T8WG	8T	8T-12T (QL003)	7-3/8"	2-1/2"	3/4"	4"	1/2"	8T8W	64,000	5.03	400

CAPACITIES

			Capacity in Concrete 4:1 SWL			
Part #	Ton	Ring Clutch System	LWT*	Tension Load (lbs)	Shear Load (lbs)	Min. Edge Distance (Tension)
QLPD2T3WG†	2T	2T-3T (QL001)	3"	4,000	4,000	6"
QLPD4T3WG†	4T	4T-6T (QL002)	3"	4,101**	4,101**	6"
QLPD4T4WG†	4T	4T-6T (QL002)	4"	7,200	7,200	7-1/2"
QLPD4T5WG	4T	4T-6T (QL002)	5"	8,000	8,000	9"
QLPD8T6WG	8T	8T-12T (QL003)	6"	11,019	11,019	11"
QLPD8T7WG	8T	8T-12T (QL003)	7"	14,640	14,640	12-1/2"
QLPD8T8WG	8T	8T-12T (QL003)	8"	16,000	16,000	14"

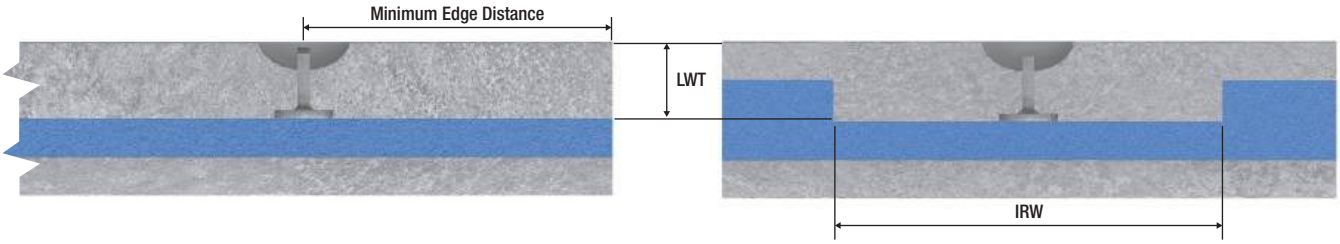
Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

†Rebar should not be placed between the recess member and the disk plate as this may reduce the capacity of the system.

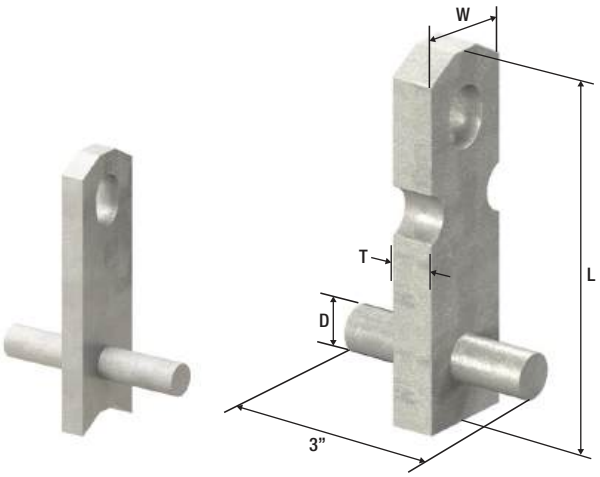
*Lifting Wythe Thickness based upon anchor sitting directly on top of insulation. For non-insulated applications, 1" cover required below the bottom of the anchor.

**Higher capacity can be achieved by using additional reinforcement details, consult with ALP Technical Team for more information.

- Table is based on 3,500 PSI and 145 PCF Concrete
- Above capacities are based upon mechanical and concrete testing.
- Tension edges distances are based upon testing in plain concrete.
- Shear edge distances should be based on ACI calculations or testing in plain concrete
- Insulated Recess Width (IRW) = 1.5x Minimum Edge Distance
- Minimum anchor spacing is 2x the published edge distance



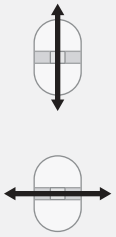
QUIKLIFT® T-BAR ANCHORS



2T 4T

The QuikLift T-Bar Anchor is designed to maximize tension capacities by using a solid steel bar, placed horizontally through the bottom of the anchor. The compact design comes in a variety of lengths and may be “wet-set”, further improving the versatility and the ease of use. A 3/8” minimum coverage at the bottom of the anchor is recommended. Designed for surface applications, used to “back-strip” panels from forms. Shear capacity allows T-Bar Anchors to be used for rotation to vertical.

Standard Finish: Hot-Dipped Galvanized. Impact resistant, even in freezing temperatures



1. Shear loads should be perpendicular to the face of the anchor and center line of recess.

2. **Warning:** Spalling may occur when pulling in shear parallel to the face of the anchor. This may also lead to overloading the anchor.

DIMENSIONS AND CAPACITIES

										Capacity in Concrete, 4:1 SWL			
Part #	Ton	Ring Clutch System	W	L	T	D	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate	Min. Panel Thickness	Min. Edge Distance	Unreinforced Tension Load (lbs)	Unreinforced Shear Load (lbs)
QL110G	2T	2T-3T (QL001)	1-1/4”	4”	3/8”	1/2”	16,000	0.69	3,200	4-3/4”	8”	4,000	4,000
QL848G	4T	4T-6T (QL002)	1-1/2”	4-1/4”	5/8”	5/8”	32,000	1.18	2,400	5”	8-1/2”	5,500	5,500
QL850G	4T	4T-6T (QL002)	1-1/2”	5-1/4”	5/8”	5/8”	32,000	1.39	1,400	6”	10-1/2”	8,000	8,000
QL852G	4T	4T-6T (QL002)	1-1/2”	6-1/4”	5/8”	5/8”	32,000	1.69	1,200	7”	12-1/2”	8,000	8,000
QL854G	4T	4T-6T (QL002)	1-1/2”	7-1/4”	5/8”	5/8”	32,000	1.93	1,000	8”	14-1/2”	8,000	8,000

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

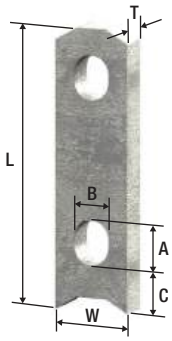
- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing and available industry data.

QUIKLIFT® TWO-HOLE ANCHORS

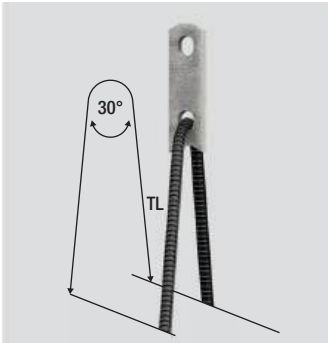
The Two-Hole Anchors are used as an economical way to achieve high tension loads in thin panels or low compressive strength concrete. The Two-Hole Anchor requires a tension bar in the bottom hole of the anchor to distribute the tension forces deep in the concrete. The tension bar must be positioned and secured against the bottom of the tension bar hole to ensure immediate engagement of the anchor when load is applied.

Standard finish is hot-dipped galvanized. Impact resistant, even in freezing temperatures. *Domestic available.*

Warning: Spalling will occur when pulling parallel to the face of the anchor. This may also lead to overloading the anchor.



For tension loads only, in thin wall panels



Tension Bars (See Tension Bar Selection Chart)

DIMENSIONS AND CAPACITIES

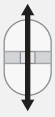
												Capacity in Concrete 4:1 SWL	
Part #	Ton	Ring Clutch System	W	L	T	A	B	C	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate	Min. Panel Thickness	Reinforced Tension Load (lbs)
QL122G	2T	2T-3T (QL001)	1-1/4”	4”	3/8”	3/4”	9/16”	7/8”	16,000	0.45	5,000	2-3/4”	4,000
QL124G	4T	4T-6T (QL002)	1-1/2”	5-1/2”	5/8”	7/8”	11/16”	15/16”	32,000	1.23	1,800	4”	8,000
QL125G	8T	8T-12T (QL003)	2-1/2”	7”	3/4”	1-3/16”	1”	1-7/16”	64,000	3.04	500	5”	16,000
QL176G	22T	12.5T-22T (QL004)	3-1/8”	11-3/4”	1-3/16”	1-13/16”	1-3/8”	2-7/16”	176,000	11.46	200	7”	44,000

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

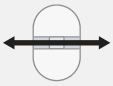
- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based on ACI 318 criteria and mechanical testing.

QUIKLIFT® TECH ANCHORS

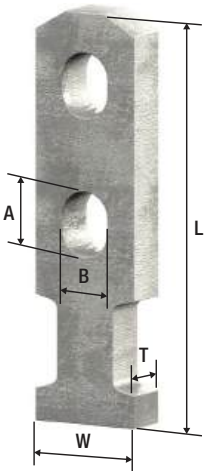
The QuikLift Tech Anchors are designed with a unique foot design that allows the anchors to fit in congested reinforcing areas. Commonly used to “back strip” panels from forms. The anchors also have a secondary reinforcing hole that can be used if required. **Standard Finish is hot-dipped galvanized. Impact resistant, even in freezing temperatures.** *Domestic available.*



1. Shear loads should be perpendicular to the face of the anchor and center line of recess.



2. **Warning:** Spalling may occur when pulling in shear parallel to the face of the anchor. This may also lead to overloading the anchor.



4T

2T

For tension bar information see Tension Bar Selection Chart

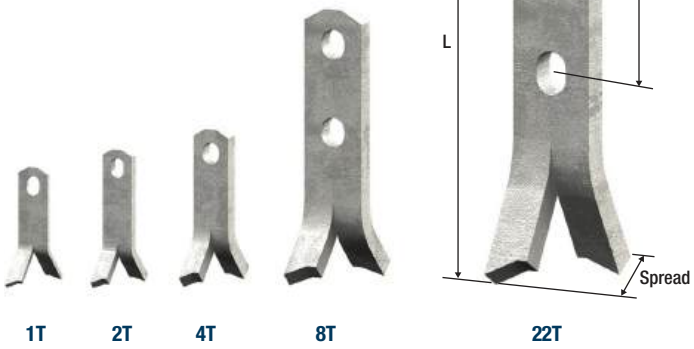
DIMENSIONS AND CAPACITIES

											Capacity in Concrete 4:1 SWL	
Part #	Ton	Ring Clutch System	W	L	T	A	B	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate	Unreinforced Tension Load (lbs)	Unreinforced Shear Load (lbs)
QL525G	2T	2T-3T (QL001)	1-1/4”	4-15/16”	3/8”	3/4”	9/16”	16,000	0.50	4,000	4,000	4,000
QL546G	4T	4T-6T (QL002)	1-1/2”	5-7/16”	5/8”	7/8”	11/16”	32,000	1.10	2,200	7,215	7,215

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing and available industry data.
- Minimum edge distance is 1.5 x anchor length.
- Minimum distance between adjacent anchors is 3 x anchor length.

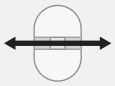
QUIKLIFT® SPREAD ANCHORS



Spread Anchors are designed for back-stripping and edge lifting in thicker panels, these versatile anchors are commonly used in slabs/panels due to the capacities and low cost. By maintaining the minimum edge distances (1.5 x anchor length) these anchors can handle shear loads equal to the tension loads listed when installed in the face of concrete.

Standard finish is hot-dipped galvanized. Impact resistant, even in freezing temperatures.

1. Shear loads should be perpendicular to the face of the anchor and center line of recess.



2. **Warning:** Spalling may occur when pulling in shear parallel to the face of the anchor. This may also lead to overloading the anchor.

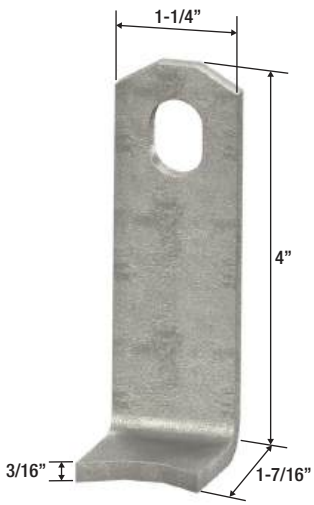
DIMENSIONS AND CAPACITIES

											Capacity in Concrete 4:1 SWL	
Part #	Ton	Ring Clutch System	W	L	T	Spread	A	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/ Crate	Unreinforced Tension Load (lbs)	Unreinforced Shear Load (lbs)
QL050G	1T	2T-3T (QL001)	1-1/4”	4-3/4”	3/16”	2-3/4”	N/A	8,000	0.30	5,000	2,000	2,000
QL059G	2T	2T-3T (QL001)	1-1/4”	5-1/2”	3/8”	2-3/4”	N/A	16,000	0.76	2,800	4,000	4,000
QL116G	4T	4T-6T (QL002)	1-1/2”	6-1/4”	5/8”	3-3/8”	N/A	32,000	1.64	1,400	5,850	5,850
QL119G	8T	8T-12T (QL003)	2-1/2”	11”	3/4”	4-1/2”	5”	64,000	5.42	300	16,000	16,000
QL174G	22T	12.5T-22T (QL004)	3-1/2”	19-5/8”	1-3/16”	6-1/4”	9-7/8”	176,000	22.31	100	44,000	44,000

Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing and available industry data.
- Minimum edge distance is 1.5 x anchor length and minimum distance between adjacent anchors is 3 x anchor length.

QUIKLIFT® 1 TON L-ANCHOR



1 Ton L-Anchors are designed for back-stripping and edge lifting in thicker panels, these versatile anchors are commonly used in slabs/panels due to the capacities and low cost. By maintaining the minimum edge distances (1.5 x anchor length) these anchors can handle shear loads equal to the tension loads listed when installed in the face of concrete.

Standard finish is hot-dipped galvanized. Impact resistant, even in freezing temperatures.

DIMENSIONS AND CAPACITIES

					Capacity in Concrete 4:1 SWL	
Part #	Ton	Ring Clutch System	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate	Unreinforced Tension Load (lbs)	Unreinforced Shear Load (lbs)
QL050LG	1T	2T-3T (QL001)	8,000	0.36	5,000	2,000	2,000

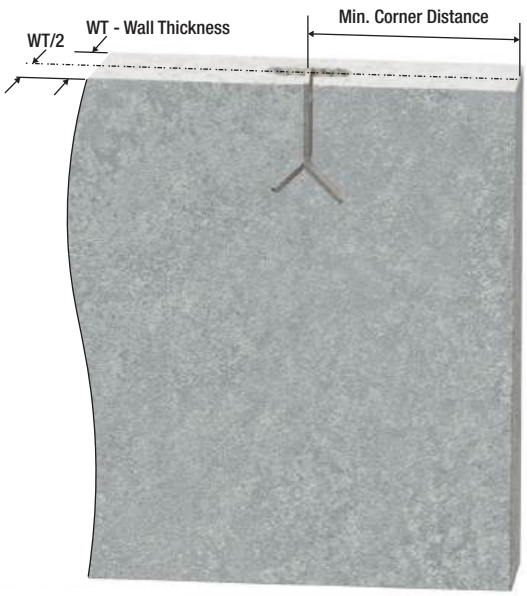
Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

- Table is based on 3,500 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing and available industry data.
- Minimum edge distance is 1.5 x anchor length and minimum distance between adjacent anchors is 3 x anchor length.

1 TON SPREAD ANCHOR IN THIN WALLS

The 1T Spread Anchor is designed for back-stripping and edge lifting in light-weight panels. These versatile anchors are commonly used in MSE panels due to the capacities and low cost. Spalling may occur when pulling in shear perpendicular to the anchor. Position the anchors in the center of the wall. Secure the anchor to the reinforcing or form to ensure the proper position is maintained during the placement of the concrete and vibration.

Shear capacities are not listed and shear loading is not recommended during the stripping process. When used as a "back-stripping" anchor, the minimum edge distance is 1.5 x the anchor length and minimum distance between adjacent anchors is 3 x the anchor length.



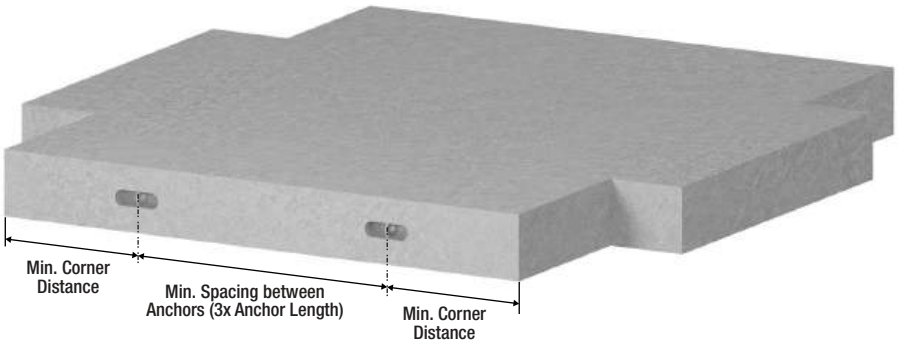
CAPACITIES

			Shear Capacity at 5,000 psi			Tension Capacity 4:1 SWL at 5,000 psi		
Part #	WT	WT/2	2.66:1 SWL* Shear (lbs)	4:1 SWL Shear (lbs)	Minimum Corner Distance	Actual Corner Distance		
						8"	12"	16"
QL050G	4"	2"	814	543	12"	1,648 lbs	1,933 lbs	2,000 lbs

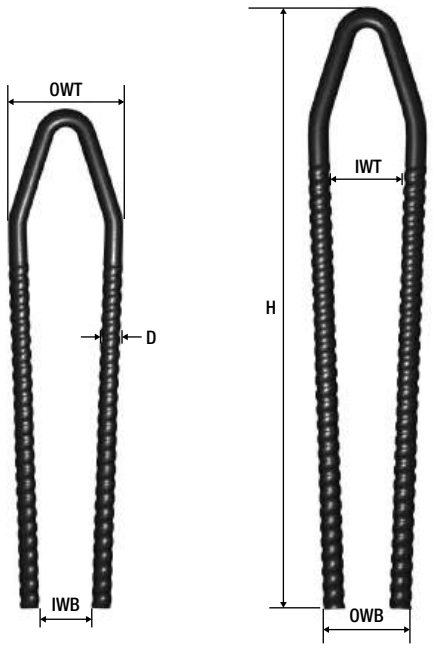
Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

*A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- Table is based on 5,000 psi and 145 PCF concrete.
- Above capacities are based upon mechanical testing, concrete testing, and available industry data.



QUIKLIFT® SPIRAL ANCHORS™ - DOUBLE TEE APPLICATION



The QuikLift Spiral Anchor is designed for lifting of thin wall precast elements and double tees. The anchors are recessed, which eliminates job site costs of removal associated with strand lifters. The round bar also ensures a more even engagement of the ring clutch to the anchor in all loading directions (compared to square anchors). The Spiral Anchor uses standard QuikLift 8T-12T (QL003) Ring Clutch.

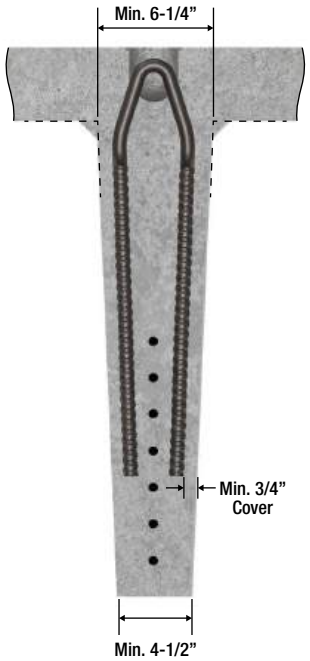
Impact resistant, even in freezing temperatures.

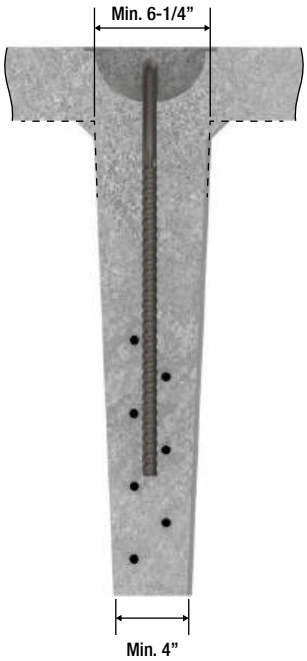
Patent No. US 11,549,273B2 | CA 3,012,353 | EP 3,441,542 B1 | 60 2018 018 274.8.

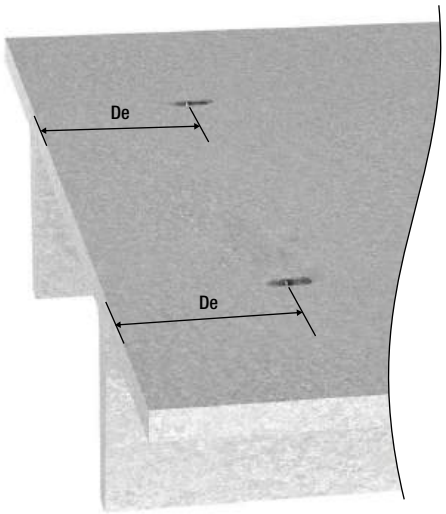
DIMENSIONS AND CAPACITIES FOR DOUBLE TEE

												Capacity in Concrete 4:1 SWL		
Part #	Ton	Ring Clutch System	H	OWT	OWB	IWT	IWB	D	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/ Crate	De - Minimum Distance from End	Tension (lbs) at 3,300 PSI	Tension (lbs) at 3,700 PSI
QLSA8T19	8T	8T-12T (QL003)	19”	4-7/16”	3-1/2”	3”	2”	11/16”	64,000	4.32	500	24”	15,000	16,000
QLSA912T23	9.5T	8T-12T (QL003)	23”	4-9/16”	3-7/16”	3”	1-3/4”	13/16”	76,000	6.33	350	24”	18,000	19,000

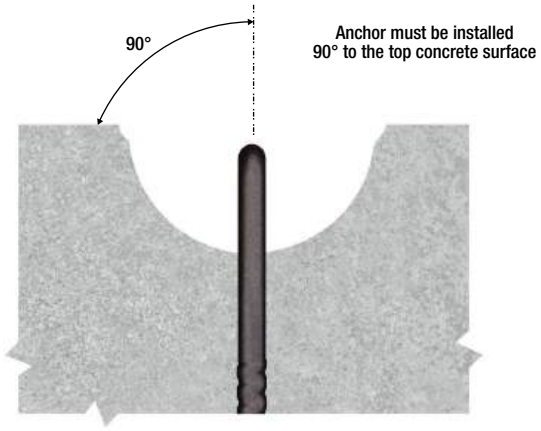
- Table is based on 145 PCF concrete
- Above capacities are based upon mechanical testing and concrete testing.

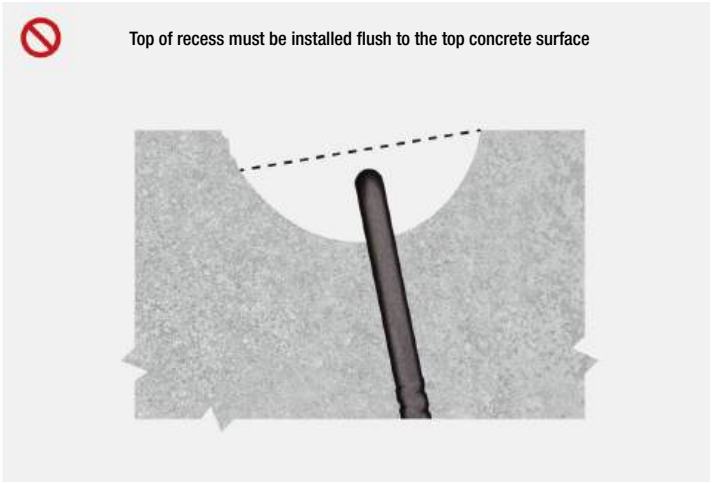






QUIKLIFT® SPIRAL ANCHOR™ INSTALLATION

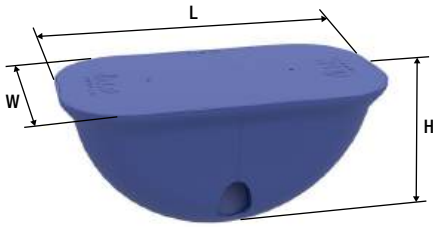




QUIKLIFT® SPIRAL ANCHOR™ RECESS MEMBERS

Spiral Anchor Disposable Recess Member

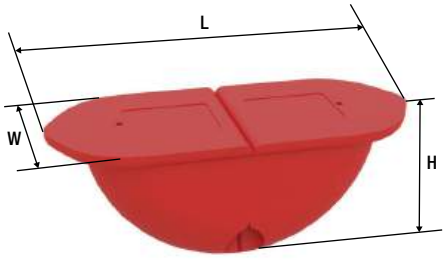
The Spiral Anchor Disposable Recess Member is made from injection molded plastic. Cost effective design is used for single use applications.



Part #	Anchor Size	Ring Clutch System	Color	L	W	H	Weight (lbs)	Qty/Ctn.
QL972	8T Spiral	8T-12T (QL003)	Blue	6-7/8”	3-1/2”	3-1/4”	0.32	100
QL992	9.5T Spiral	8T-12T (QL003)	Red	6-7/8”	3-1/2”	3-1/4”	0.32	100

Spiral Anchor Plastic Recess Member

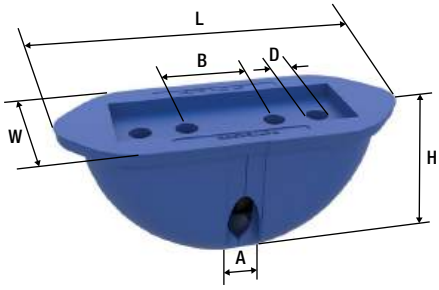
The Spiral Anchor Plastic Recess Member is made from high-impact plastic. The two parts snap together over the lift head. It will not rotate out of position and there are no surface holes or cavities to collect concrete debris. Spiral Anchor Recess is easily removed with a flat-head screwdriver at the end of the recess member.



Part #	Anchor Size	Ring Clutch System	Color	L	W	H	Weight (lbs)	Qty/Ctn.
QL871	8T Spiral	8T-12T (QL003)	Blue	7-5/8”	3”	3-1/4”	0.33	48
QL891	9.5T Spiral	8T-12T (QL003)	Red	7-5/8”	3”	3-1/4”	0.33	48

Spiral Anchor Urethane Recess Member

The Spiral Anchor Urethane Recess Members are highly durable, reusable and color coded for easy identification. Can be used with ALP® QL111 Holding Plate or ALP® QL131 Holding Rod.

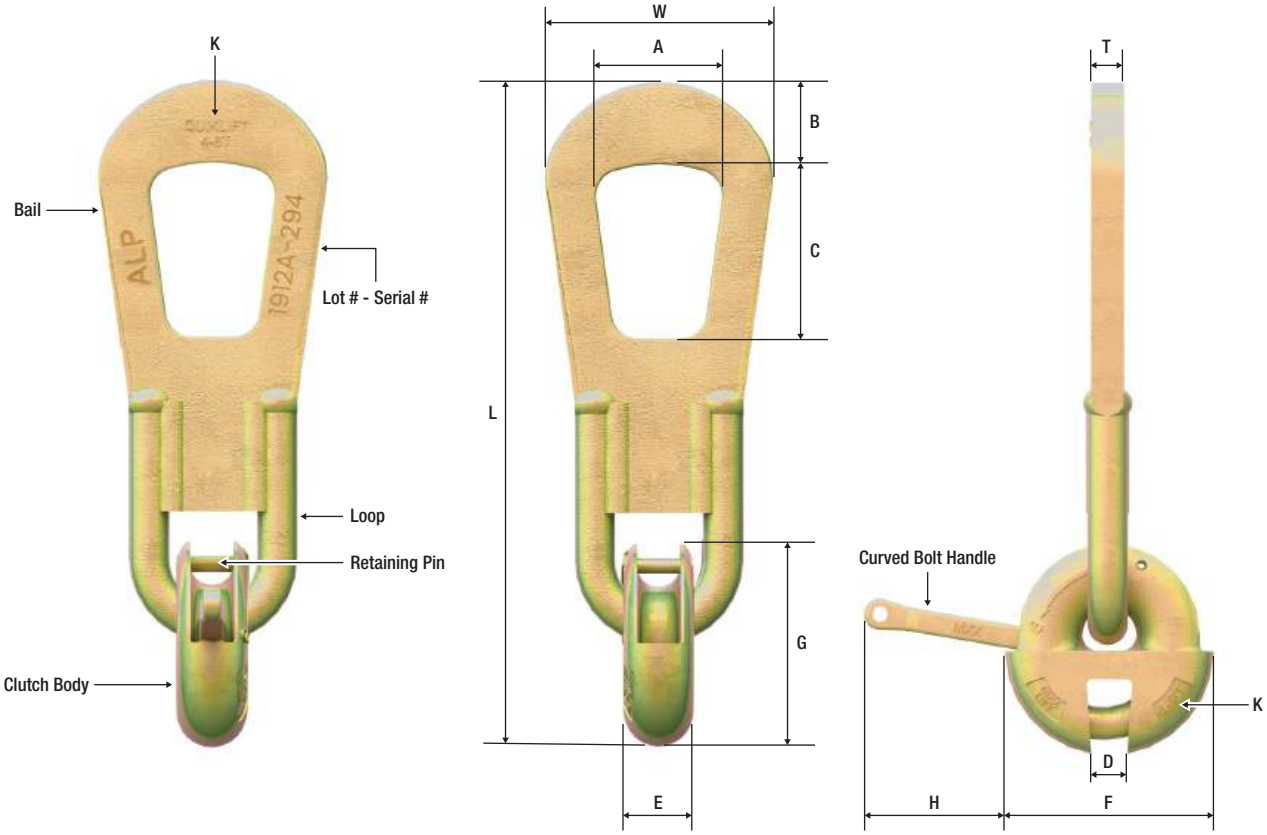


Part #	Anchor Size	Ring Clutch System	Color	L	W	H	A	B	Holding Rod		Weight (lbs)	Qty/ Ctn.
									D	Part #		
QL771	8T Spiral	8T-12T (QL003)	Blue	7-7/16”	3-1/16”	3-1/4”	5/8”	2-1/16”	1/2”	QL131	1.29	30
QL791	9.5T Spiral	8T-12T (QL003)	Red	7-7/16”	3-1/16”	3-1/4”	13/16”	2-1/16”	1/2”	QL131	1.28	30

QUIKLIFT® RING CLUTCH

The QuikLift Ring Clutch assembly consists of a bail, clutch and curved bolt handle. To install, rotate the curved bolt to the opened position and insert the clutch into the recess. To lock onto the anchor, rotate the curved bolt handle until the handle contacts the panel surface.

See ALP Supply® website for Inspection and Maintenance Guidelines for routine inspection of lifting hardware.



Front View **Back View** **Side View**

DIMENSIONS

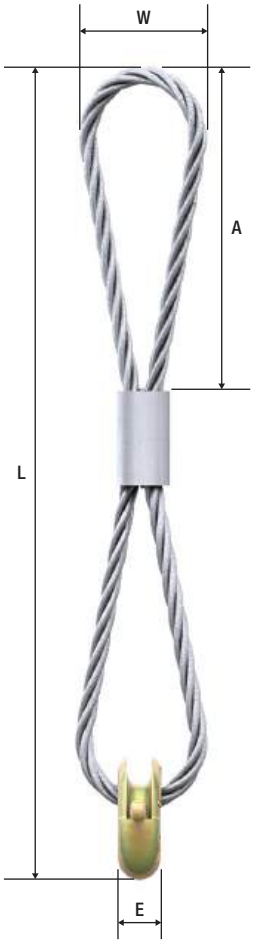
Part #	K - Load Range (Tons)	L	W	T	A	B	C	D	E	F	G	H	Ultimate Capacity in Tension (lbs)	Weight (lbs)
QL001	2-3T	10-23/64”	3-3/8”	15/32”	2-13/64”	1-3/16”	2-23/32”	33/64”	1-3/64”	3-9/64”	3-1/32”	2-33/64”	30,000	3.57
QL002	4-6T	13-7/64”	4-29/64”	5/8”	2-17/32”	1-39/64”	3-27/64”	11/16”	1-27/64”	4-3/32”	4-7/64”	3-1/32”	60,000	7.94
QL003	8-12T	16-21/32”	5-33/64”	63/64”	3-9/64”	1-13/16”	4-41/64”	29/32”	1-59/64”	5-29/32”	5-43/64”	3-15/32”	120,000	20.63
QL004	12.5-22T	24-9/64”	8-5/32”	1-3/8”	4-27/32”	2-41/64”	6-3/8”	1-5/16”	2-27/32”	8-15/32”	8-3/32”	3-39/64”	220,000	59.77

Rated load has a 5:1 safety factor.

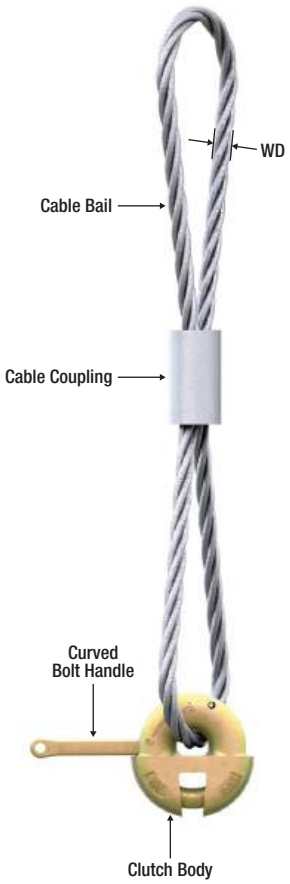
QUIKLIFT® CABLE RING CLUTCH

The QuikLift Cable Ring Clutch assembly consists of a cable, swage, clutch body and curved bolt handle. To install, rotate the curved bolt to the opened position and insert the clutch into the recess. To lock onto the anchor, rotate the curved bolt handle until the handle contacts the panel surface.

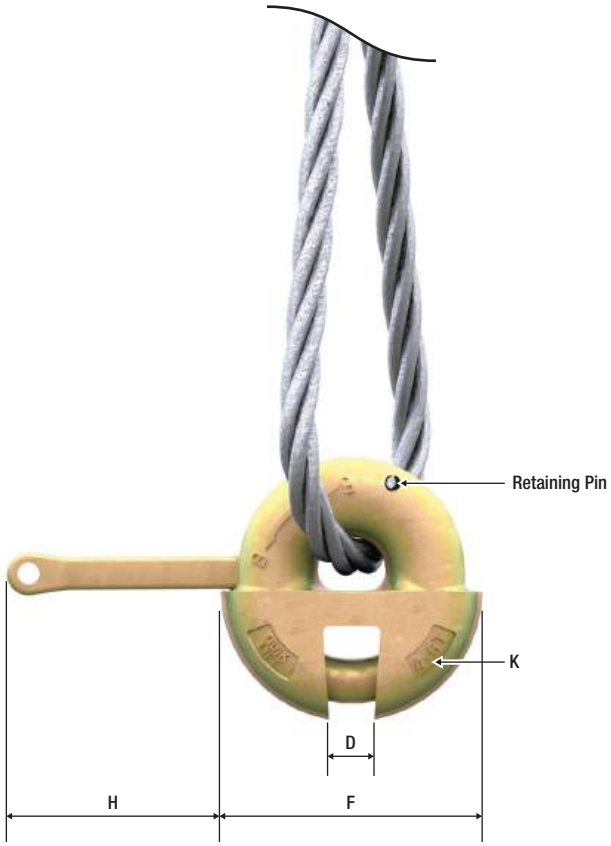
See ALP Supply® website for Inspection and Maintenance Guidelines for routine inspection of lifting hardware.



Back View



Side View



Close-up View

DIMENSIONS

Part #	K - Load Range (Tons)	L	W	A	D	E	WD	F	H	Ultimate Capacity in Tension (lbs)	Weight (lbs)
QL001CB	2-3T	23-5/8”	4-7/8”	10-1/8”	33/64”	1-3/64”	35/64”	3-9/64”	2-33/64”	30,000	3.79
QL002CB	4-6T	25-25/64”	5-5/8”	10-29/32”	11/16”	1-27/64”	45/64”	4-3/32”	3-1/32”	60,000	7.38
QL003CB	8-12T	35-13/64”	6-3/8”	14-9/16”	29/32”	1-59/64”	1-1/32”	5-29/32”	3-15/32”	120,000	21.78
QL004CB	12.5-22T	65-23/64”	8-17/64”	21-7/8”	1-5/16”	2-27/32”	1-1/4”	8-15/32”	3-39/64”	220,000	65.72

Rated load has a 5:1 safety factor.

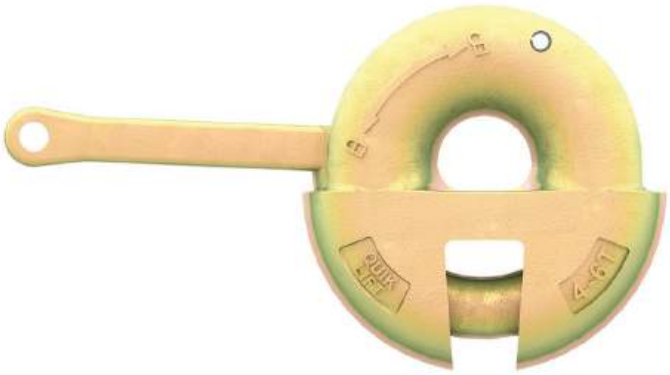
QUIKLIFT® RING CLUTCH COMPONENTS

CURVED BOLT

Part #	Ring Clutch System
QL005	2-3T
QL006	4-6T
QL007	8-12T
QL008	12.5-22T

RETAINING PIN

Part #	Ring Clutch System
QL005RP	2-3T
QL006RP	4-6T
QL007RP	8-12T
QL008RP	12.5-22T



CLUTCH BODY ASSEMBLY

Part #	Ring Clutch System
QL005CBA	2-3T
QL006CBA	4-6T
QL007CBA	8-12T
QL008CBA	12.5-22T

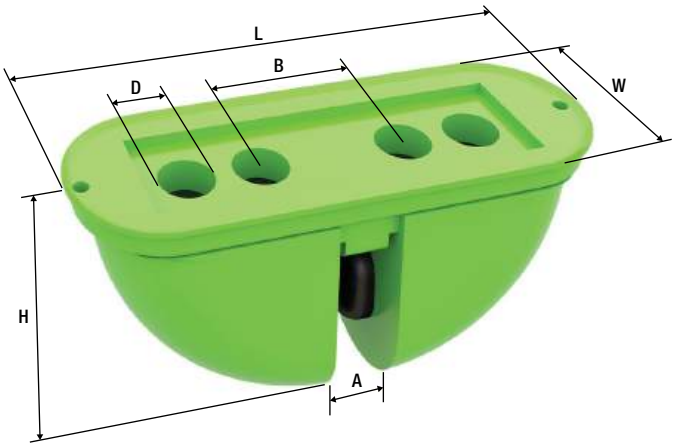
Includes Clutch Body, Curved Bold and Retaining Pin.

Ring Clutch assemblies should be proof loaded to 2x working load and should exceed minimum tensile strengths as outlined below.

Ring Clutch System	2 x Proof Load (lbs)	Assembly Minimum Tensile Strength (lbs)
2T-3T	12,000	30,000
4T-6T	24,000	60,000
8T-12T	48,000	120,000
12.5T-22T	88,000	220,000

QUIKLIFT® URETHANE RECESS MEMBERS

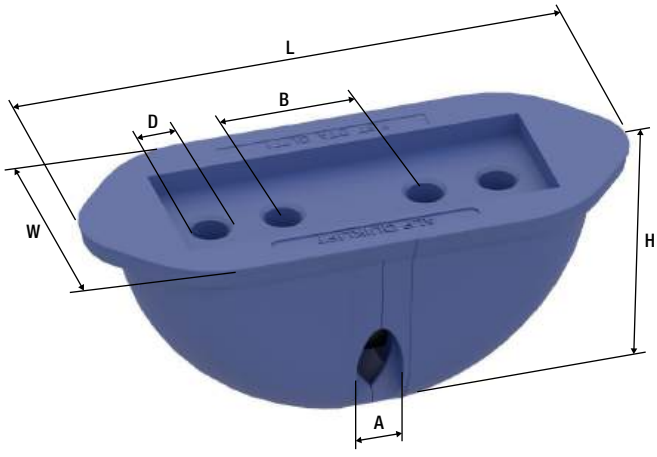
The QuikLift Recess Members are highly durable, reusable and color coded for easy identification. Accessories include a Holding Plate and Holding Rod. A magnetic version is also available. Recess Members are a critical part of the casting process, creating a perfect recess for the Ring Clutch. Replacement is required if the Recess Member is damaged or deformed. Nailing is not recommended. Use of the Holding Rod is the preferred method to secure tightly against the form. The red recess is made specifically for the 1 Ton Spread Anchor and L-Anchor.



DIMENSIONS - STANDARD ANCHORS

Part #	Ring Clutch System	Recess Color	W	L	H	A	B	Holding Rod		Weight (lbs)	Qty/Ctn
								D	Part #		
QL051*	2T-3T (QL001)	Red	1-11/16”	4-1/16”	1-7/8”	1/4”	1-3/16”	3/8”	QL202	0.22	150
QL200	2T-3T (QL001)	Yellow	1-11/16”	4-1/16”	1-7/8”	7/16”	1-3/16”	3/8”	QL202	0.22	150
QL062	4T-6T (QL002)	Orange	2-1/16”	5”	2-7/16”	5/8”	1-7/16”	3/8”	QL202	0.44	100
QL121	8T-12T (QL003)	Green	3-1/16”	7-7/16”	3-1/4”	13/16”	2-1/16”	1/2”	QL131	1.24	30
QL166	12.5-22T(QL004)	Purple	4-7/16”	9-3/16”	4-5/8”	1-1/8”	3”	1/2”	QL131	3.16	N/A

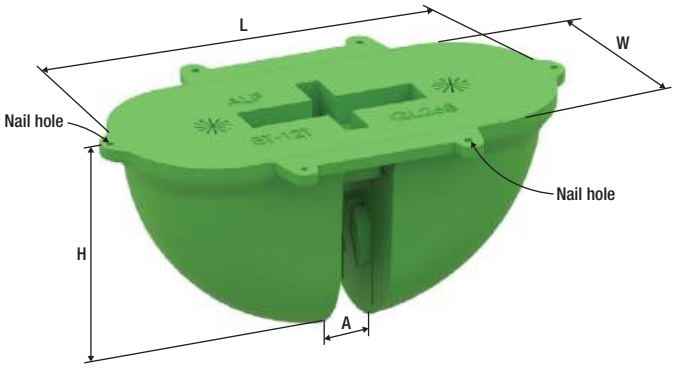
* For use with 1T QL050G and QL050LG anchors



DIMENSIONS - ROUND ANCHORS

Part #	For use with	Recess Color	W	L	H	A	B	Holding Rod		Weight (lbs)	Qty/Ctn
								D	Part #		
QL072	6T Wythe	Black	2-1/16”	5”	2-7/16”	5/8”	1-7/16”	3/8”	QL202	0.45	100
QL771	8T Spiral	Blue	3-1/16”	7-7/16”	3-1/4”	11/16”	2-1/16”	1/2”	QL131	1.29	30
QL791	9.5T Spiral	Red	3-1/16”	7-7/16”	3-1/4”	13/16”	2-1/16”	1/2”	QL131	1.29	30

QUIKLIFT® DISPOSABLE RECESS MEMBERS

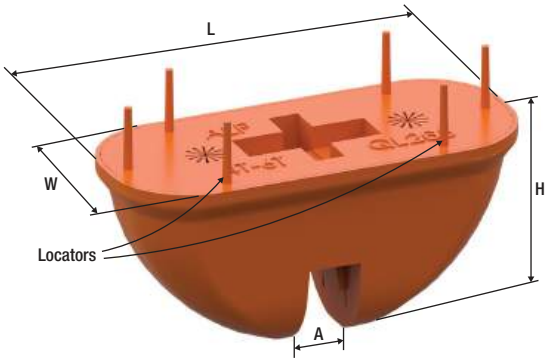


Erection Style

The QuikLift Disposable Recess members are an economical option for recessing and locating QuikLift erection style anchors. This disposable recess can be secured to a wood side rail using the nail holes.

DIMENSIONS

Part #	Ring Clutch System	Recess Color	W	L	H	A	Weight (lbs)	Qty/Ctn	Qty/Pallet
QL267	4T-6T (QL002)	Orange	2-3/16”	5”	2-3/8”	5/8”	0.19	150	3,000
QL268	8T-12T (QL003)	Green	3-1/8”	6-11/16”	3-1/4”	3/4”	0.41	60	1,200



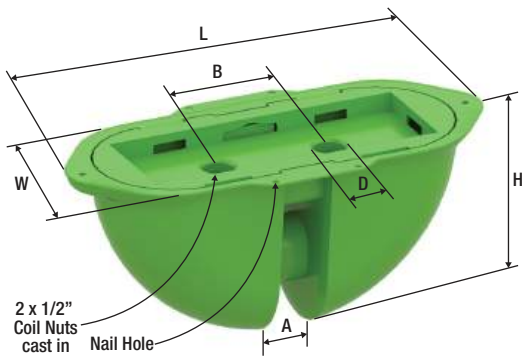
Slab Style

The QuikLift Disposable Recess members are an economical option for recessing and locating QuikLift slab style anchors. This disposable recess is designed to be wet set in the face of a precast element and has plastic locators to help find the anchor if there is some concrete slurry covering the top of the recess.

DIMENSIONS

Part #	Ring Clutch System	Recess Color	W	L	H	A	Weight (lbs)	Qty/Ctn	Qty/Pallet
QL265	4T-6T (QL002)	Orange	2-3/16”	5-1/16”	2-5/16”	3/4”	0.19	120	1,440
QL270	8T-12T (QL003)	Green	3-1/16”	6-3/4”	3-1/4”	7/8”	0.40	60	720

QUIKLIFT® PLASTIC RECESS MEMBER - 8T-12T



The QuikLift Plastic Recess Members are an economical option for recessing and locating standard QuikLift Anchors. This disposable recess member is a critical part of the casting process, creating a perfect recess for the Ring Clutch. The Plastic Recess Member can be nailed to a wood form or secured to any form by using a 1/2” QL131 holding rod, or attached using a QL111 Holding Plate.

DIMENSIONS

Part #	Ring Clutch System	Recess Color	W	L	H	A	B	Holding Rod		Weight (lbs)	Qty/Ctn	Qty/Pallet
								D	Part #			
QL063	8T-12T (QL003)	Green	3-1/8”	7-1/2”	3-1/2”	3/4”	1-31/32”	1/2”	QL131	0.29	48	960

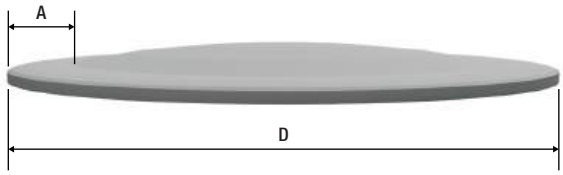
QUIKLIFT® FOAM

QuikLift Foam is folded over top of a QuikLift Anchor to minimize concrete leakage in the recess member, reducing clean-up time.

Part #	Works with Recess Member	Ring Clutch System	T	L	W	Qty/Ctn
QL087	QL051, QL200	2T-3T (QL001)	1/4”	3-1/8”	1-1/2”	1,000
QL069	QL062	4T-6T (QL002)	1/4”	4”	1-3/4”	1,000
QL091	QL121	8T-12T (QL003)	11/16”	6”	3-1/8”	500
QL092*	QL121	8T-12T (QL003)	11/16”	6”	3-1/8”	500

*Oval shaped foam

LIFT COVERS



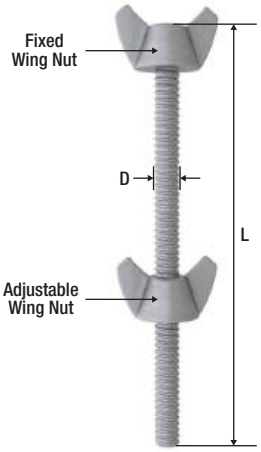
Lift covers are an injection molded, plastic cosmetic cover, commonly used for covering the recessed pockets created by lifting devices including ALP Lifting Pin and QuikLift Anchors. Lift covers are required to use DAP Dynaflex 230 Caulk or NPC Solar Seal #900 Caulk when being bonded. Nylon Nail-It fasteners are an alternate method of fastening. Two sizes are available to fit 2T-6T anchors and 8T-12T anchors. Standard color is light gray. Other colors made to order.

Part #	Fits Lifter Size	Color	D	A	Weight (lbs)	Weight (lbs)
CVLC6	2T, 4T	Light Gray	6”	1/2”	0.13	100
CVLC6B	2T, 4T	Beige	6”	1/2”	0.13	100
CVLC6CW	2T, 4T	Cream White	6”	1/2”	0.13	100
CVLC818	8T	Light Gray	8-1/8”	1-1/8”	0.26	100
CVLC818B	8T	Beige	8-1/8”	1-1/8”	0.26	100
CVLC818CW	8T	Cream White	8-1/8”	1-1/8”	0.26	100

QUIKLIFT® MOUNTING HARDWARE

QuikLift® Holding Rod

QuikLift Holding Rods are used to secure the Recess Members to the form. They consist of a coil rod, a fixed wing nut at one end and an adjustable wing nut used to tighten the recess against the form. **Standard finish is plated.**



HOLDING ROD DIMENSIONS

Part #	Works With Recess Member	Ring Clutch System	D	L	Weight (lbs)
QL202	QL051, QL200, QL062, QL061, QL072	2T-3T (QL001) 4T-6T (QL002)	3/8”	6”	0.33
QL20212	QL051, QL200, QL062, QL061, QL072	2T-3T (QL001) 4T-6T (QL002)	3/8”	12”	0.47
QL131	QL121, QL166, QL771, QL791, QL063	8T-12T (QL003) 12.5-22T (QL004)	1/2”	6”	0.45

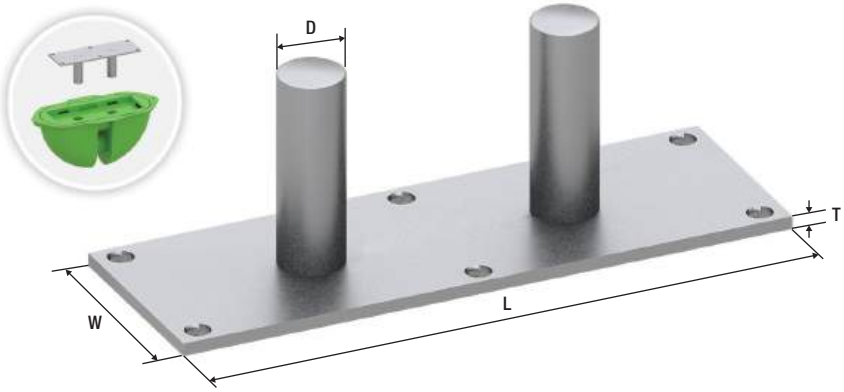
WING NUT DIMENSIONS

Part #	D	Weight (lbs)
LPWN38	3/8”	0.10

QuikLift® Holding Plate

QuikLift Holding Plates are most commonly used to attach QuikLift Recess Members to the side rail of a form. Holding plates can be nailed or screwed to the form, utilizing the furnished holes in the plate. Holding plates can also be used in wet-setting applications to keep the Recess Member closed and to cover the holes in the back of the Recess Member, keeping them clear of concrete and other debris.

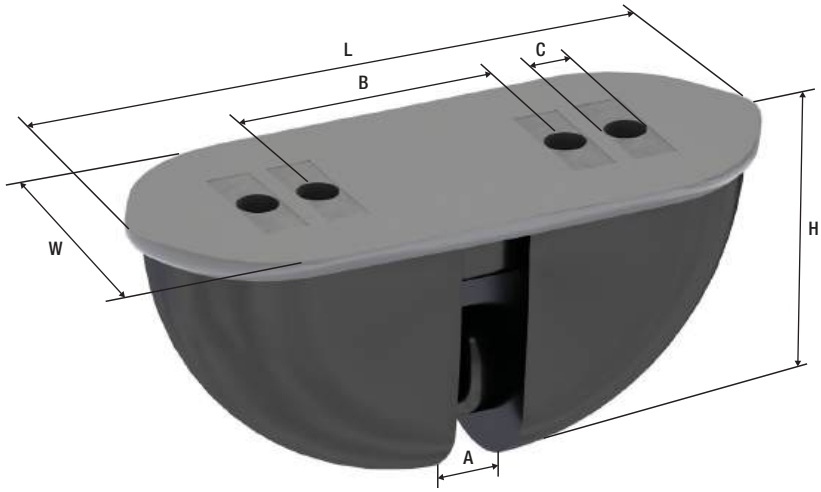
Standard finish is plated.



DIMENSIONS

Part #	Works With Recess Member	Ring Clutch System	L	W	T	D	Weight (lbs)
QL160	QL051, QL200, QL061	2T-3T (QL001)	2-3/4”	5/8”	5/32”	3/8”	0.12
QL144	QL062, QL072	4T-6T (QL002)	3-1/4”	1-3/16”	5/32”	3/8”	0.24
QL111	QL121, QL771, QL791, QL063	8T-12T (QL003)	4-7/8”	1-5/8”	5/32”	1/2”	0.49

QUIKLIFT® MAGNETIC RECESS MEMBERS



The Urethane Magnetic Recess Members are used when steel forms cannot be drilled for the Holding Rod. The QuikLift Magnetic Recess Members are extremely powerful and will easily support the anchors.

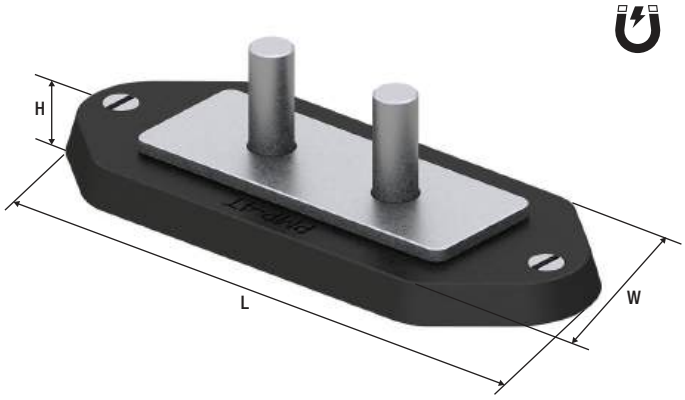
DIMENSIONS

Part #	Ring Clutch System	Recess Color	W	L	H	A	B	C (Holding Rod Diameter)
QL200M	2T-3T (QL001)	Black	1-11/16”	4-1/16”	1-3/4”	3/8”	1-3/16”	3/8”
QL062M	4T-6T (QL002)	Black	2-1/16”	5-3/16”	2-5/16”	5/8”	1-11/32”	3/8”
QL121M	8T-12T (QL003)	Black	3-1/8”	7-13/32”	3-5/16”	3/4”	1-31/32”	1/2”

Caution: Vibration and placement of the concrete can cause the Magnetic Recess to move. It is recommended that the anchor is secured to the reinforcement before concrete placement.

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

QUIKLIFT® PROFILE MAGNETIC HOLDING PLATE

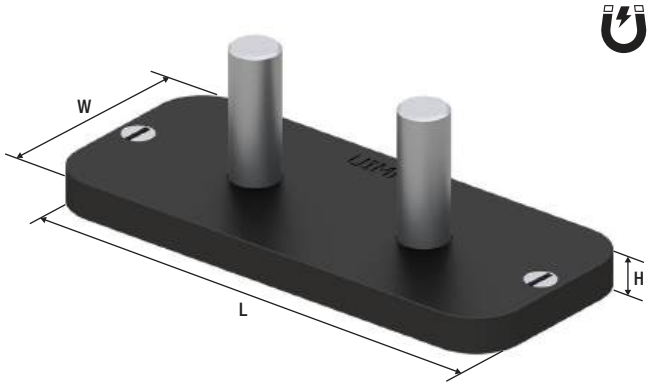


Part #	Ring Clutch System	Fits Recess Member	H	W	L
QL200PMP	2T-3T (QL001)	QL051, QL200	3/8”	1-15/16”	4-5/16”
QL062PMP	4T-6T (QL002)	QL062	3/8”	2-5/16”	5-1/2”
QL121PMP	8T-12T (QL003)	QL121	3/8”	3-5/8”	7-7/8”

Caution: Vibration and placement of the concrete can cause the Magnetic Recess to move. It is recommended that the anchor is secured to the reinforcement before concrete placement.

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

QUIKLIFT® MAGNETIC HOLDING PLATE



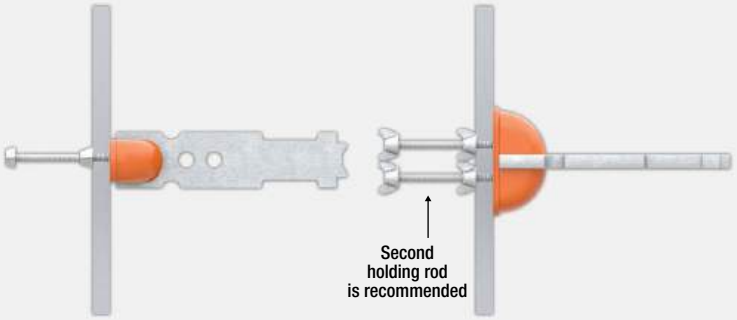
Part #	Ring Clutch System	Fits Recess Member	H	W	L
QL111M	8T-12T (QL003)	QL121	5/32”	1-5/8”	4-7/8”

Caution: Vibration and placement of the concrete can cause the Magnetic Recess to move. It is recommended that the anchor is secured to the reinforcement before concrete placement.

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

QUIKLIFT® MOUNTING INSTRUCTIONS

Holding Rod

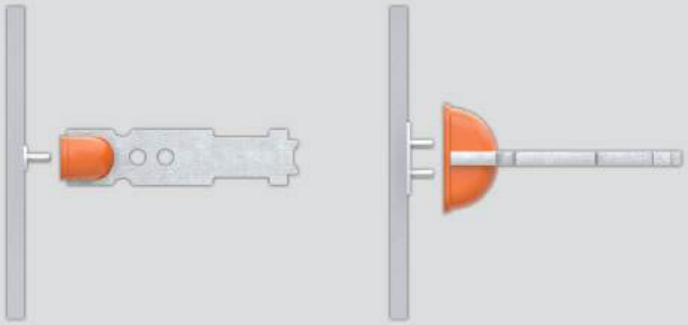


Side View Top View

QL202 for 1T - 4T Recess

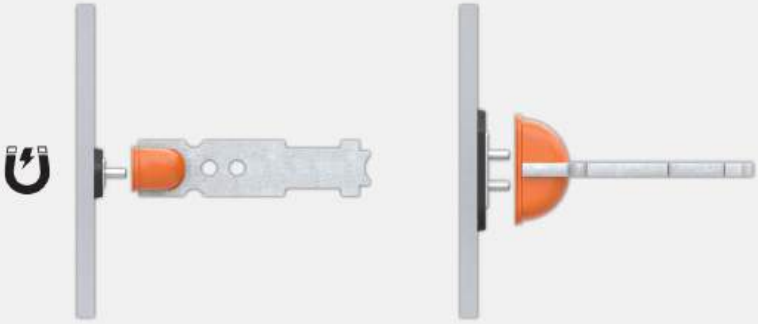
QL131 for 8T - 20T Recess

Standard Holding Plate



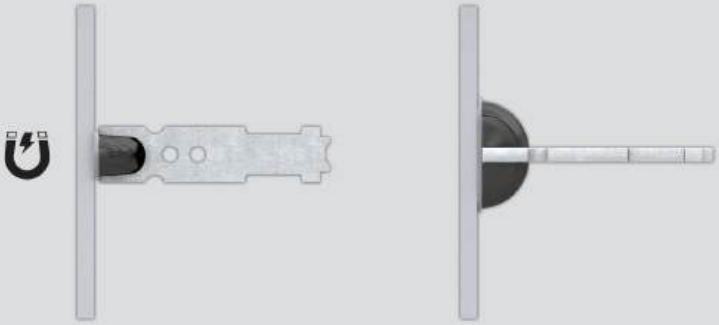
Side View Top View

Magnetic Holding Plate

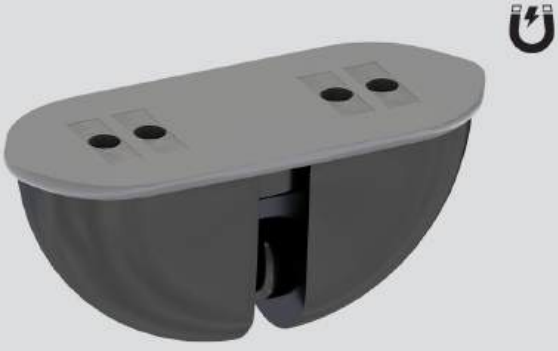


Side View Top View

1 Piece Magnetic Recess Member



Side View Top View



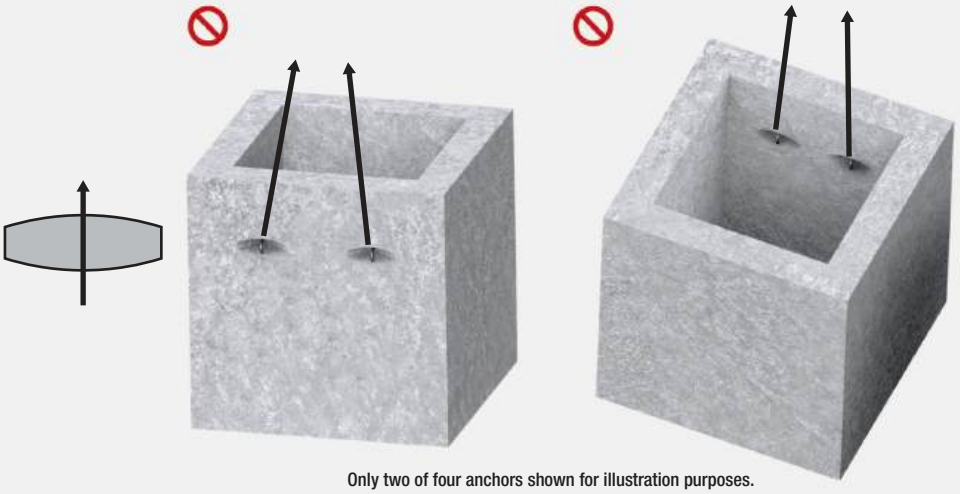
UTILITY LIFT™ SYSTEM

PROPER LIFTING WITH UTILITY LIFT™ ANCHORS

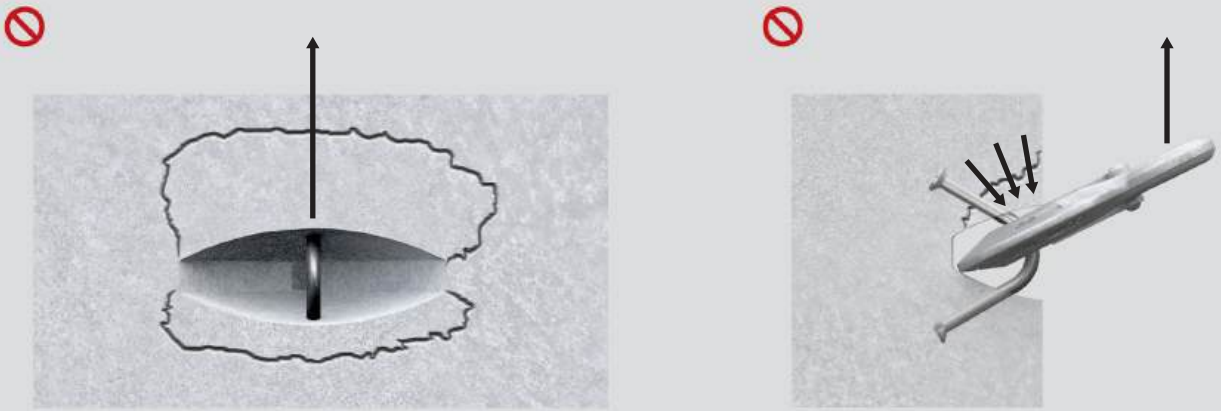
The orientation and direction of the rigging must be in alignment with the centerline of the Utility Anchor (+/- 10°). This will allow the hook to engage properly and prevent contact with the side edges of the recessed area, which can cause spalling and prying of the Utility Anchor.

Only two of four anchors shown for illustration purposes.

Never orient the recess perpendicular to the direction of the rigging, as this will cause excessive loading, spalling, bending and possible failure of the hook and/or Utility Anchor.



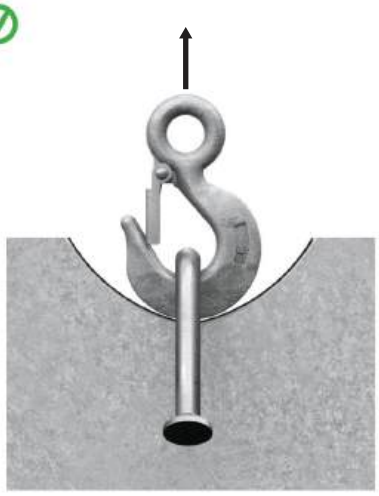
Only two of four anchors shown for illustration purposes.



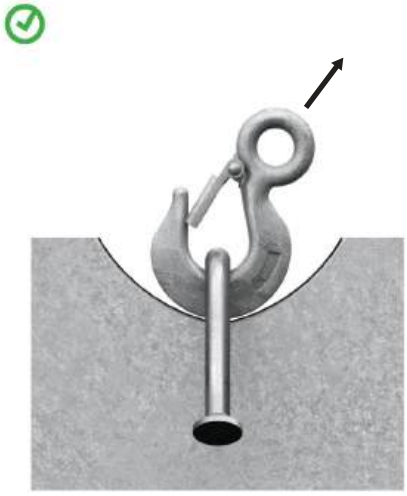
PROPER LIFTING WITH UTILITY LIFT™ ANCHORS (CONT.)

Correct alignment of anchors

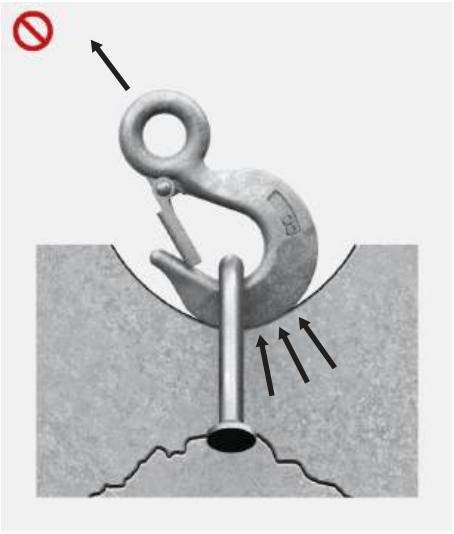
The end of the recess should be oriented in the direction of load.



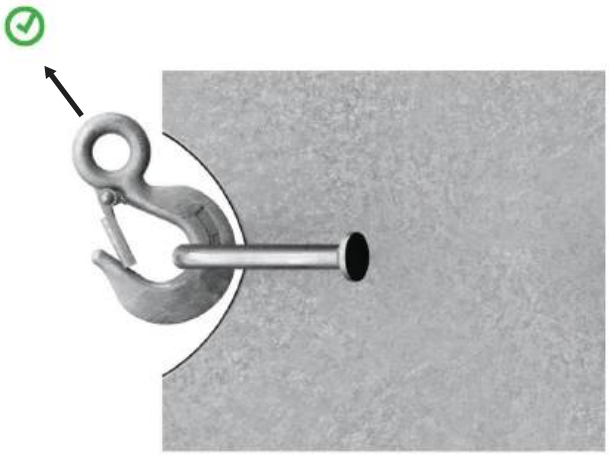
Hook does not contact the concrete.



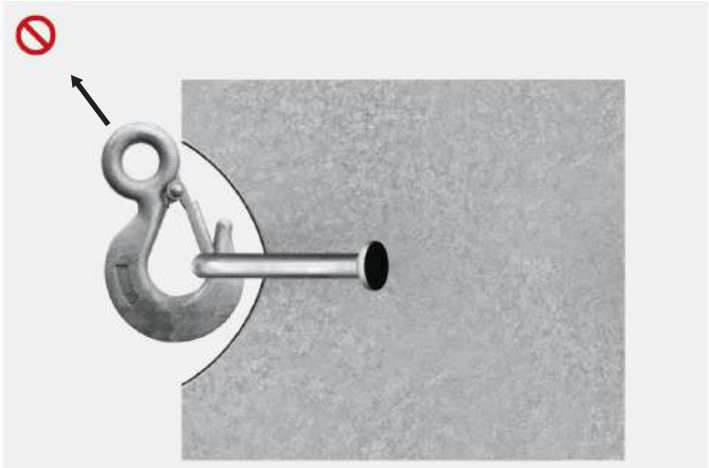
Hook latch should be oriented opposite of the direction of load.



If hook contacts concrete below anchor it will pry it. This can cause bending or breaking of the anchor.

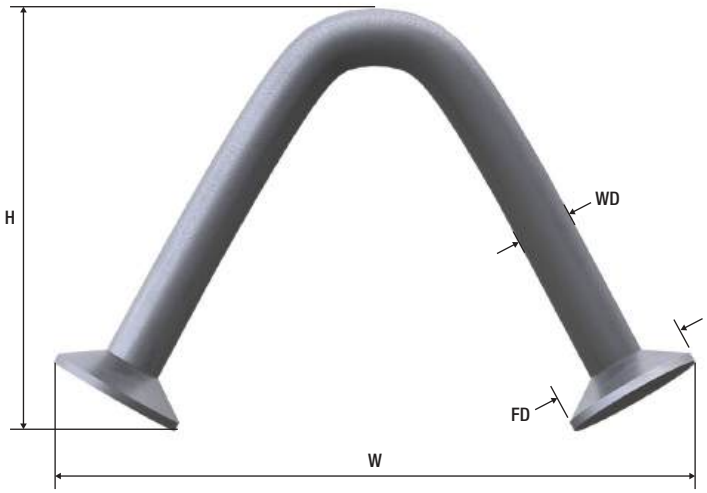


Hook latch should be oriented opposite of the direction of load.



ALP® UTILITY LIFT™ ANCHORS - .444”/.671” DIAMETERS

Anchors available in two wire diameters: .444” and .671”. **Standard finish is hot-dipped galvanized.**



Anchor ID

Lot #

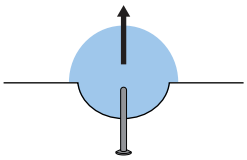
LUA54C

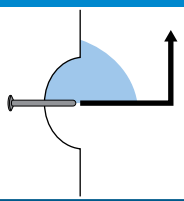
LUA54G also available with welded-wire clips to attach to mesh.
Only available in plain finish.

DIMENSIONS

Part #	WD	Anchor ID	Typical Slab Thickness	W	H	FD	Weight (lbs)	Qty/Bag	Qty/Crate
LUA44G	.444	4/4	4”	5-1/4”	3-1/8”	15/16”	0.40	100	5,000
LUA54G	.444	5/4	5”	6”	3-3/4”	15/16”	0.49	30	4,500
LUA64G	.444	6/4	6”	7-1/4”	4-3/4”	15/16”	0.58	25	4,000
LUA56G	.671	5/6	5”	6-1/4”	3-3/4”	1-5/8”	1.09	25	2,000
LUA66G	.671	6/6	6”	7-1/2”	4-3/4”	1-5/8”	1.27	25	1,600
LUA86G	.671	8/6	8”	9-3/4”	6-3/4”	1-5/8”	1.73	25	1,200

Allowable Load Zone





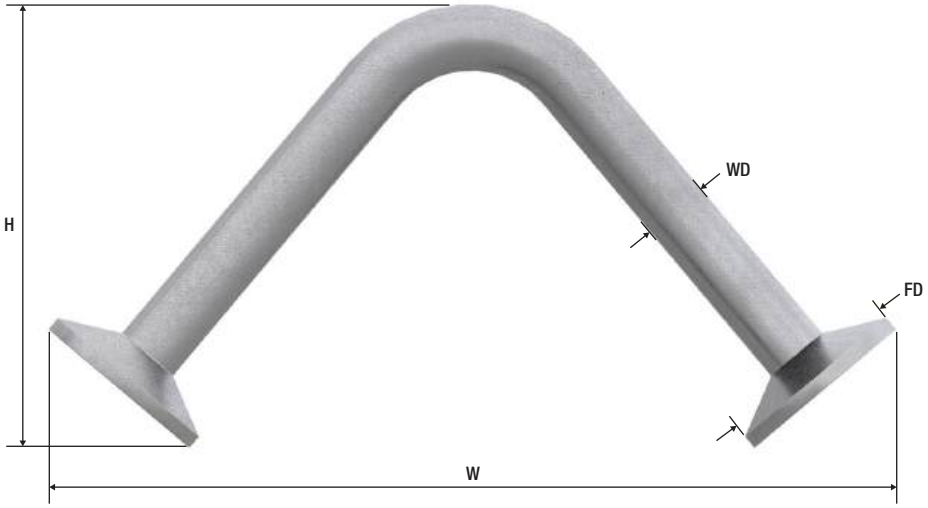
CAPACITIES

Part #	Slab Min. Thickness	Edge Distance	4:1 SWL at 90° Tension (lbs)	4:1 SWL at 90° Shear (lbs)
LUA44G	4”	9”	3,200	5,800
LUA54G	5”	10”	3,860	7,710
LUA64G	6”	12”	4,460	9,460
LUA56G	5”	10”	4,560	8,430
LUA66G	6”	12”	7,320	15,780
LUA86G	8”	16”	10,830	18,850

- Safe Working Load provides a factor of safety of approximately 4:1.
- Table is based on 4,000 psi and 145 PCF concrete.
- Published load capacity cannot be adjusted for higher concrete strength.
- Above capacities are based upon mechanical testing and available industry data.
- For use as a pulling iron, higher allowable loads can be determined by the design engineer by selecting the appropriate factor of safety.

ALP® UTILITY LIFT™ ANCHORS - 14MM/18MM DIAMETERS

Anchors available in two wire diameters: 14mm and 18mm. **Standard finish is hot-dipped galvanized.**



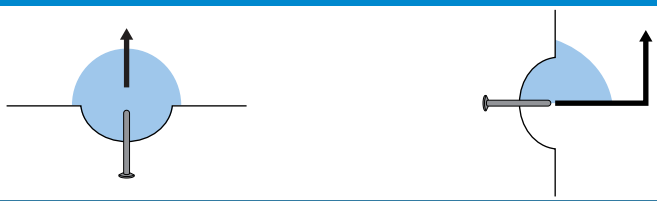
Anchor ID

Lot #

DIMENSIONS

Part #	WD	Anchor ID	Typical Slab Thickness	W	H	FD	Weight (lbs)	Qty/Bag	Qty/Crate
LUL414G	14mm	4/14	4”	6-1/4”	3-1/8”	1-3/16”	0.61	100	3,500
LUL514G	14mm	5/14	5”	8-1/4”	3-3/4”	1-3/16”	0.76	35	2,800
LUL614G	14mm	6/14	6”	10-9/16”	4-3/4”	1-9/16”	1.11	25	2,000
LUL518G	18mm	5/18	5”	8-5/8”	3-3/4”	2”	1.44	25	1,500
LUL618G	18mm	6/18	6”	9-1/16”	4-3/4”	2”	1.66	25	1,300
LUL818G	18mm	8/18	8”	12-3/8”	6-3/4”	2”	2.25	20	960

Allowable Load Zone



CAPACITIES

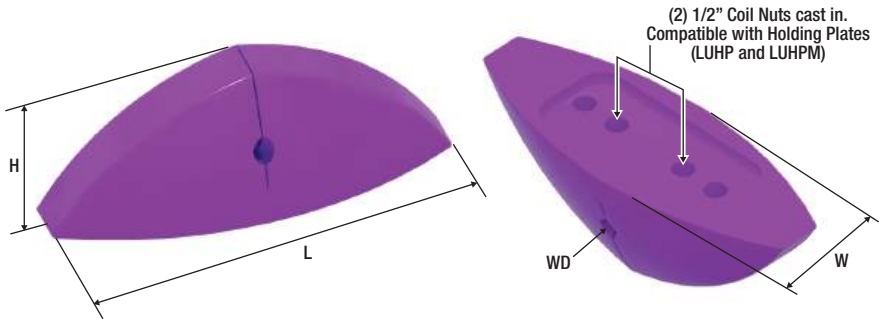
Part #	Slab Min. Thickness	Edge Distance	4:1 SWL at 90° Tension (lbs)	4:1 SWL at 90° Shear (lbs)
LUL414G	4”	9”	3,500	5,400
LUL514G	5”	10”	5,500	8,500
LUL614G	6”	12-1/2”	6,500	10,100
LUL518G	5”	10”	6,000	9,300
LUL618G	6”	12-1/2”	7,500	11,600
LUL818G	8”	15-1/2”	13,000	20,000

- Safe Working Load provides a factor of safety of approximately 4:1.
- Table is based on 4,000 psi and 145 PCF concrete.
- Published load capacity cannot be adjusted for higher concrete strength.
- Above capacities are based upon mechanical testing and available industry data.
- For use as a pulling iron, higher allowable loads can be determined by the design engineer by selecting the appropriate factor of safety.

ALP® UTILITY LIFT™ RECESS MEMBERS

Urethane Recess Member

- Flexible material
- Reusable
- High durability



DIMENSIONS

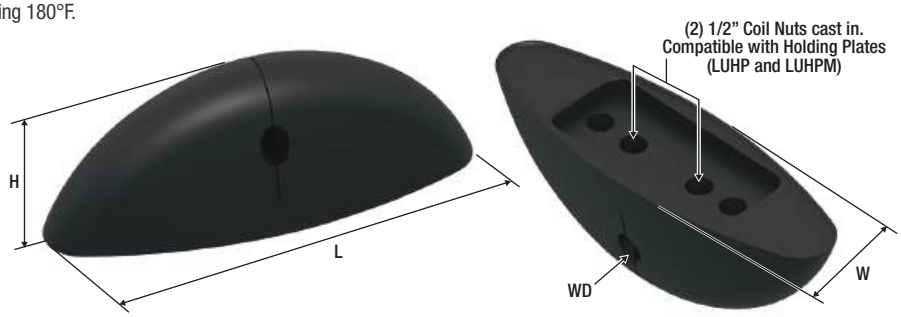
Part #	WD	Color	Max Hook Size	L	H	W	Weight (lbs)
TKURM149	14mm	Purple	I Series 3T / 5T*	9"	3-1/2"	3"	1.80
TKURM449	.444"	Purple	I Series 3T / 5T*	9"	3-1/2"	3"	1.86
TKURM679	.671" / 18mm	Purple	I Series 3T / 5T*	9"	3-1/2"	3"	1.76

*Based upon Crosby® 320 Eye Hooks, Carbon / Alloy capacities

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

Rubber Recess Member

- Flexible material
- Reusable
- Economical



DIMENSIONS

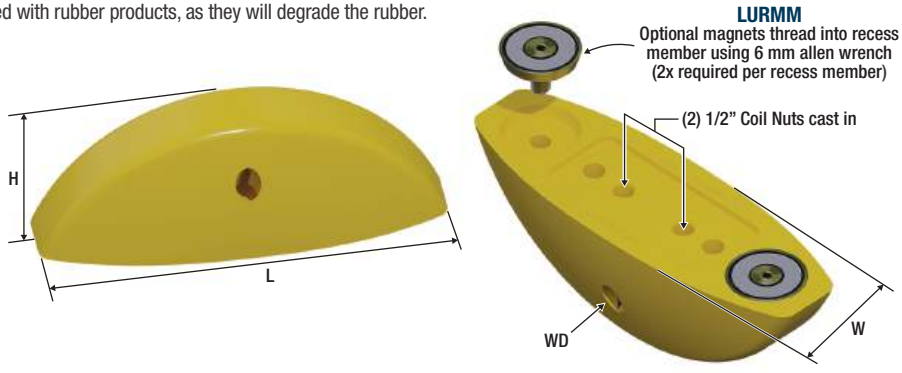
Part #	WD	Color	Max Hook Size	L	H	W	Weight (lbs)	Qty/Ctn
LURM444	.444"	Black	I Series 3T / 5T*	9-3/4"	3-1/2"	3"	2.11	10
LURM671	.671" / 18mm	Black	I Series 3T / 5T*	9-3/4"	3-1/2"	3"	1.96	10

*Based upon Crosby® 320 Eye Hooks, Carbon / Alloy capacities

- Petroleum based form release and coatings should not be used with rubber products, as they will degrade the rubber.

2nd Gen Rubber Recess Member

- Flexible material
- Reusable
- Economical



DIMENSIONS

Part #	WD	Color	Max Hook Size	L	H	W	Weight (lbs)	Qty/Ctn
LURM1044	.444"	Blue	J Series 5T / 7T*	10-9/16"	3-9/16"	3-1/2"	3.28	15
LURM1067	.671"	Yellow	J Series 5T / 7T*	10-9/16"	3-9/16"	3-1/2"	3.37	15
LURM1014	14mm	Orange	J Series 5T / 7T*	10-9/16"	3-9/16"	3-1/2"	3.33	15
LURM1018	18mm	Black	J Series 5T / 7T*	10-9/16"	3-9/16"	3-1/2"	2.74	15

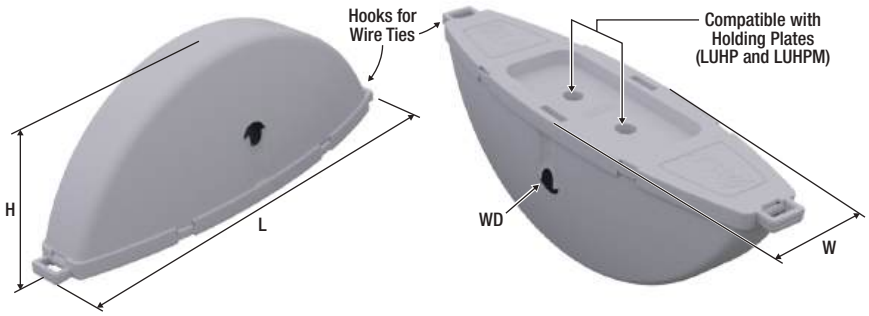
*Based upon Crosby® 320 Eye Hooks, Carbon / Alloy capacities

- Petroleum based form release and coatings should not be used with rubber products, as they will degrade the rubber.

ALP® UTILITY LIFT™ DISPOSABLE RECESS MEMBERS

Plastic Disposable Recess Member

- One-time use
- Multiple mounting options



DIMENSIONS

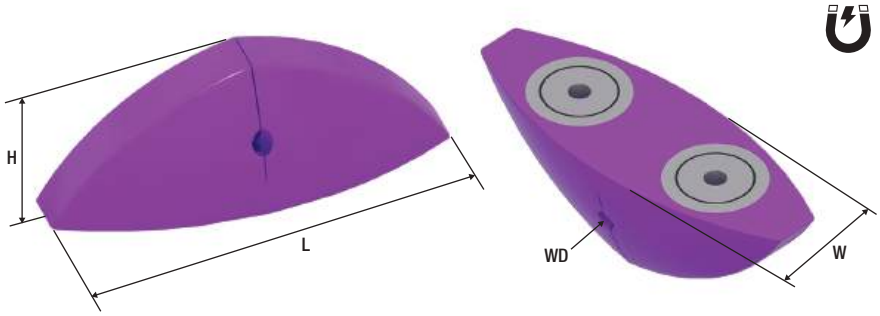
Part #	WD	Color	Max Hook Size	L	H	W	Weight (lbs)	Qty/Ctn	Qty/Crate
LURMD10A	.444" / 14mm	Gray	J Series 5T / 7T*	10-7/16”	3-9/16”	3-9/16”	0.31	40	640
LURMD10B	.671" / 18mm	Gray	J Series 5T / 7T*	10-7/16”	3-9/16”	3-9/16”	0.31	40	640
LURMD11B	.671” / 18mm	Gray	K Series 7.5T / 11T*	11-7/16”	4-5/16”	3-1/2”	0.37	40	640

*Based upon Crosby® 320 Eye Hooks, Carbon / Alloy capacities

ALP® UTILITY LIFT™ MAGNETIC RECESS MEMBERS

Urethane Magnetic Recess Member

- Embedded magnets in bottom
- Flexible material
- Reusable
- High durability



DIMENSIONS - 1-PIECE

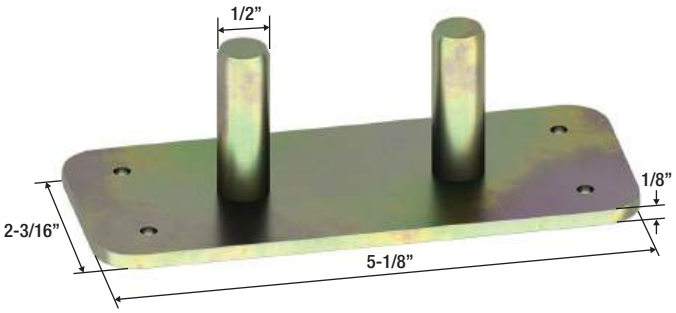
Part #	WD	Color	Max Hook Size	L	H	W	Weight (lbs)
TKURM149M	14mm	Purple	I Series 3T / 5T*	9”	3-1/2”	3”	3.50
TKURM449M	.444”	Purple	I Series 3T / 5T*	9”	3-1/2”	3”	3.38
TKURM679M	.671” / 18mm	Purple	I Series 3T / 5T*	9”	3-1/2”	3”	3.28

Caution: Vibration and placement of the concrete can cause the Magnetic Recess to move. It is recommended that the anchor is secured to the reinforcement before concrete placement.

*Based upon Crosby® 320 Eye Hooks, Carbon / Alloy capacities

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

HOLDING PLATES



Designed to attach and firmly hold a Recess Member to the form. The Holding Plate can be welded, riveted, nailed or screwed to the form by furnished holes in the plate. One size fits all Utility Anchor Recess Members.

HOLDING PLATE INFORMATION

Part #	Description	Weight (lbs)
LUHP	Holding plate for Utility Anchors	0.65

ALP® UTILITY LIFT™ MAGNETIC HOLDING PLATES

Powerful magnets designed for quick and efficient mounting and holding of Recess Members to steel forms, to eliminate the need for drilling holes in the form. Recess Member and magnet sold separately.

MAGNETIC HOLDING PLATE INFORMATION

Part #	Description	Weight (lbs)
LUHPM	Magnetic Holding Plate for Utility Anchors	1.26

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

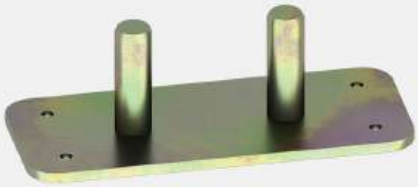
HOLDING RODS

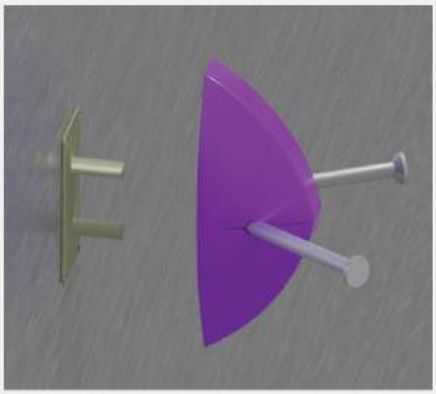
Holding Rods are used to secure Recess Members to the form. They consist of a coil rod, a fixed wing nut at one end and an adjustable wing nut used to tighten. Coil rod is self cleaning and threads faster than other N.C. or metric rods.

HOLDING ROD INFORMATION

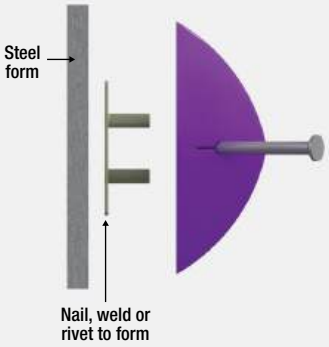
Part #	Description	Weight (lbs)
QL131	1/2" x 6" Holding Rod	0.45

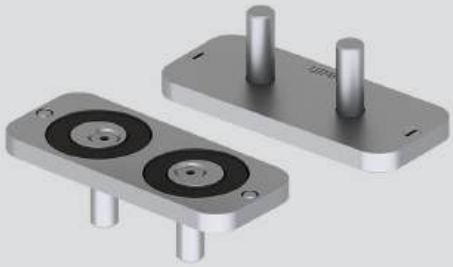
ALP® UTILITY LIFT™ ANCHOR MOUNTING OPTIONS

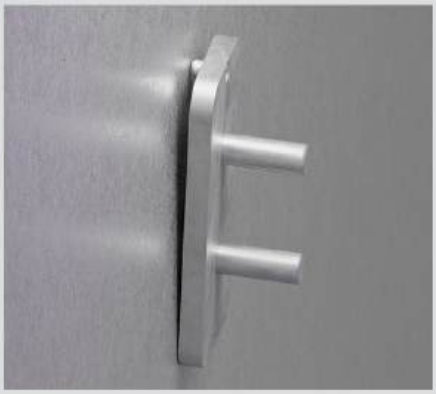




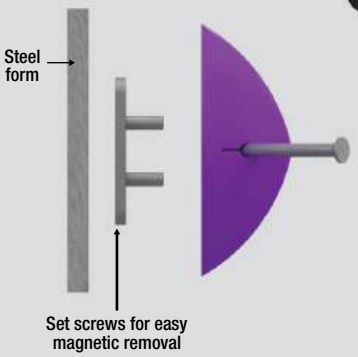
Reusable Holding Plate

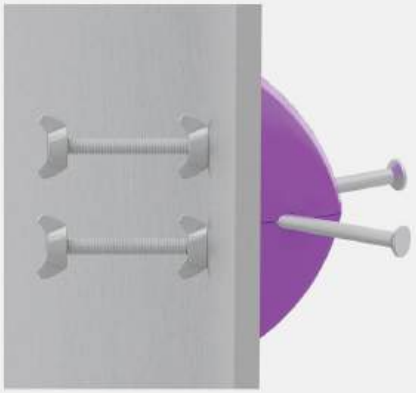




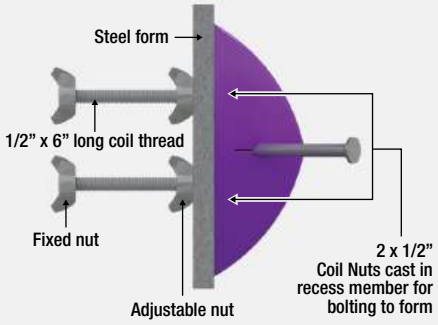


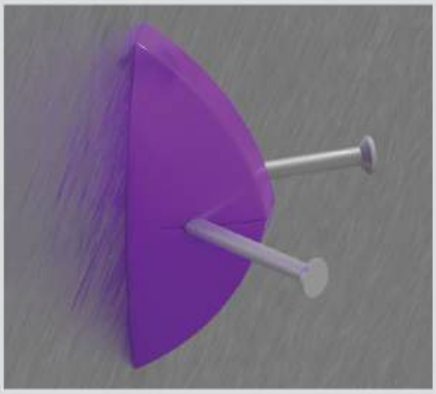
Magnetic Holding Plate



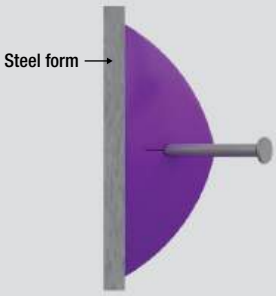


Holding Rod





Magnetic Recess Member

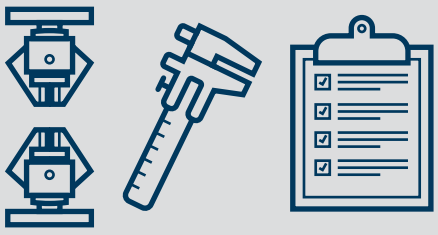


NOTES

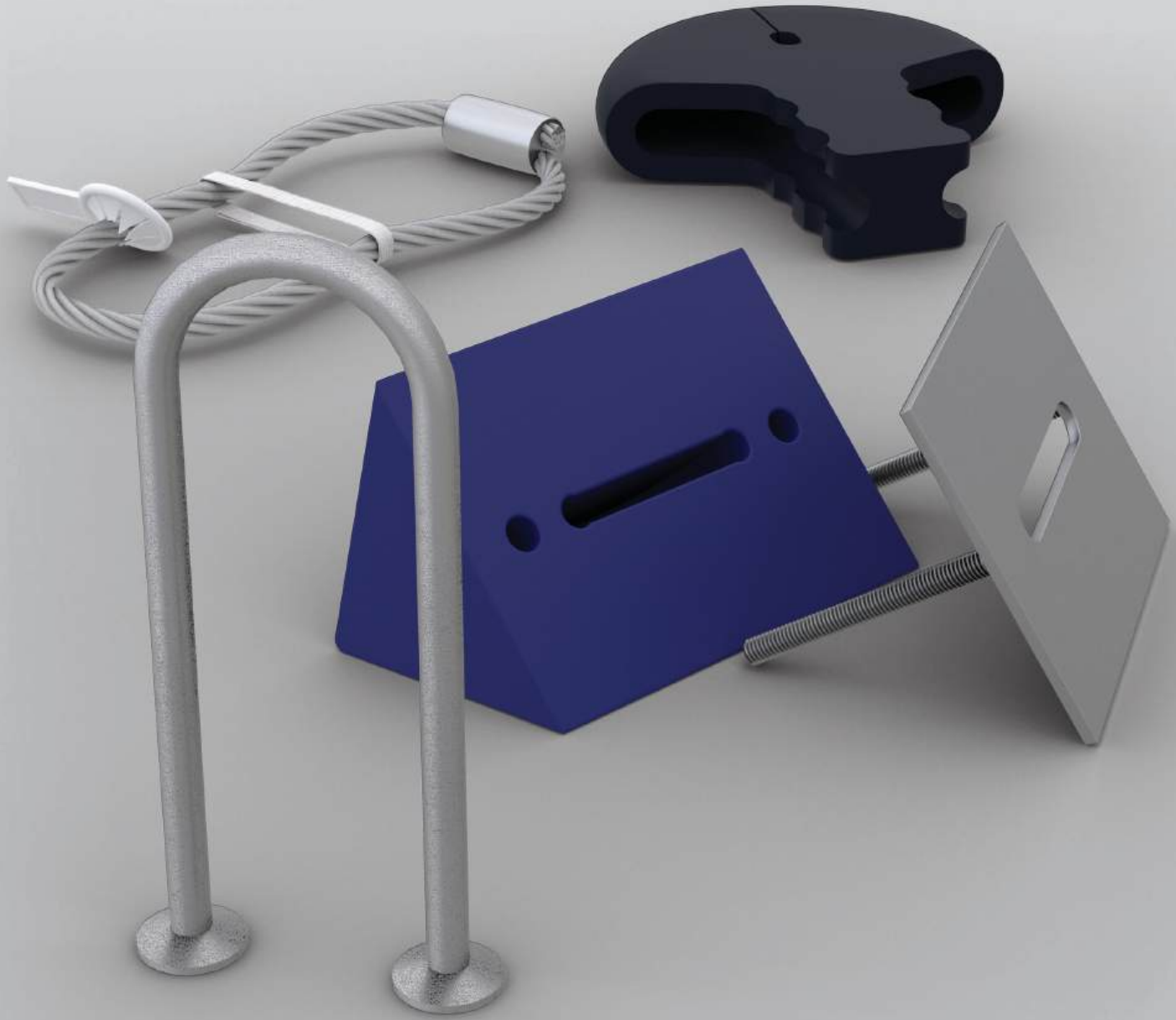
DID YOU KNOW?

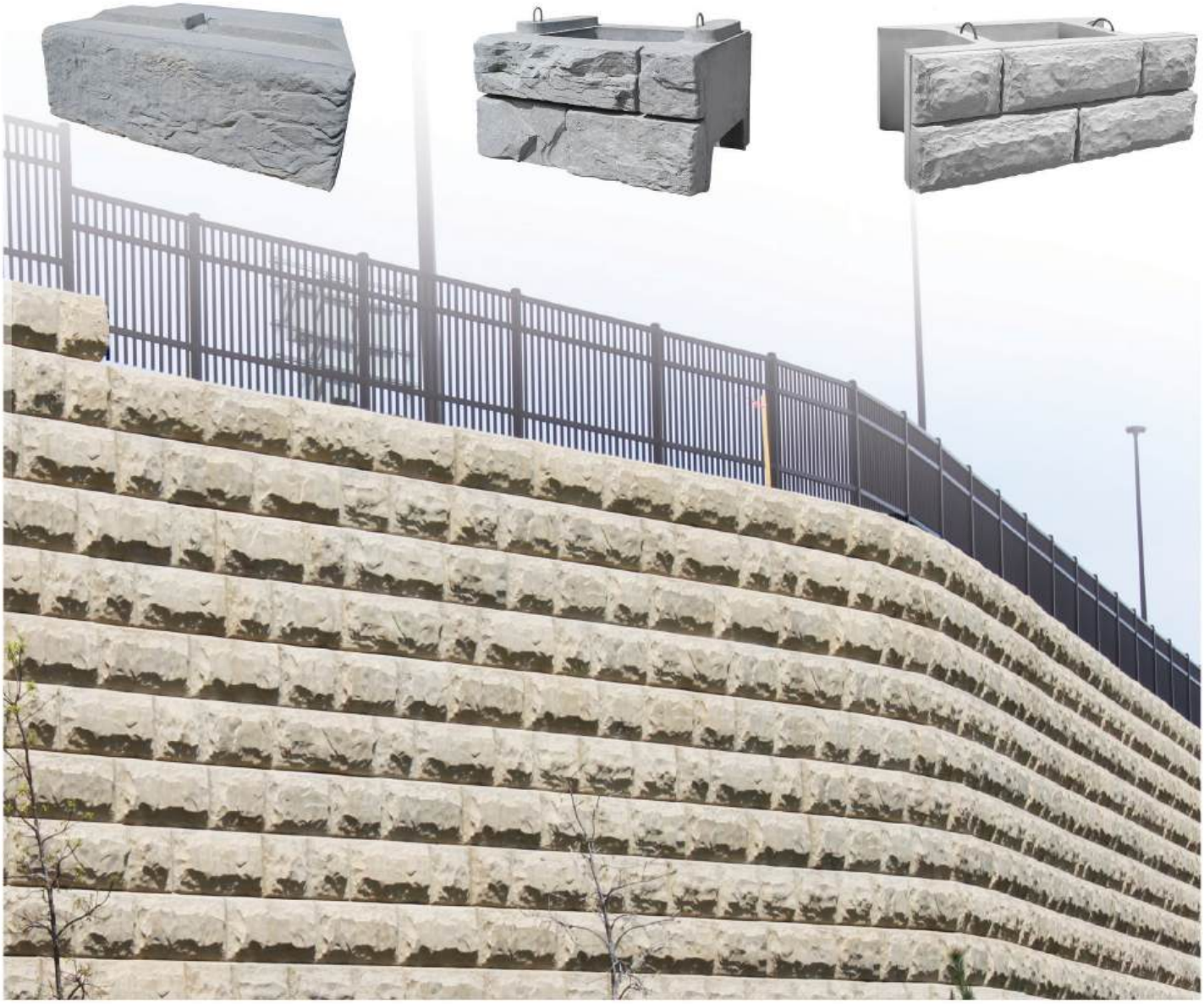
At ALP Supply, safety is our number one priority. Our Quality Control Team rigorously tests ALP brand products throughout the manufacturing process.

Learn more at **alpsupply.com**.

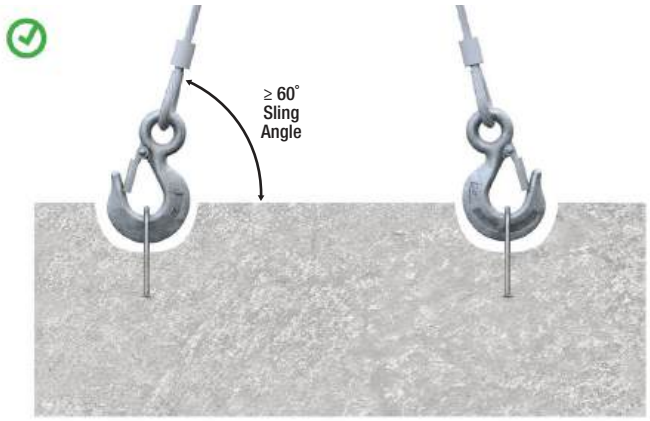


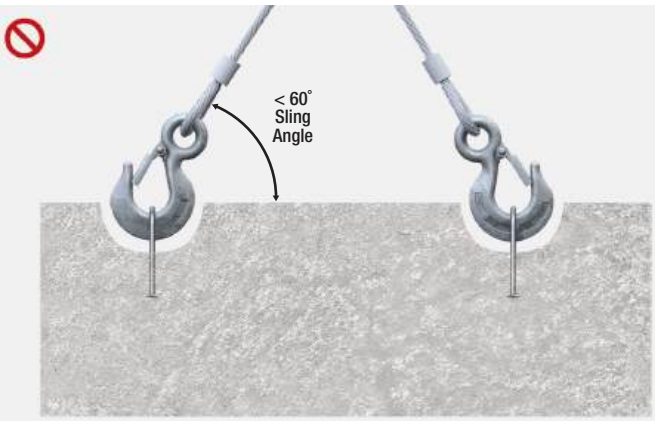
R-ANCHOR™ AND LIFT LOOPS



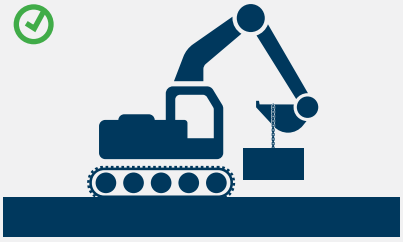


PROPER LIFTING WITH R-ANCHORS™





Please see Lifting Angle Load Factor page for safe lifting angles.

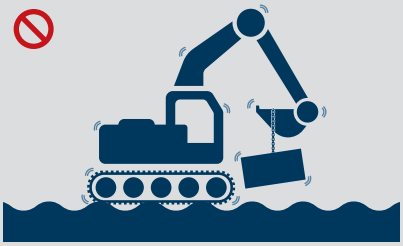


Proper handling:

- Anchor is engaged in smooth/ consistent motion
- Only transport product on flat/even surfaces
- Utilize rigging designed to absorb impact loading (Use cables as opposed to chains)

Hook does not contact the concrete.

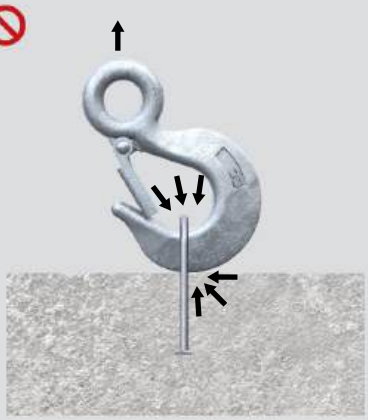
Hook latch should be oriented opposite of the direction of load.



Avoid:

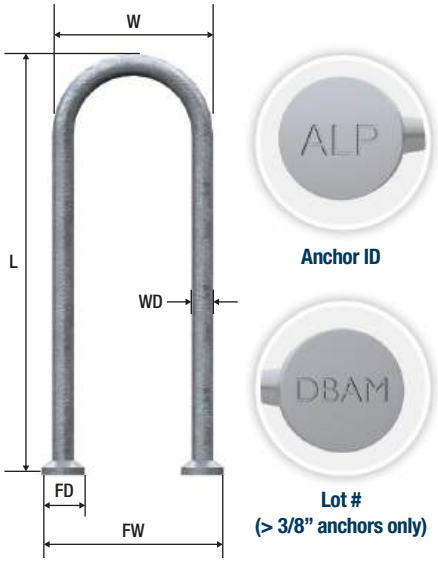
- Moving block across uneven ground using lifting anchors
- Sudden/jerky movements
- Sliding product across ground
- Using chains, as they transfer impact loads to anchor

If hook contacts concrete below anchor it will pry it. This can cause anchor and/or concrete to fail.



If hook contacts concrete below anchor it will pry it. This can cause bending or breaking of the anchor.

ALP® R-ANCHOR™ SYSTEM



Anchor ID

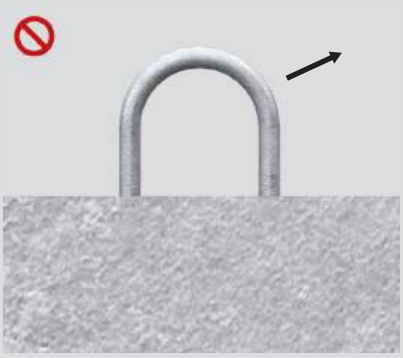
Lot #
(> 3/8" anchors only)

The ALP R-Anchor System is specially designed to be used in both recessed applications for retaining wall blocks and protruding from the concrete for small slabs. **Standard finish is hot-dipped galvanized.**

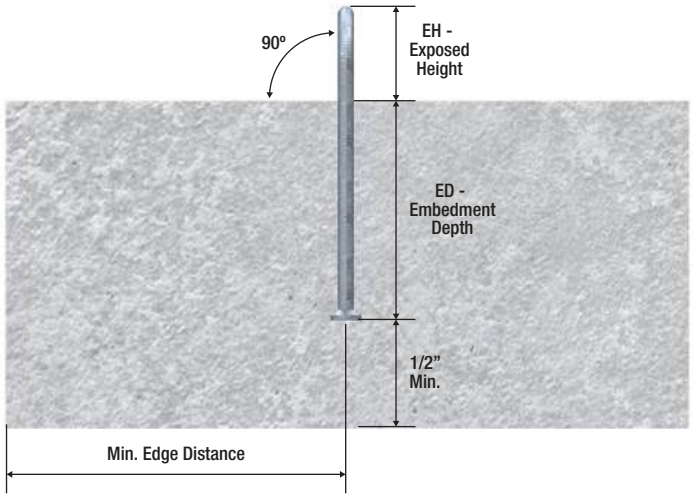
DIMENSIONS

Part #	WD	L	W	FW	FD	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Bag	Qty/Crate
LRA146G	1/4"	6"	2-11/16"	2-15/16"	1/2"	6,400	0.17	100	10,000
LRA516612G	5/16"	6-1/2"	2-5/8"	3"	3/4"	12,800	0.33	100	6,500
LRA387G	3/8"	7"	2-3/4"	3-7/16"	1"	18,760	0.56	100	3,500
LRA7169G	7/16"	9"	3-1/2"	3-7/8"	1"	30,000	1.07	50	2,500
LRA71611G	7/16"	11"	3-1/2"	3-7/8"	1"	30,000	1.20	25	2,200

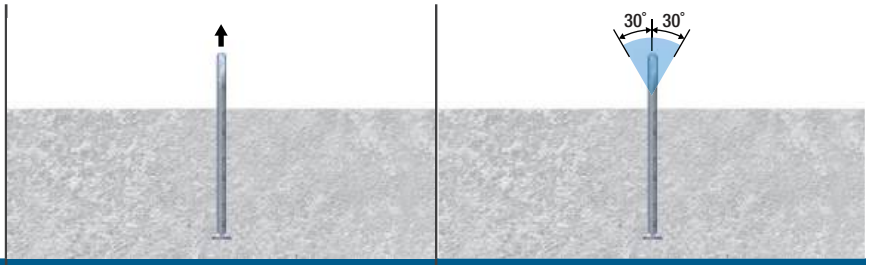
Visit alpsupply.com for technical data sheets for the R-Anchor in ReCon™, Redi-Rock®, Verti-Block® retaining wall systems.



Pulling sideways on one leg may reduce the capacity of the anchor.



Wet set in concrete



CAPACITIES

Part #	Description	Installation			Tension 4:1 SWL				60° Angle 4:1 SWL			
		EH	ED	Min. Edge Distance	1,000 PSI (lbs)	1,500 PSI (lbs)	2,000 PSI (lbs)	2,500 PSI (lbs)	1,000 PSI (lbs)	1,500 PSI (lbs)	2,000 PSI (lbs)	2,500 PSI (lbs)
LRA146G	1/4" x 6"	2-1/2"	3-1/2"	8"	1,525	1,600	1,600	1,600	1,600	1,600	1,600	1,600
LRA516612G	5/16" x 6-1/2"	0"*	7"	9"	3,200	3,200	3,200	3,200	3,200	3,200	3,200	3,200
		2-1/2"	4"	9"	2,110	2,585	2,985	3,200	2,745	3,200	3,200	3,200
LRA387G	3/8" x 7"	0"*	7"	10"	4,690	4,690	4,690	4,690	4,690	4,690	4,690	4,690
		2-1/2"	4-1/2"	10"	3,275	4,015	4,635	4,690	3,660	4,480	4,690	4,690
LRA7169G	7/16" x 9"	3"	6"	12"	5,475	6,700	7,500	7,500	6,555	7,500	7,500	7,500
LRA71611G	7/16" x 11"	3"	8"	12"	7,475	7,500	7,500	7,500	7,500	7,500	7,500	7,500

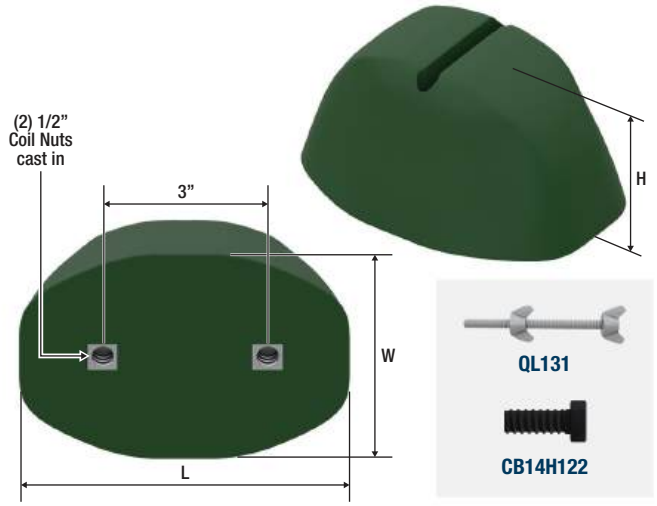
Indicates mechanical strength of anchor is achieved.

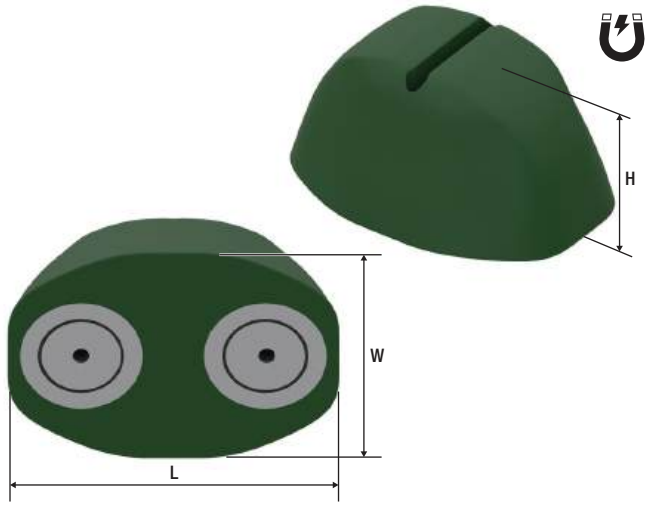
*Recessed from concrete surface.

- For lifting and handling of thin slabs, design needs to ensure slab is properly reinforced to prevent flexural stresses from cracking slab.
- Above capacities are based upon mechanical testing and concrete testing.

ALP® R-ANCHOR™ RECESS MEMBERS

The ALP R-Anchor Recess Member is specially designed for ALP R-Anchors and typically used in retaining wall blocks. The Recess Members are bolted to the form using (2) 1/2" coil threaded holding rods [QL131] or (2) 1/2"x 2" coil bolts [CB14H122]. If using the coil bolt, user must be careful not to over torque the bolt as it will strip the coil nut out of the recess member.





DIMENSIONS

Part #	Anchor Size	Color	L	H	W	Weight (lbs)
LRRM38	3/8"	Green	6-3/16"	3-1/8"	4-3/4"	2.06
LRRM716	7/16"	Red	6-3/16"	3-1/8"	4-3/4"	2.16

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

DIMENSIONS - MAGNETIC

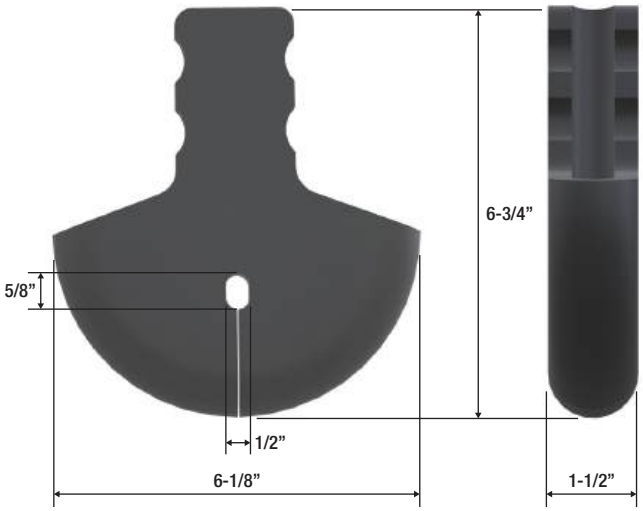
Part #	Anchor Size	Color	L	H	W	Weight (lbs)
LRRM38M	3/8"	Green	6-3/16"	3-1/8"	4-3/4"	3.22
LRRM716M	7/16"	Red	6-3/16"	3-1/8"	4-3/4"	3.34

Caution: Vibration and placement of the concrete can cause the Magnetic Recess to move. It is recommended that the anchor is secured to the reinforcement before concrete placement.

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

ALP® R-ANCHOR™ WET SET RECESS

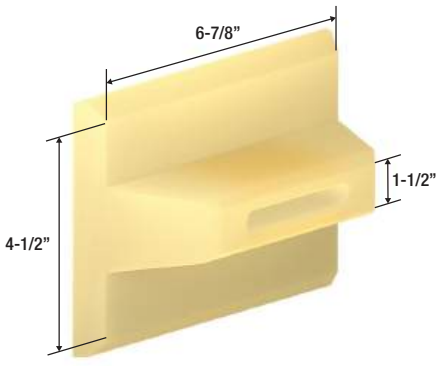
The ALP R-Anchor Wet Set Recess Member creates a void for an R-Anchor in the top of a slab by wet setting it in the concrete.



Part #	Description	Color	Material	Weight (lbs)
LRWS716R	Wet Set Recess, 7/16"	Black	Rubber	1.05

ALP® R-ANCHOR™ T-SLOT RECESS MEMBER

The ALP R-Anchor T-Slot Recess Member is specially designed for ALP R-Anchors and typically used in waste block forms which have a factory installed steel pocket.

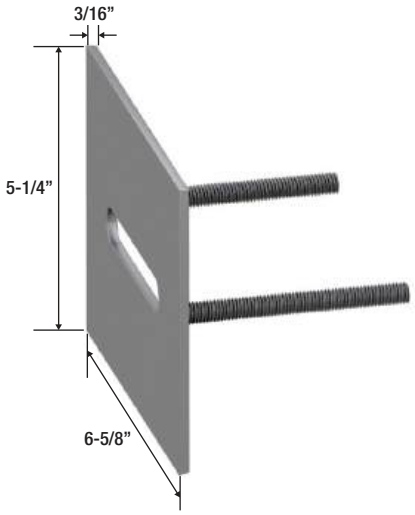


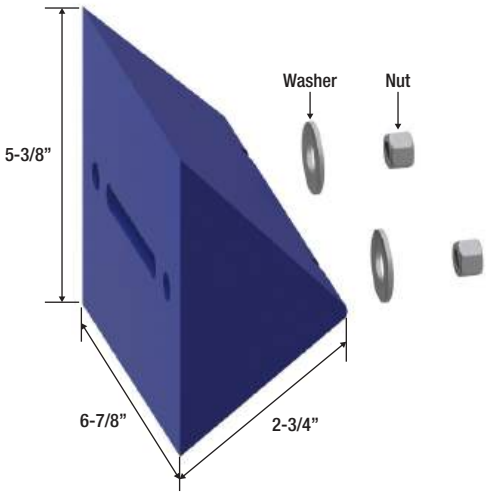
Part #	R-Anchor Size	Color	Weight (lbs)
LRRMTS716	7/16"	Clear/Amber	0.99

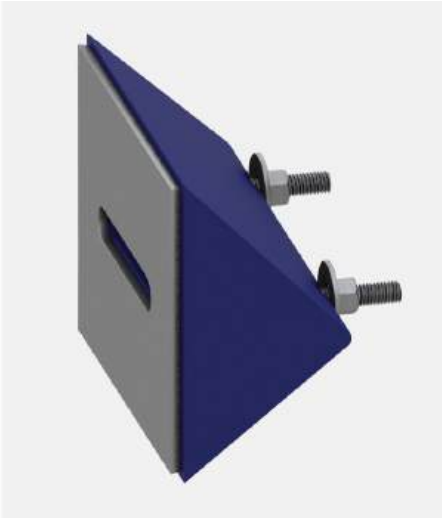
- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

ALP® R-ANCHOR™ V-BLOCK MOUNTING PLATE AND RECESS MEMBER

Designed for retaining wall block forms that utilize a 4" V-groove. ALP's V-Block Mounting Plate goes through the recess member and extends out of the form's exterior. The through bolt design, secured with nuts and washers, prevents concrete from seeping into between the recess member and the form.





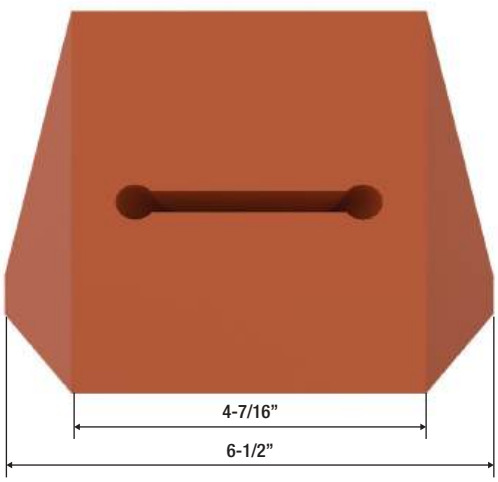


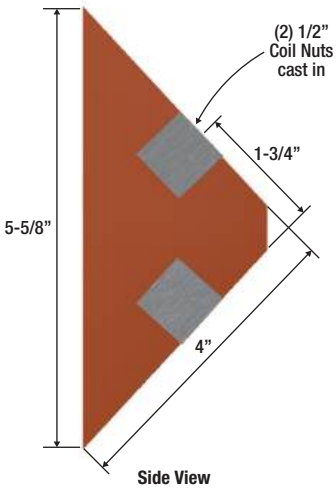
Part #	Description	Weight (lbs)
LRRMV4MP	V-Block Mounting Plate, includes (2) 9/16" Nuts and Washers	2.09
LRRMV4MPR716	7/16" V-Block Mounting Plate Recess, blue	1.92

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

ALP® R-ANCHOR™ V-BLOCK RECESS MEMBER

The ALP R-Anchor V-Block Recess Member is designed to be used in retaining wall block forms that utilize a 4" V-groove. Recess Members are bolted to the form using (2) 1/2" coil threaded holding rods [QL131] or (2) 1/2" x 1-1/2"coil bolts [CB14H12112]. If using coil bolts, user must be careful not to over torque the bolt as it will strip the coil nut out of the recess member.





Either of these products can be used to secure the V-Block Recess Member to the form.

QL131

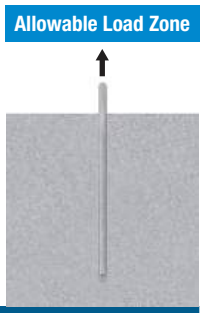
CB14H122

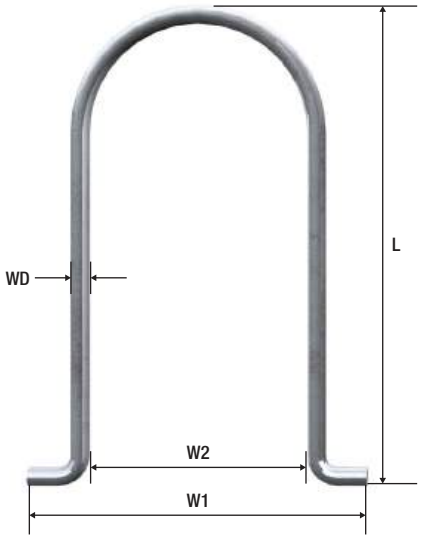
Part #	R-Anchor Size	Color	Weight (lbs)
LRRMV438	3/8"	Purple	1.62
LRRMV4716	7/16"	Orange	1.59

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

ALP® R-ANCHOR™ - STONE STRONG

For Stone Strong retaining wall blocks. **Standard finish is hot-dipped galvanized.**





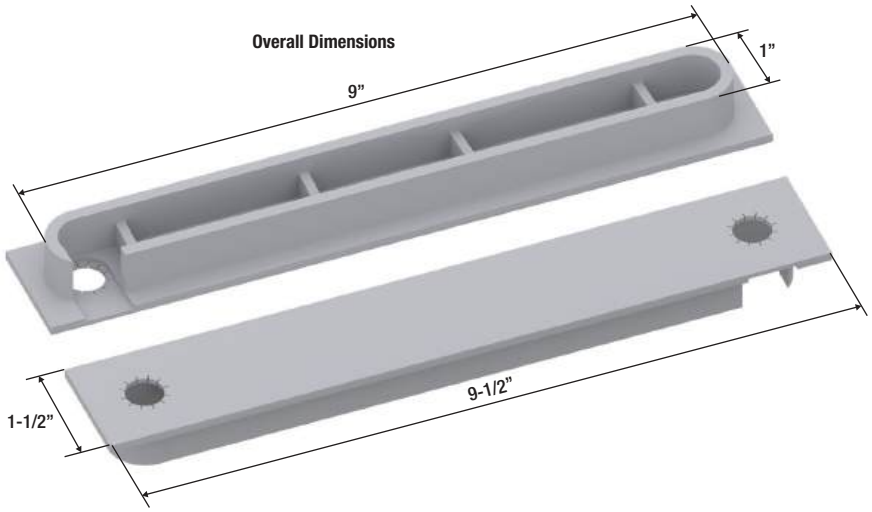
DIMENSIONS AND CAPACITIES

Part #	WD	L	W1	W2	Weight (lbs)	Qty/Crate	4:1 SWL at 4,000 PSI (lbs)
LRA581612G	5/8”	16-1/2”	11-1/2”	7-1/2”	3.53	600	4,500

Above capacities are based upon mechanical testing and available industry data.

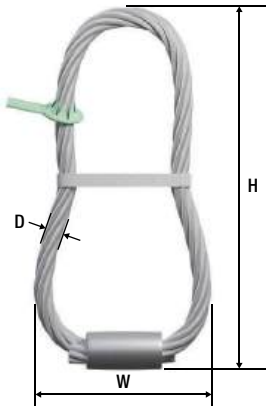
ALP® R-ANCHOR™ - STONE STRONG PLASTIC LOCATOR

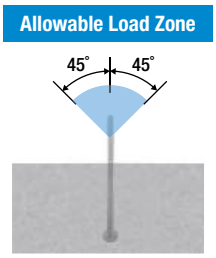
Part #	Qty/Ctn
PWRWAPG	250



ALP® STEEL CORE LIFT LOOPS

ALP Steel Core Lift Loops provide a secure, economical option for face lifting precast applications. Made of galvanized wire rope that is securely swaged together. Color coded for easy capacity identification, with mechanical capacities list on the tag.



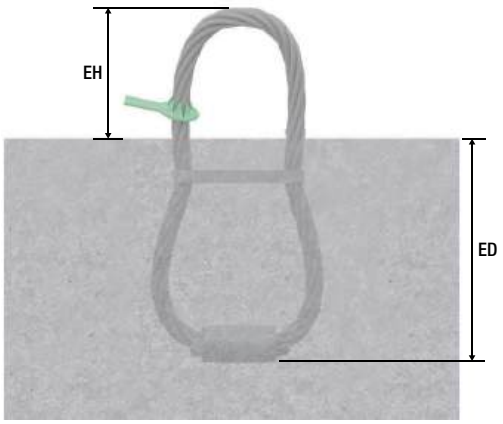


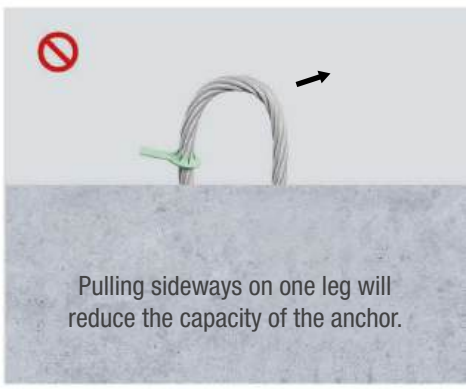
DIMENSIONS AND CAPACITIES

Part #	Color Code Tag	D	W	H	EH - Exposed Height (1/3 of Height)	ED - Embedded Depth (2/3 of Height)	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate	Tension Capacity 4:1 SWL (lbs)	
										2,500 PSI	4,000 PSI
LLB	Blue	1/8”	3-3/8”	8”	2-5/8”	5-3/8”	2,000	0.04	7,500	500	500
LLBS*	Blue	1/8”	3-3/8”	8”	2-5/8”	5-3/8”	2,000	0.04	7,500	500	500
LLW	White	1/4”	3-15/16”	8-1/4”	2-3/4”	5-1/2”	8,000	0.19	7,000	2,000	2,000
LLR	Red	9/32”	4-5/16”	8-7/8”	3”	5-7/8”	9,600	0.29	5,500	2,300	2,400
LLP	Purple	5/16”	4-3/4”	9-1/4”	3-1/8”	6-1/8”	12,800	0.37	4,000	3,000	3,200
LLLG	Light Green	3/8”	5-1/8”	11”	3-5/8”	7-3/8”	18,000	0.56	2,800	4,100	4,500
LLC	Charcoal	25/64”	5-1/2”	12-1/8”	4”	8-1/8”	20,800	0.74	2,000	5,000	5,200
LLDG	Dark Green	15/32”	5-7/8”	13-3/8”	4-1/2”	8-7/8”	28,000	1.15	1,400	5,800	7,000
LLY	Yellow	9/16”	7-1/2”	15”	5”	10”	40,000	1.78	800	10,000	10,000

*Stainless Steel

- **Pre-galvanized wire provides limited corrosion resistance. Corrosion will reduce Lift Loop capacity.**
- Tension capacities are based on unreinforced concrete.
- Tension capabilities may vary depending on edge distance, concrete strength and embedment depth.
- Above capacities are based upon mechanical and concrete testing.
- Minimum edge distance is equal to 1.5 x Embedded Depth
- All Lifting hooks should have a gradual curve radius where they touch the lift loop and **no sharp edges**.
- Hook width should be approximately 2 times the rope diameter.
- Visit alpsupply.com to view our safety guide for proper handling procedures



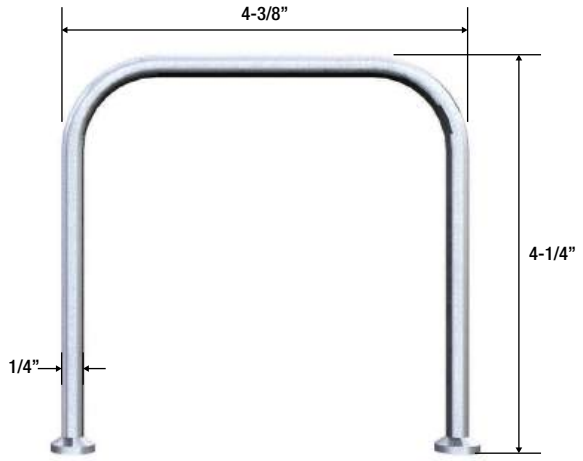


ALP® WET SET HANDLE

The ALP Wet Set Handle is designed for lifting of small concrete products by hand in applications such as concrete access holes for septic tanks, and other precast products.

Part #	Anchor Mechanical Load in Tension, 4:1 SWL (lbs)	Weight (lbs)
LRWSHG	500	0.15

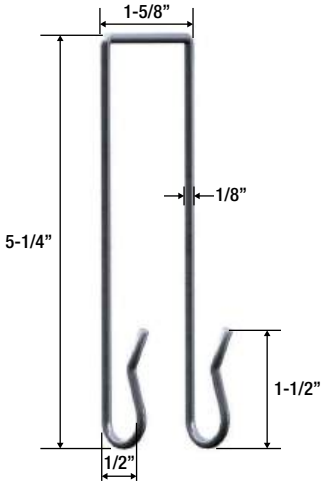
Above capacities are based upon mechanical testing.



ALP® VAULT LID ANCHOR

The ALP Vault Lid Anchor is used to hang reinforcing cages in burial vault lids. After vault lids are cured, anchors are then used for stripping the lid from the form and placing it on top of the vault. **Standard finish is stainless steel.**

Part #	Weight (lbs)
VLA1255S	0.06



NOTES

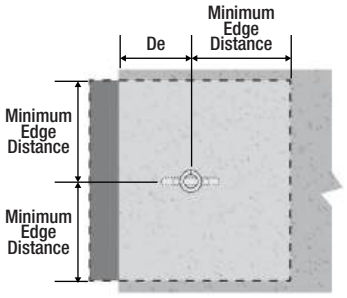
DID YOU KNOW?

ALP Supply has 7 distribution locations across the continental US in order to reliably deliver the products you need, when you need them. Shipping out of:

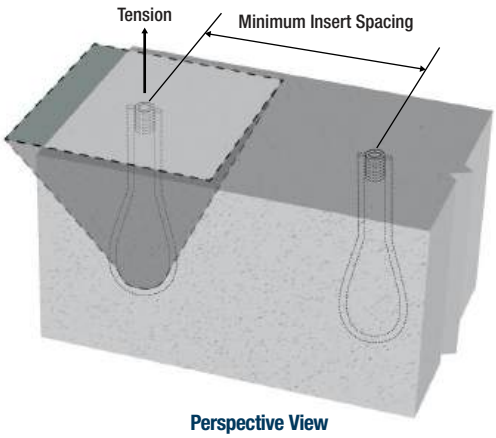
1. Fairless Hills, PA
2. Atlanta, GA
3. Plant City, FL
4. Minneapolis, MN
5. Fort Worth, TX
6. Sparks, NV
7. Columbus, OH

COIL INSERTS AND ACCESSORIES

COIL INSERT SAFE WORKING LOAD REDUCTION FACTORS FOR TENSION LOADING ONLY



Top View



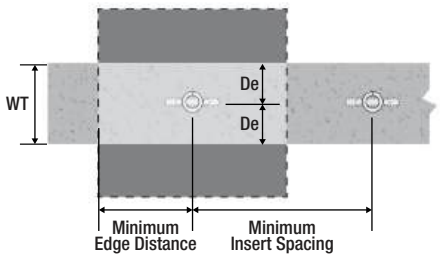
Perspective View

For Free Edge Conditions- When insert has a truncated shear cone on 1 side.

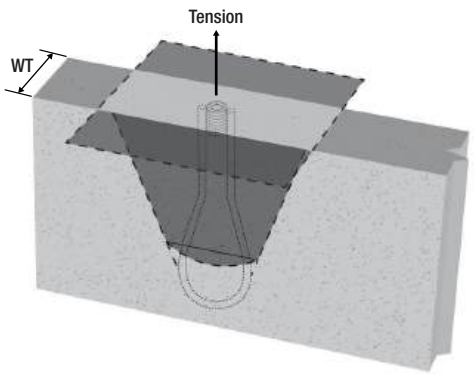
De	Insert Length										
	CI-16		CI-18	CI-53		CI-56			CI-63		
	4”	6”	12”	3”	4”	4-1/2”	5-1/2”	1-3/4”	2-5/16”	3-1/2”	4-1/2”
2”	0.67	0.61	0.56	0.72	0.67	0.65	0.62	0.88	0.79	0.69	0.65
2-1/4”	0.69	0.63	0.56	0.75	0.69	0.68	0.64	0.93	0.82	0.71	0.67
2-1/2”	0.71	0.64	0.57	0.78	0.71	0.70	0.67	0.98	0.86	0.74	0.69
2-3/4”	0.73	0.65	0.58	0.81	0.73	0.72	0.69	1.00	0.90	0.76	0.70
3”	0.75	0.67	0.58	0.83	0.75	0.75	0.70	1.00	0.93	0.79	0.72
3-1/2”	0.79	0.69	0.60	0.89	0.79	0.79	0.74	1.00	1.00	0.83	0.76
4”	0.83	0.72	0.61	0.94	0.83	0.83	0.77	1.00	1.00	0.88	0.80
4-1/2”	0.88	0.75	0.63	1.00	0.88	0.87	0.80	1.00	1.00	0.93	0.83
5”	0.92	0.78	0.64	1.00	0.92	0.91	0.84	1.00	1.00	0.98	0.87
5-1/2”	0.96	0.81	0.65	1.00	0.96	0.95	0.87	1.00	1.00	1.00	0.91
6”	1.00	0.83	0.67	1.00	1.00	0.99	0.91	1.00	1.00	1.00	0.94
7”	1.00	0.89	0.69	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00
8”	1.00	0.94	0.72	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
9”	1.00	1.00	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
10”	1.00	1.00	0.78	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
11”	1.00	1.00	0.81	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

- Based upon 1/2” recess from the face of the concrete
- Above capacities are based on ACI 318 criteria

Minimum Edge Distance = 1.5 x Insert Length **Minimum Insert Spacing** = 3 x Insert Length



Top View



Perspective View

For Thin Wall Conditions - When insert has a truncated shear cone on 2 sides.

WT	De	Insert Length										
		CI-16		CI-18	CI-53		CI-56			CI-63		
		4”	6”	12”	3”	4”	4-1/2”	5-1/2”	1-3/4”	2-5/16”	3-1/2”	4-1/2”
4”	2”	0.33	0.22	0.11	0.44	0.33	0.30	0.24	0.76	0.58	0.38	0.30
4-1/2”	2-1/4”	0.38	0.25	0.13	0.50	0.38	0.33	0.27	0.86	0.65	0.43	0.33
5”	2-1/2”	0.42	0.28	0.14	0.56	0.42	0.37	0.30	0.95	0.72	0.48	0.37
5-1/2”	2-3/4”	0.46	0.31	0.15	0.61	0.46	0.41	0.33	1.00	0.79	0.52	0.41
6”	3”	0.50	0.33	0.17	0.67	0.50	0.44	0.36	1.00	0.86	0.57	0.44
7”	3-1/2”	0.58	0.39	0.19	0.78	0.58	0.52	0.42	1.00	1.00	0.67	0.52
8”	4”	0.67	0.44	0.22	0.89	0.67	0.59	0.48	1.00	1.00	0.76	0.59
9”	4-1/2”	0.75	0.50	0.25	1.00	0.75	0.67	0.55	1.00	1.00	0.86	0.67
10”	5”	0.83	0.56	0.28	1.00	0.83	0.74	0.61	1.00	1.00	0.95	0.74
11”	5-1/2”	0.92	0.61	0.31	1.00	0.92	0.81	0.67	1.00	1.00	1.00	0.81
12”	6”	1.00	0.67	0.33	1.00	1.00	0.89	0.73	1.00	1.00	1.00	0.89
14”	7”	1.00	0.78	0.39	1.00	1.00	1.00	0.85	1.00	1.00	1.00	1.00
16”	8”	1.00	0.89	0.44	1.00	1.00	1.00	0.97	1.00	1.00	1.00	1.00
18”	9”	1.00	1.00	0.50	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
20”	10”	1.00	1.00	0.56	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
22”	11”	1.00	1.00	0.61	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

- Based upon 1/2” recess from the face of the concrete
- Above capacities are based on ACI 318 criteria

Minimum Edge Distance = 1.5 x Insert Length **Minimum Insert Spacing** = 3 x Insert Length

How to use reduction factors

To calculate an insert’s reduced safe working load for free edge or thin wall conditions, multiply the insert’s safe working load (located in each insert’s load chart) by the reduction multiplier in the above charts. Do not apply these reduction multipliers to other types or sizes of inserts.

COIL INSERT SAFETY INFORMATION AND BOLT SELECTION

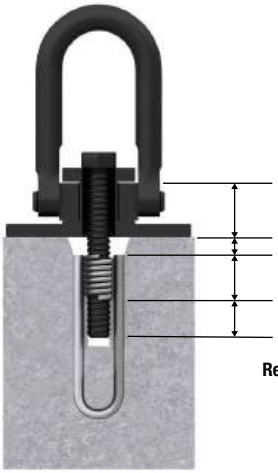
Note: When using Coil Inserts for lifting and handling only 4 Strut Inserts should be used in 3/4" or larger diameters. The below images show 2 Strut Inserts for illustration purposes only. Although 2 Strut Inserts can be used, they require straight tension loading, no angled loading.

Coil bolts, nuts, rods and inserts should not be mixed from different suppliers as there is no industry standard for coil threads. Coil thread manufactured per ALP® specification.

4 Strut Insert for lifting & handling

2 Strut Inserts are not typically recommended for lifting & handling (tension only)

Recommended Minimum Bolt Length



SPT - Swivel Lift Plate Thickness +

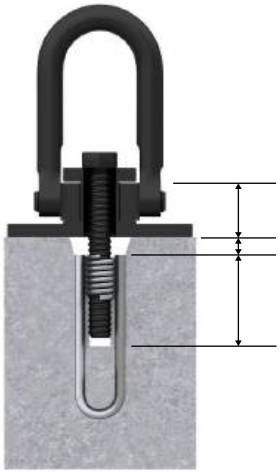
RH - Recess Depth +

CTH - Coil Thread Length (A) +

1.0 x Diameter of Insert* +

Recommended Minimum Bolt Length =

Maximum Bolt Length



SPT - Swivel Lift Plate Thickness +

RH - Recess Depth +

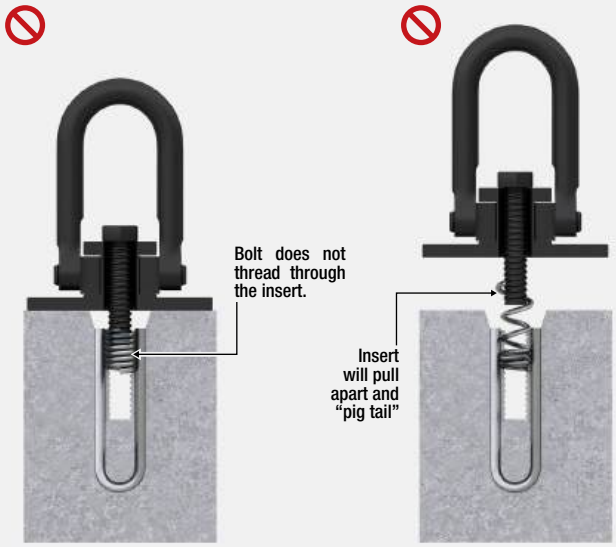
VH - Void Length +

Maximum Bolt Length =

*1.0 x bolt diameter is recommended to compensate for worn threads at the end of bolt.
*0.5 x bolt diameter may be used for new bolts or bolts that have been verified to have proper thread height.

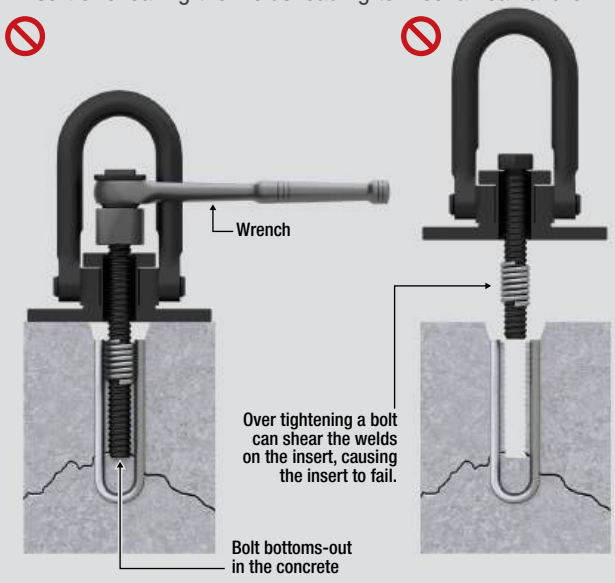
Bolt too short or worn

When bolts are too short they will only engage part of the Coil threads, often leading to "pig tailing". Worn bolts typically wear down in a tapered orientation and can also cause the insert to "pig tail".



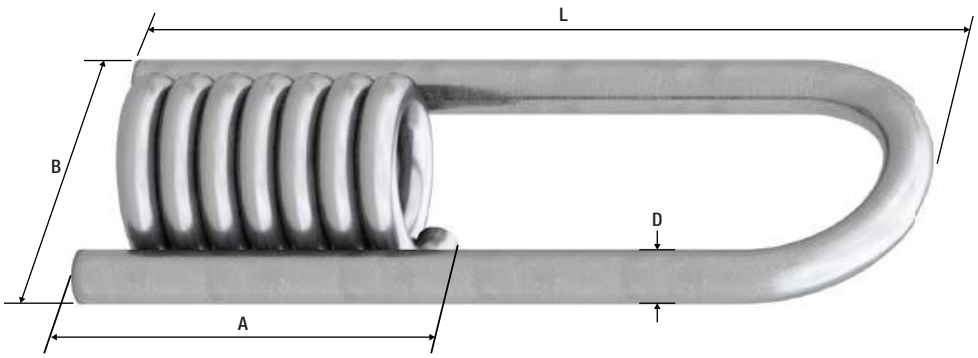
Bolt too long

When bolts are too long they will bottom out on the concrete. This can cause either blowout of the concrete below the coil insert or shearing the welds leading to mechanical failure.



CI-16: STRAIGHT LOOP COIL INSERT

With its simple design and fabrication, the Straight Loop Coil Insert is highly efficient for use as a bolted connection. **Standard finish is plated.**

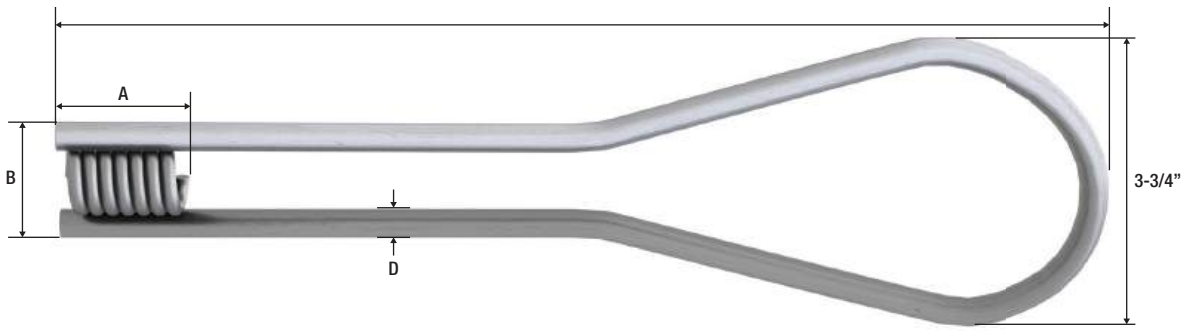


DIMENSIONS AND CAPACITIES

								Capacity in Concrete, 4:1 SWL		
Part #	Bolt Diameter	L	A	B	D	Ultimate Mechanical in Tension (lbs)	Qty/Ctn.	Min. Edge Distance	Tension (lbs)	Shear (lbs)
CI16124P	1/2”	4”	1-3/8”	1-5/16”	.256”	9,000	120	9”	2,250	2,000
CI16126P	1/2”	6”	1-3/8”	1-7/16”	.327”	14,400	100	10”	3,600	3,000
CI16344P	3/4”	4”	1-13/16”	1-11/16”	.327”	15,000	100	12”	3,100	2,800
CI16346P	3/4”	6”	1-13/16”	1-7/8”	.375”	18,000	50	12”	4,500	4,200
CI1616P	1”	6”	2-5/16”	2-3/16”	.375”	18,000	40	12”	4,500	4,500

- Table is based on 3,000 psi and 145 PCF concrete.
- Inserts must be set back 1/2” from concrete surface and have sufficient coil penetration by lifting bolt.
- Above capacities are based upon mechanical testing and available industry data.
- ALP Supply® does not recommend using 1/2” coil inserts for lifting and handling of precast elements.
- Maintain the minimum spacing between inserts of at least 2 x the edge distance.
- Coil thread manufactured per ALP® specification.

CI-18: FLARED LOOP COIL INSERT



Standard finish is plated.

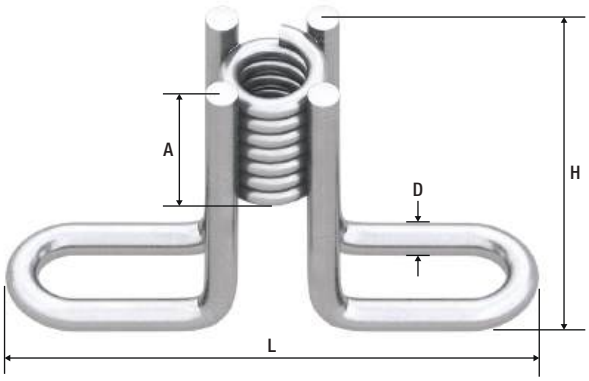
DIMENSIONS AND CAPACITIES

Part #	Bolt Diameter	L	A	B	D	Ultimate Mechanical in Tension (lbs)	Qty/Ctn.
CI181212P	1/2”	12”	1-3/8”	1-7/16”	.327”	14,400	30
CI183412P	3/4”	12”	1-13/16”	1-7/8”	.375”	18,000	25

- Inserts must be set back 1/2” from concrete surface and have sufficient coil penetration by lifting bolt.
- Coil thread manufactured per ALP® specification.

CI-63: FLARED THIN SLAB COIL INSERT

The Flared Thin Slab Coil Insert is used where panel thickness is limited and offers better tension loads than other thin slab inserts. **Standard finish is plated.**



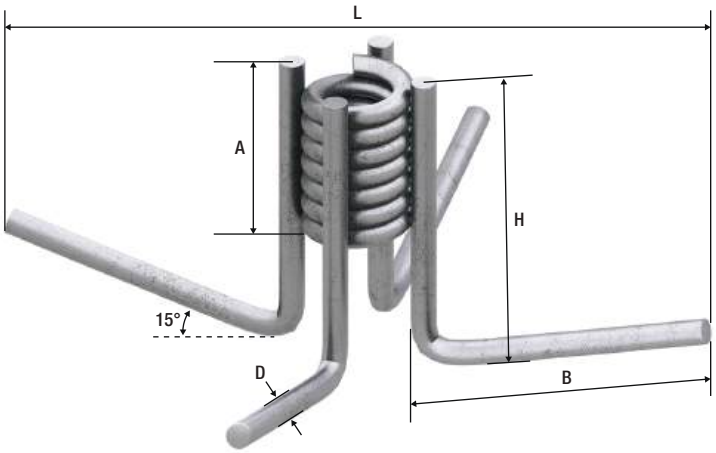
DIMENSIONS AND CAPACITIES

								Capacity in Concrete, 4:1 SWL			
Part #	Bolt Diameter	H	L	A	D	Ultimate Mechanical Capacity	Qty/Ctn.	Min. Edge Distance	Min. Corner Distance	Tension (lbs)	Shear (lbs)
CI6312134P	1/2”	1-3/4”	4-11/16”	1-3/8”	.256”	8,200	100	6”	6”	1,520	1,090
CI63342516P	3/4”	2-5/16”	5-1/4”	1-13/16”	.327”	10,200	40	8”	8”	2,170	1,640
CI6334312P	3/4”	3-1/2”	5-1/4”	1-13/16”	.327”	18,000	25	9”	9”	3,570	2,600
CI6312516P	1”	2-5/16”	5-11/16”	2-5/16”	.327”	14,200	25	8”	8”	2,460	1,970
CI631312P	1”	3-1/2”	5-11/16”	2-5/16”	.327”	18,000	25	9”	9”	3,570	2,600
CI631412P	1”	4-1/2”	5-11/16”	2-5/16”	.327”	25,000	15	12”	12”	5,280	4,000

- Table is based on 3,000 psi and 145 PCF concrete.
- Inserts must be set back 1/2” from concrete surface and have sufficient coil penetration by lifting bolt.
- Inserts should have 3/4” minimum clearance off the bottom face to obtain rated loads.
- Above capacities are based upon mechanical testing and available industry data.
- ALP Supply® does not recommend using 1/2” coil inserts for lifting and handling of precast elements.
- Maintain a minimum spacing between inserts of at least twice the minimum corner distances.
- Coil thread manufactured per ALP® specification.

CI-53: THIN SLAB COIL INSERT

The CI-53 Thin Slab Coil Insert is designed for lifting and handling thin precast. **Standard finish is plated.**

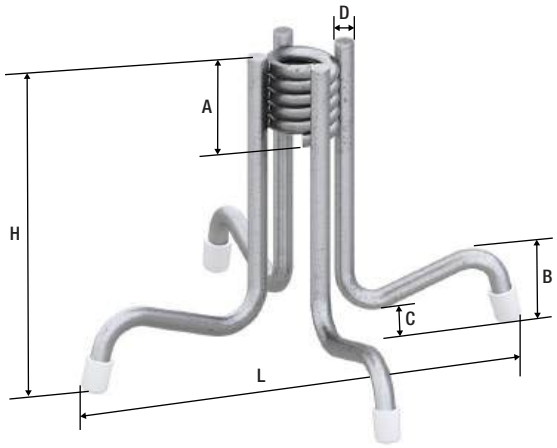


DIMENSIONS AND CAPACITIES

									Capacity in Concrete, 4:1 SWL			
Part #	Bolt Diameter	H	L	D	A	B	Ultimate Mechanical Capacity	Qty/Crate	Min. Edge Distance	Min. Corner Distance	Tension (lbs)	Shear (lbs)
CI53343P	3/4”	3”	7-1/8”	.327”	1-13/16”	3”	18,000	540	8”	12”	2,340	2,340
CI5314P	1”	4”	9-3/8”	.327”	2-5/16”	4”	25,000	600	10”	15”	3,520	3,460

- Table is based on 3,000 psi and 145 PCF concrete.
- Inserts must be set back 1/2” from concrete surface and have sufficient coil penetration by lifting bolt.
- Inserts should have 3/4” minimum clearance off the bottom face to obtain rated loads.
- Above capacities are based upon mechanical testing and available industry data.
- Maintain a minimum spacing between inserts of at least twice the minimum corner distances.
- Coil thread manufactured per ALP® specification.

CI-1: STANDARD SLAB, COIL INSERT



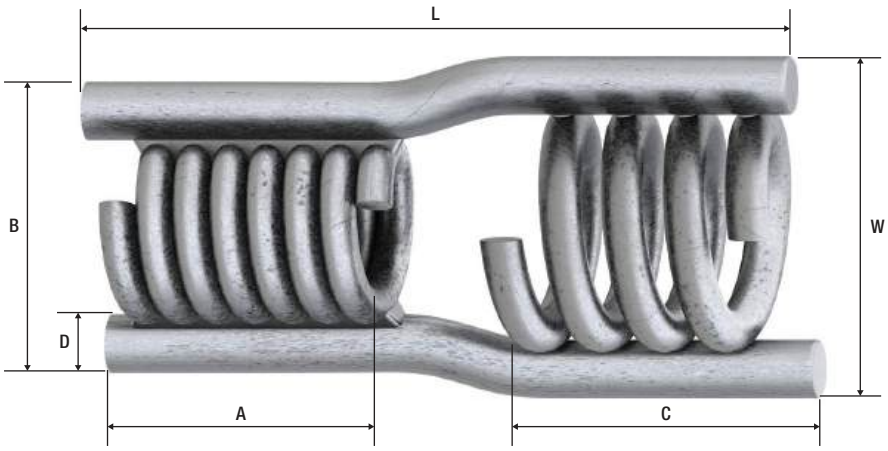
The CI-1, Standard Slab Coil Insert is designed for lifting and handling of precast slabs and is commonly used in precast pavement slabs. The CI-1 insert is designed with plastic tipped feet, to allow the insert to sit directly on the bottom of a form, without rusting on the surface of the concrete. **Standard finish is plated.**

DIMENSIONS AND CAPACITIES

										Capacity in Concrete, 4:1 SWL			
Part #	Bolt Diameter	H	L	D	A	B	C	Ultimate Mechanical in Tension (lbs)	Qty/ Crate	Min. Panel Thickness	Min. Edge Distance	Min. Corner Distance	Tension (lbs)
CI1114734P	1-1/4”	7-3/4”	10”	.452”	2.35”	1-13/16”	1”	54,000	250	8”	15”	15”	8,150

- Table is based on 3,000 psi and 145 PCF concrete.
- Inserts must have sufficient coil penetration by lifting bolt.
- Above capacities are based upon mechanical testing and concrete testing.
- Maintain the minimum spacing between inserts of at least 2 x the edge distance.
- Coil thread manufactured per ALP® specification.

CI-56: EXPANDED COIL, COIL INSERT



The Expanded Coil Inserts are designed with an expanded pitch coil at the end, which distributes the applied loads over a large area of concrete. **Standard finish is plated.**

DIMENSIONS AND CAPACITIES

											Capacity in Concrete, 4:1 SWL			
Part #	Bolt Diameter	# of Struts	L	W	A	B	C	D	Ultimate Mechanical Capacity (lbs)	Qty/Ctn	Min. Edge Distance	Min. Corner Distance	Tension (lbs)	Shear (lbs)
CI5634412P	3/4”	2	4-1/2”	2-1/8”	1-13/16”	1-7/8”	1-11/16”	0.375”	18,000	50	14”	20”	4,250	4,250
CI561512P	1”	2	5-1/2”	2-3/4”	2-5/16”	2-5/16”	2-1/4”	0.440”	25,000	20	16”	24”	6,250	6,250

- Table is based on 3,000 psi and 145 PCF concrete.
- Inserts must be set back 1/2” from concrete surface and have sufficient coil penetration by lifting bolt.
- Above capacities are based upon mechanical testing and available industry data.
- Maintain a minimum spacing between inserts of at least twice the minimum corner distances.
- Coil thread manufactured per ALP® specification.

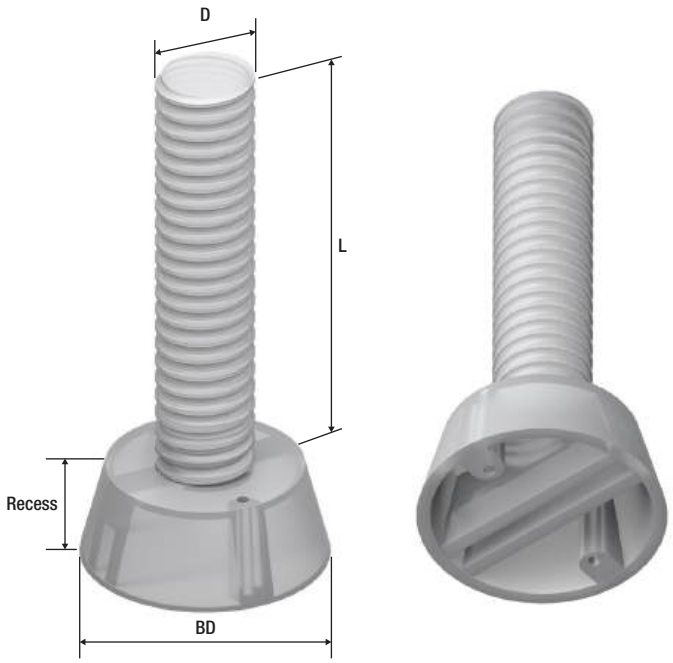
CP-25: PLASTIC COIL THREAD PROTECTOR

Plastic Coil Thread Protectors can be used to attach the coil insert to the form. They can also be used to prevent water and debris from filling up the coil insert during storage. Available in 1/2”, 3/4” and 1” diameters. The Coil Setting Plug will recess the Coil Insert from the concrete surface.

DIMENSIONS

Part #	D	L	BD	Recess	Qty/Ctn
CP2512	1/2”	2-1/4”	1-1/4”	1/2”	1,400
CP2534	3/4”	3”	2-1/8”	3/4”	400
CP2501	1”	4-3/4”	2-1/4”	3/4”	200

- Steel Coil Thread Protectors also available, made to order. Call for more information.
- Grease required on coil thread protector to ensure removal from the concrete.



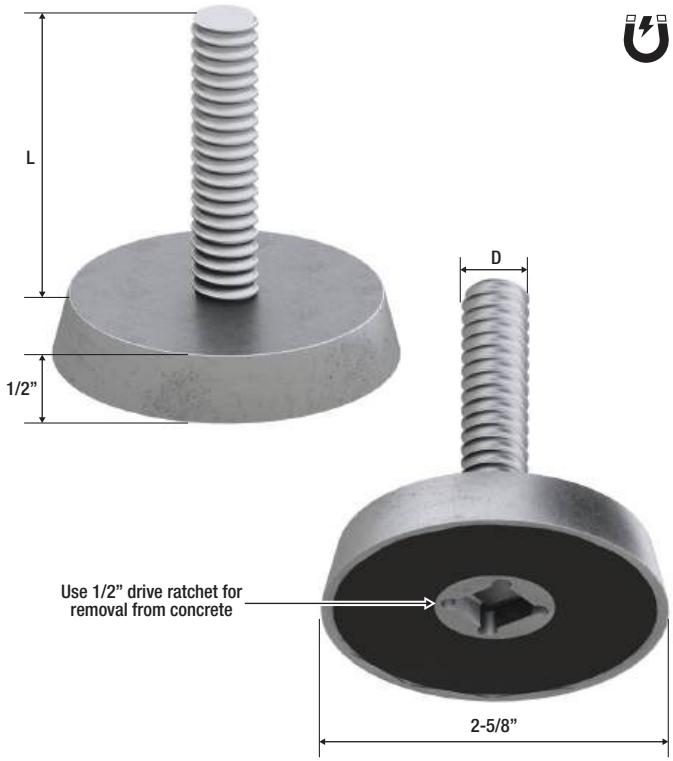
MAGNETIC COIL THREAD PROTECTOR

Magnetic Coil Thread Protectors are used to mount coil threaded inserts to a steel form instead of drilling holes. The magnetic base is 2-5/8” wide and recesses the coil insert by 1/2”. Magnet is removed from the concrete using a 1/2” drive ratchet. Available in 1/2”, 3/4”, 1”, 1-1/4”, and 1-1/2” coil thread diameters.

DIMENSIONS

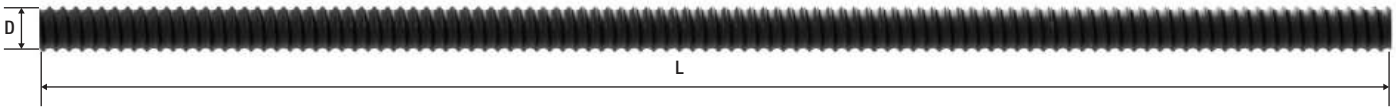
Part #	D	L
TKCMB500	1/2”	2-1/4”
TKCMB750	3/4”	3”
TKCMB1000	1”	3-7/8”
TKCMB1250	1-1/4”	4-1/4”
TKCMB1500	1-1/2”	4-5/8”

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.
- Grease required on coil thread protector to ensure removal from the concrete.



CR-12: COIL ROD - HIGH TENSILE

The Coil Rod is high-tensile strength, stocked in 12 ft standard lengths, in 1/2”, 3/4”, 1”, 1-1/4” and 1-1/2” diameters. Coil Rod is also available cut to length per order. **Standard finish is plain, also available plated.**



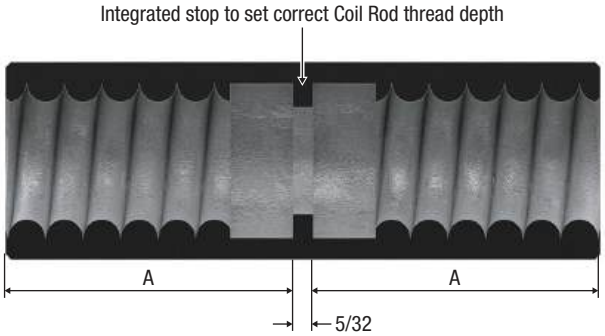
DIMENSIONS

Part #	D	Threads per Inch (Coil)	L	Tension (lbs) 5:1 SWL	Ultimate Mechanical in Tension (lbs)	Weight (lbs)
CR1212	1/2”	6	144” (12 ft.)	3,600	18,000	6.35
CR1234	3/4”	4-1/2	144” (12 ft.)	7,200	36,000	14.18
CR1201	1”	3-1/2	144” (12 ft.)	14,400	72,000	25.24
CR12114	1-1/4”	3-1/2	144” (12 ft.)	22,500	112,500	40.96
CR12112	1-1/2”	3-1/2	144” (12 ft.)	27,000	135,000	61.70

- Coil rod requires 2 x CN13 coil nuts or 1 x CN25 coil nut on each end to develop safe working loads.
- Coil thread manufactured per ALP® specification.

COIL ROD COUPLER

Designed to connect two pieces of Coil Rod while maintaining their full capacity.



DIMENSIONS

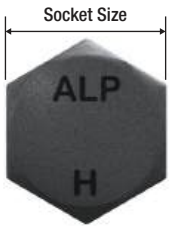
Part #	D	Threads per Inch (Coil)	L	A*	Tension (lbs) 5:1 SWL	Ultimate Mechanical in Tension (lbs)	Weight (lbs)
CRC34P	3/4”	4-1/2	3-3/4”	1-13/16”	7,200	36,000	0.43
CRC01P	1”	3-1/2	4-1/2”	2-3/16”	14,400	72,000	1.43

*Dimension provides threaded depth of Coil Rod for full engagement into Coil Rod Coupler

- Coil thread manufactured per ALP® specification.

CB-14H COIL BOLTS

Coil bolts are manufactured with a fast threading, self-cleaning coil thread. Coil bolts are available in 1/2"and 3/4" sizes, as listed below. **Standard finish is plain, some sizes are available plated.**



Head Marking

DIMENSIONS AND CAPACITIES

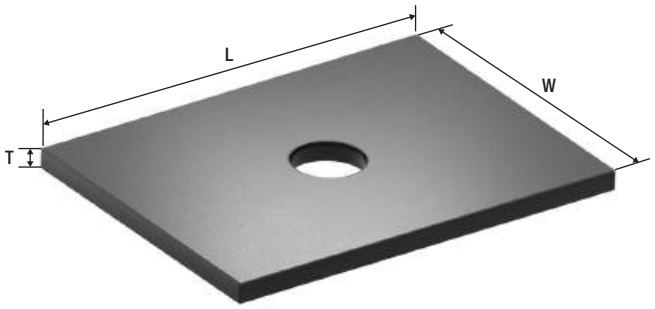
CB-14H: Structural Grade - 5:1 SWL

D	L	Socket Size	T	Qty/Ctn	Part #	Tension (lbs)	Shear (lbs)	Ultimate Mechanical in Tension (lbs)
1/2"	1-1/2"	3/4"	5/16"	500	CB14H12112	3,600	2,400	18,000
	2"			350	CB14H122	3,600	2,400	18,000
	2-1/2"			300	CB14H12212	3,600	2,400	18,000
	3"			250	CB14H123	3,600	2,400	18,000
	4"			200	CB14H124	3,600	2,400	18,000
	6"			150	CB14H126	3,600	2,400	18,000
3/4"	2"	1-1/8"	1/2"	150	CB14H342	8,000	5,300	40,000
	2-1/2"			150	CB14H34212	8,000	5,300	40,000
	3"			100	CB14H343	8,000	5,300	40,000
	4"			80	CB14H344	8,000	5,300	40,000
	6"			80	CB14H346	8,000	5,300	40,000

- All data is based on a 5:1 SWL for lifting applications. Safety factor can be adjusted to a 3:1 SWL for connections by multiplying the published loads by 5, then dividing by 3.
- Above capacities based upon mechanical testing using 1 x CN-25 coil nut. For coil insert applications proper bolt length must be calculated using "Coil Insert Safety Information and Bolt Selection" criteria on page 91.
- Coil Bolts available in electroplated finish. Add a "P" at the end of the part number to designate electroplated finish.
- Coil thread manufactured per ALP® specification.

FW-11: FLAT WASHER

Flat Washers are manufactured from high carbon flat steel plates and are designed to provide proper bearing conditions. **Standard finish is plain.**

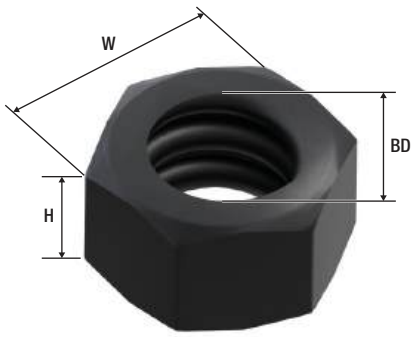


DIMENSIONS

Part #	T	W	L	Bolt Diameter
FW111434B12	1/4"	3"	4"	1/2"
FW111445B34	1/4"	4"	5"	3/4"

CN-13: STANDARD COIL NUT

Standard Coil Nuts are available in 1/2”, 3/4”, 1”, 1-1/4” and 1-1/2” diameters. **Standard finish is plain, some sizes are available plated.**



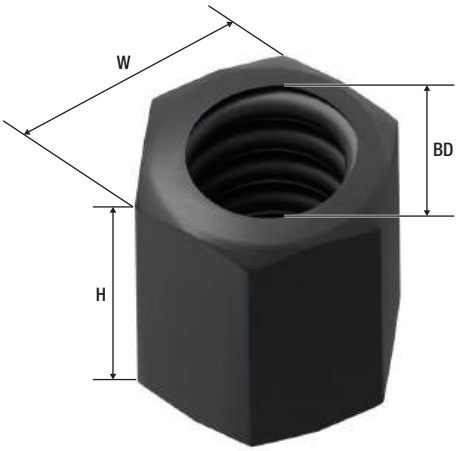
DIMENSIONS AND CAPACITIES

Part #	BD	Threads per Inch (Coil)	W	H	Ultimate Mechanical Capacity (lbs)	Qty/ Ctn	5:1 SWL Tension (lbs) Using (1) CN-13 Nut	5:1 SWL Tension (lbs) Using (2) CN-13 Nuts
CN1312	1/2”	6	7/8”	1/2”	12,000	700	2,400	3,600
CN1334118	3/4”	4-1/2	1-1/8”	5/8”	18,000	350	3,600	7,200
CN1334114	3/4”	4-1/2	1-1/4”	3/4”	24,000	230	4,320	7,200
CN1301	1”	3-1/2	1-5/8”	1”	48,000	100	9,600	15,000
CN13114	1-1/4”	3-1/2	2”	1-1/4”	72,000	50	14,400	22,500
CN13112	1-1/2”	3-1/2	2-3/8”	1-1/2”	95,000	25	19,000	27,000

- To achieve the published safe working loads when using the Standard Coil Nuts on Coil Bolts or Coil Rods, two (2) Standard Coil Nuts tightly locked together are required.
- Above capacities based upon mechanical testing.
- All data is based on a 5:1 SWL for lifting applications. Safety factor can be adjusted to a 3:1 SWL for connections by multiplying the published loads by 5, then dividing by 3.
- Coil Nuts also available in electroplated. Add a “P” at the end of the Part Number to designate electroplated finish.
- Coil thread manufactured per ALP® specification.

CN-25: HEAVY DUTY COIL NUT

Heavy Duty Coil Nuts are available in 1/2”, 3/4”, 1”, 1-1/4” and 1-1/2” diameters. **Standard finish is plain, some sizes are available plated.**



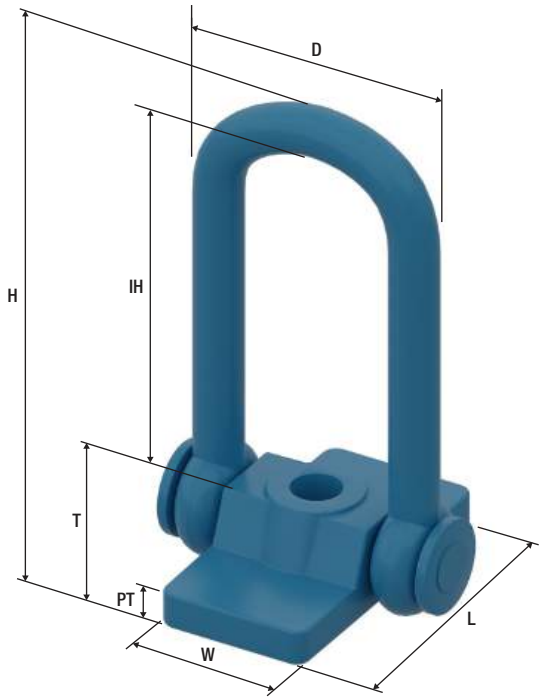
DIMENSIONS AND CAPACITIES

Part #	BD	Threads per Inch (Coil)	W	H	Ultimate Mechanical Capacity (lbs)	Qty/ Ctn	5:1 SWL Tension (lbs)
CN2512	1/2”	6	7/8”	1”	18,000	350	3,600
CN2534118	3/4”	4-1/2	1-1/8”	1-3/16”	36,000	130	7,200
CN2534114	3/4”	4-1/2	1-1/4”	1-1/2”	36,000	150	7,200
CN2501	1”	3-1/2	1-5/8”	2”	75,000	50	15,000
CN25114	1-1/4”	3-1/2	2”	2-1/2”	112,500	25	22,500
CN25112	1-1/2”	3-1/2	2-3/8”	3”	135,000	15	27,000

- All data is based on a 5:1 SWL for lifting applications. Safety factor can be adjusted to a 3:1 SWL for connections by multiplying the published loads by 5, then dividing by 3.
- Above capacities based upon mechanical testing.
- Coil Nuts also available in electroplated. Add a “P” at the end of the Part Number to designate electroplated finish.
- Coil thread manufactured per ALP® specification.

CL-12 SINGLE SWIVEL LIFT PLATE

Manufactured from forged steel and designed for use with single lifting inserts for either face lifting or edge lifting applications. The SWL is achieved provided that it has full bearing on smooth, flat concrete, and a washer installed underneath the bolt head. Note that this Swivel Lifting Plate is designed for use only with 3/4" or 1" bolt diameters.

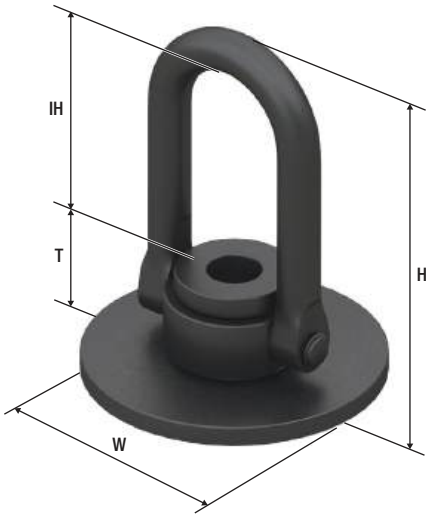


DIMENSIONS AND CAPACITIES

Part #	Bolt Diameter	H	IH	L	W	D	T	PT	Minimum Bolt Length	5:1 SWL (lbs)	Weight (lbs)
CL1234	3/4"	8-1/8"	5-7/8"	5"	2-1/2"	4-1/4"	1-1/2"	9/16"	5"	11,000	5.73
CL1201	1"	8-1/8"	5-7/8"	5"	2-1/2"	4-1/4"	1-1/2"	9/16"	6"	11,000	5.83

CL-26 DOUBLE SWIVEL LIFT PLATE

Lifting Plate will permit rotation of the bail in the direction of the applied load. The bail portion will rotate a full 360° in a horizontal plane and will swivel 180° in a vertical place. Designed for use only with 1", 1-1/4" and 1-1/2" bolt diameters.



DIMENSIONS AND CAPACITIES

Part #	Bolt Diameter	H	IH	W	T	Min. Bolt Length	5:1 SWL (lbs)	Weight (lbs)
CL261	1"	8-1/2"	5-1/2"	5"	1-29/32"	6-1/2"	10,000	8.63
CL26114	1-1/4"	9"	5-1/2"	7"	2-3/8"	7"	15,000	16.94
CL26112	1-1/2"	9"	5-1/2"	7"	2-3/8"	7-1/2"	15,000*	16.79

** Higher capacity swivel lift plate available upon request.*

NOTES

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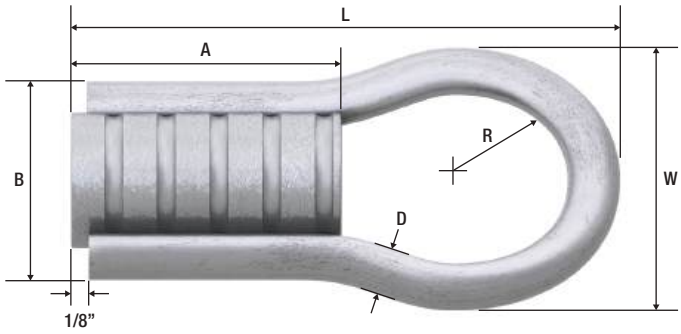
FERRULE INSERTS

FI-42: FLARED LOOP FERRULE INSERT



Fabricated by welding a looped strut to a closed-end ferrule, this versatile insert is commonly used to make structural connections and to suspend pipes and other mechanical equipment. Available in 3/8”, 1/2”, 5/8”, 3/4”, 7/8” and 1” sizes. **Standard finish is plated.**

Plated inserts are not designed for use with hot dip galvanized bolts, due to thread engagement.

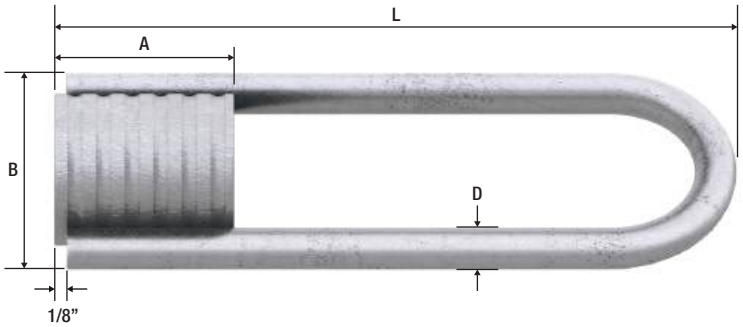
DIMENSIONS AND CAPACITIES

											Capacity in Concrete, 3:1 SWL			
Part #	Bolt Diameter (UNC Thread)	Threads per Inch (UNC)	L	W	A	B	R	D	Ultimate Mechanical Capacity (lbs)	Qty/ Ctn	Min. Edge Distance	Min. Corner Distance	Tension (lbs)	Shear (lbs)
FI4238P	3/8”	16	2-3/4”	1-1/2”	1-1/4”	1-1/16”	1/2”	0.256”	9,000	300	10”	15”	2,000	2,000
FI4212P	1/2”	13	2-3/4”	1-5/8”	1-3/8”	1-3/16”	9/16”	0.256”	9,000	200	7”	10”	2,000	2,000
FI4258P	5/8”	11	3-1/2”	2-1/8”	1-5/8”	1-3/8”	13/16”	0.256”	9,000	100	8”	8”	2,200	2,200
FI4234P	3/4”	10	3-1/2”	2-1/4”	1-5/8”	1-5/8”	13/16”	0.327”	15,000	90	8”	8”	2,200	2,200
FI4278P	7/8”	9	6”	3-3/8”	1-5/8”	2”	1-5/16”	0.375”	18,000	30	10”	15”	5,300	5,300
FI421P	1”	8	6”	3-3/8”	1-5/8”	2-1/8”	1-5/16”	0.375”	18,000	30	10”	15”	5,300	5,300

Plated inserts are not designed for use with hot dip galvanized bolts.

- Table is based on 3,000 psi and 145 PCF concrete.
- Inserts must be set back 1/2” from concrete surface.
- Above capacities are based upon mechanical testing and available industry data.
- Minimum spacing of inserts is 2 x (corner distance).

FI-64: STRAIGHT LOOP FERRULE INSERT



The Straight Loop Ferrule Insert is typically used to attach a precast wall panel to a building frame, as well as to provide attachment of other structural elements that may be required. Available in 1/2”, 5/8”, 3/4” and 1” sizes. **Standard finish is plated.**

Plated inserts are not designed for use with hot dip galvanized bolts, due to thread engagement.

DIMENSIONS AND CAPACITIES

									Capacity in Concrete, 3:1 SWL			
Part #	Bolt Diameter	Threads per Inch (UNC)	L	A	B	D	Ultimate Mechanical Capacity (lbs)	Qty/ Ctn	Min. Edge Distance	Min. Corner Distance	Tension (lbs)	Shear (lbs)
FI64124P	1/2”	13	4-1/8”	1-3/8”	1-1/8”	0.256”	9,000	120	9”	15”	3,000	3,000
FI64126P	1/2”	13	6-1/8”	1-3/8”	1-1/4”	0.327”	14,400	100	9”	12”	4,800	3,410
FI64584P	5/8”	11	4-1/8”	1-5/8”	1-1/4”	0.256”	9,000	120	9”	12”	3,000	3,000
FI64586P	5/8”	11	6-1/8”	1-5/8”	1-5/8”	0.327”	15,000	80	11”	15”	5,000	5,000
FI64344P	3/4”	10	4-1/8”	1-5/8”	1-3/8”	0.327”	15,000	100	9”	12”	3,000	3,000
FI64346P	3/4”	10	6-1/8”	1-5/8”	1-3/4”	0.375”	18,000	75	11”	15”	5,000	5,000
FI6416P	1”	8	6-1/8”	1-5/8”	2-1/8”	0.375”	18,000	50	11”	12”	5,000	5,000

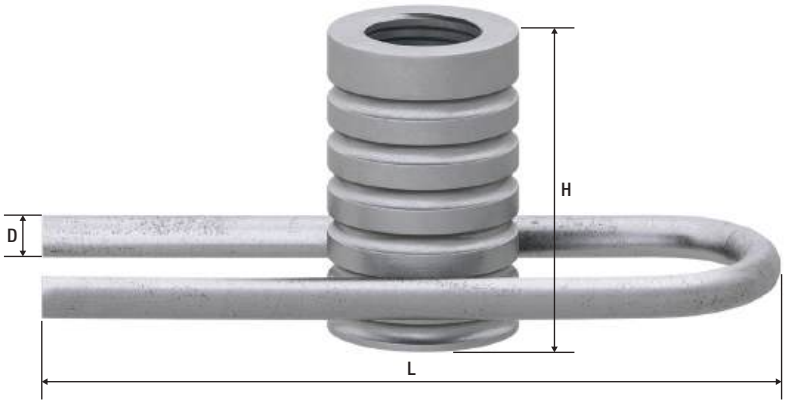
Plated inserts are not designed for use with hot dip galvanized bolts.

- Table is based on 3,000 psi and 145 PCF concrete.
- Inserts must be set back 1/2” from concrete surface.
- Above capacities are based upon mechanical testing and available industry data.
- Minimum spacing of inserts is 2 x (corner distance).

FI-44: THIN SLAB FERRULE INSERT

The Thin Slab Ferrule Insert is designed for use where the depth of embedment is limited and where limited capacity is required in tension. Available in 1/4", 1/2", 5/8" and 3/4" sizes. **Standard finish is plated.**

Plated inserts are not designed for use with hot dip galvanized bolts, due to thread engagement.



DIMENSIONS AND CAPACITIES

Capacity in Concrete, 3:1 SWL

Part #	Bolt Diameter	Threads per Inch (UNC)	H	L	D	Ultimate Mechanical Capacity (lbs)	Qty/Ctn	Tension (lbs)
FI4414P	1/4"	20	1-1/4"	4"	0.256"	1,350	150	450
FI4412P	1/2"	13	1-3/8"	4"	0.256"	2,700	125	900
FI4458P	5/8"	11	1-5/8"	4"	0.256"	3,000	100	1,000
FI4434P	3/4"	10	1-5/8"	4"	0.256"	4,800	90	1,600

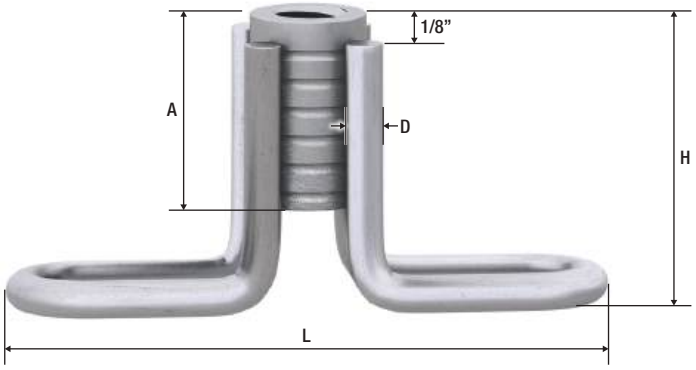
Plated inserts are not designed for use with hot dip galvanized bolts.

- Table is based on 3,000 psi and 145 PCF concrete.
- Inserts must be set back 1/2" from concrete surface.
- Safe Working Load is based on 3,000 psi concrete and insert setback 1/2" from the concrete surface.
- Above capacities are based upon mechanical testing and available industry data.

FI-62: FLARED WING FERRULE INSERT

The Flared Wing Ferrule Insert is another option for use where panel thickness is limited. Insert available in 1/2", 3/4" and 1" bolt diameters and offers better tension loads than other thin slab inserts. **Standard finish is plated.**

Plated inserts are not designed for use with hot dip galvanized bolts, due to thread engagement.



DIMENSIONS AND CAPACITIES

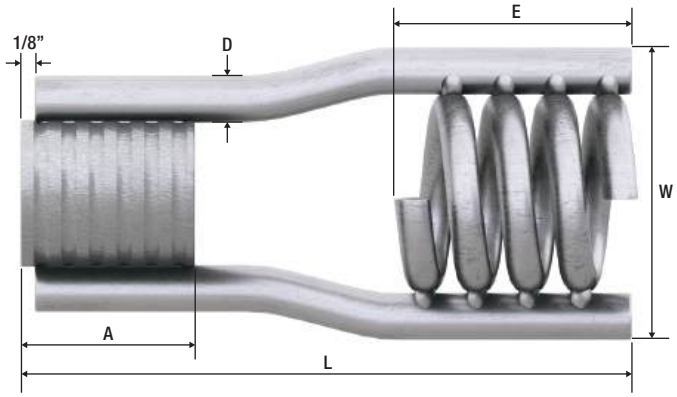
Capacity in Concrete, 3:1 SWL

Part #	Bolt Diameter	Threads per Inch (UNC)	H	L	A	D	Ultimate Mechanical Capacity (lbs)	Qty/Ctn	Min. Edge Distance	Min. Corner Distance	Tension (lbs)	Shear (lbs)
FI6212134P	1/2"	13	1-7/8"	4-1/2"	1-3/8"	0.256"	9,000	100	6"	9"	2,120	2,120
FI62342716P	3/4"	10	2-7/16"	5-1/8"	1-5/8"	0.327"	18,000	40	6"	9"	2,960	2,960
FI6234358P	3/4"	10	3-5/8"	5-1/8"	1-5/8"	0.327"	18,000	30	9"	14"	4,830	4,830
FI6212716P	1"	8	2-7/16"	5-9/16"	1-5/8"	0.327"	18,000	30	6"	9"	3,080	3,080

Plated inserts are not designed for use with hot dip galvanized bolts.

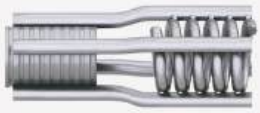
- Table is based on 3,000 psi and 145 PCF concrete.
- Inserts must be set back 1/2" from concrete surface.
- Inserts should have 3/4" minimum clearance off the bottom face to obtain rated loads.
- Above capacities are based upon mechanical testing and available industry data.
- Minimum spacing of inserts is 2 x (corner distance).

FI-57, FI-59, FI-61: EXPANDED COIL, FERRULE INSERT



The Expanded Coil, Ferrule Insert is a high-strength, highly versatile insert available for numerous precast concrete applications. It is available in 3/4", 1", 1-1/4" and 1-1/2" bolt diameters. The insert is constructed with a NC threaded ferrule, shaped struts (two, four or six depending on model) and an expanded wire coil. This efficient design increases the shear cone surface area thus increasing the load capacity of the insert. **Standard finish is plated. Plated inserts are not designed for use with hot dip galvanized bolts, due to thread engagement.**

FI-59: 4 Strut



FI-61: 6 Strut

DIMENSIONS AND CAPACITIES

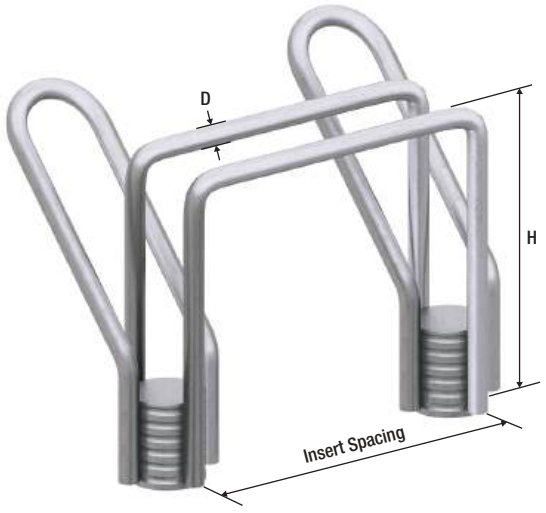
											Capacity in Concrete, 3:1 SWL			
Part #	Bolt Diameter	Threads per Inch (UNC)	L	W	A	# of Struts	D	E	Insert Ultimate Mechanical Capacity (lbs)	Qty/ Ctn	Min. Edge Distance	Min. Corner Distance	Tension (lbs)	Shear (lbs)
FI5734412P	3/4"	10	4-3/4"	2-1/8"	1-5/8"	2	0.375"	1-11/16"	18,000	50	14"	20"	5,890	5,890
FI571512P	1"	8	5-3/4"	2-3/4"	1-5/8"	2	0.440"	2-1/4"	25,000	20	16"	24"	8,100	8,100
FI59114712P	1-1/4"	7	7-3/4"	3"	2-1/2"	4	0.440"	2-7/8"	40,000	10	18"	26"	13,310	13,310
FI61112912P	1-1/2"	6	9-3/4"	3-3/8"	3"	6	0.440"	3-7/8"	60,000	4	22"	30"	18,680	18,680

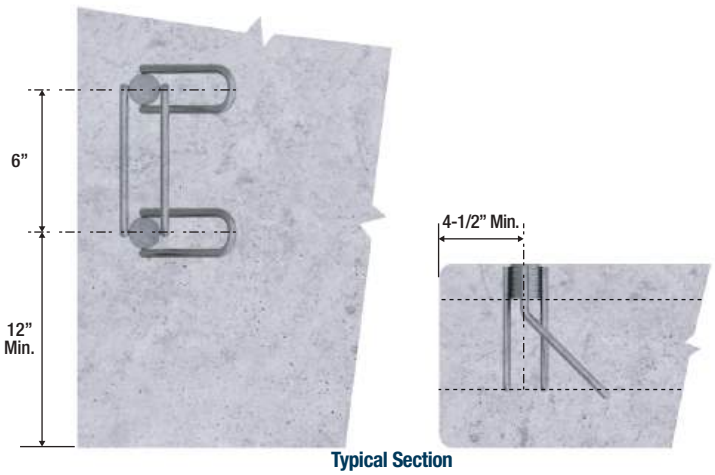
Plated inserts are not designed for use with hot dip galvanized bolts.

- Table is based on 3,000 psi and 145 PCF concrete.
- Inserts must be set back 1/2" from concrete surface.
- Above capacities are based upon mechanical testing and available industry data.
- Minimum spacing of inserts is 2 x (corner distance).

FI-WW: WING WALL ANCHOR

Fabricated for a precast concrete retaining wall which forms a wing wall for a precast concrete culvert unit, the Wing Wall Anchor supports a concrete footing projecting laterally from the wing wall into the back-filled soil behind the wing wall. **Standard finish is plated. Plated inserts are not designed for use with hot dip galvanized bolts, due to thread engagement.**





Typical Section

DIMENSIONS

Part #	Bolt Diameter	Threads per Inch (UNC)	Insert Spacing	H	D	Qty/Crate
FIWW166P	1"	8	6"	6"	0.375"	150
FIWW168P	1"	8	6"	8"	0.375"	130

Plated inserts are not designed for use with hot dip galvanized bolts.

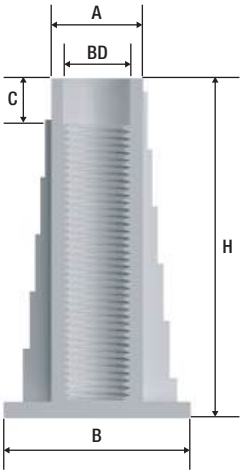
PLASTIC NC THREADED INSERTS

The Plastic UNC Threaded Insert is great for precast concrete elements. Serrated edges effectively increase bonding and tear-out strength.

DIMENSIONS

Part #	BD	H	A	B (Shape)	C
PAI014	1/4”	1-1/4”	3/8”	3/4” (OCT)	1/4”
PAI38	3/8”	1-1/2”	1/2”	7/8” (OCT)	5/16”
PAI012	1/2”	2-1/2”	11/16”	1-1/8” (HEX)	3/8”
PAI58	5/8”	3”	13/16”	1-5/16” (HEX)	7/16”
PAI34	3/4”	3-1/4”	15/16”	1-3/8” (HEX)	1/2”
PAI1	1”	3-3/4”	1-3/16”	1-11/16” (CIRC)	5/8”

Plastic inserts are not designed for use with hot dip galvanized bolts.



TAP-ON LOCATOR PLUG

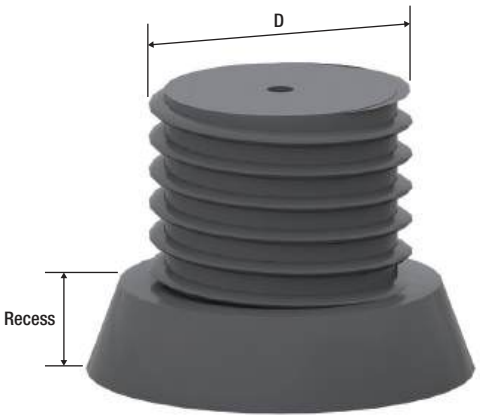
For use with plastic UNC Threaded Inserts. These are nailed to a wooden form to position the plastic UNC Threaded Insert prior to pouring.

DIMENSIONS

Part #	Bolt Diameter
PAT038	3/8”
PAT012	1/2”
PAT058	5/8”
PAT034	3/4”
PAT01	7/8”

FP-74, FP-75: UNC THREADED PLASTIC PLUGS

The UNC Threaded Plastic Plug is used as a setting plug and for thread protection. This is an excellent and economical way to attach Ferrule/UNC Threaded Inserts to the form.



DIMENSIONS

Part #	D	Recess	W	Qty/Ctn
FP7438	3/8”	1/4”	1-1/16”	3,000
FP7412	1/2”	1/4”	1-1/16”	4,000
FP7458	5/8”	1/4”	1-1/16”	4,000
FP7434	3/4”	1/4”	1-1/16”	2,100
FP7478	7/8”	1/4”	1-1/16”	2,400
FP7401	1”	1/4”	1-1/16”	1,400
FP7512	1/2”	1/2”	1-1/8”	3,000
FP7558	5/8”	1/2”	1-1/8”	2,700
FP7534	3/4”	1/2”	1-1/8”	2,700
FP7578	7/8”	1/2”	1-1/8”	2,500
FP7501	1”	1/2”	1-1/8”	2,250

* FP75 is only available in full carton quantities

FP-45: PLASTIC CAP PLUGS

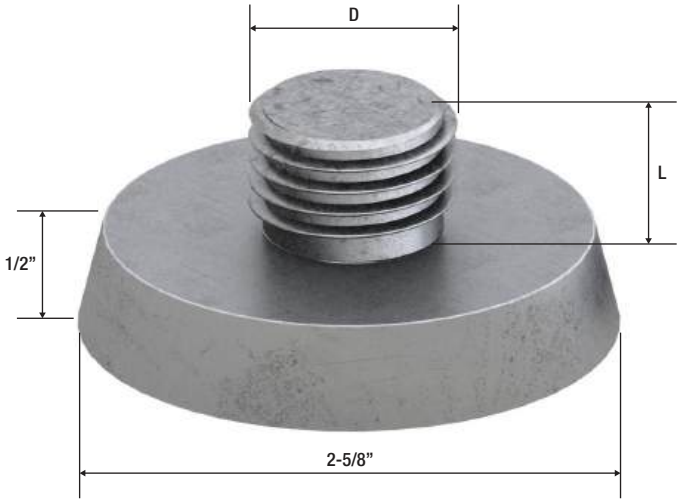
The Plastic Cap Plug is used for protecting UNC Threaded Inserts from filling up with concrete or water. Simply place the insert onto the cap and press. Available in 3/8”, 1/2”,5/8”, 3/4”, 7/8”, 1”, and 1-1/4” diameters.

DIMENSIONS

Part #	Insert Diameter
FP4538	3/8”
FP4512	1/2”
FP4558	5/8”
FP4534	3/4”
FP4578	7/8”
FP451	1”
FP45114	1-1/4”

MAGNETIC FERRULE INSERT LOCATORS

Magnetic Insert Locators are used to mount UNC Threaded Inserts to a steel form instead of drilling holes. Magnets are removed from the concrete using a 1/2” drive ratchet. Available in 1/4”, 3/8”, 1/2”, 5/8”, 3/4”, 7/8”, 1”, 1-1/8” and 1-1/4” diameters.



Use 1/2” drive ratchet for removal from concrete

DIMENSIONS

Part #	D	L
TKFMB250	1/4”	1/2”
TKFMB375	3/8”	1/2”
TKFMB500	1/2”	3/4”
TKFMB625	5/8”	3/4”
TKFMB750	3/4”	3/4”
TKFMB875	7/8”	3/4”
TKFMB1000	1”	3/4”
TKFMB1125	1-1/8”	2”
TKFMB1250	1-1/4”	2”

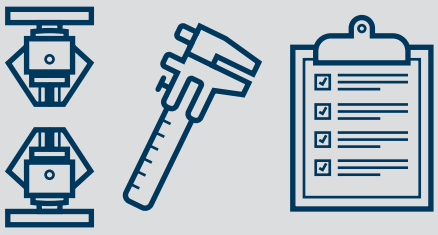
- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

NOTES

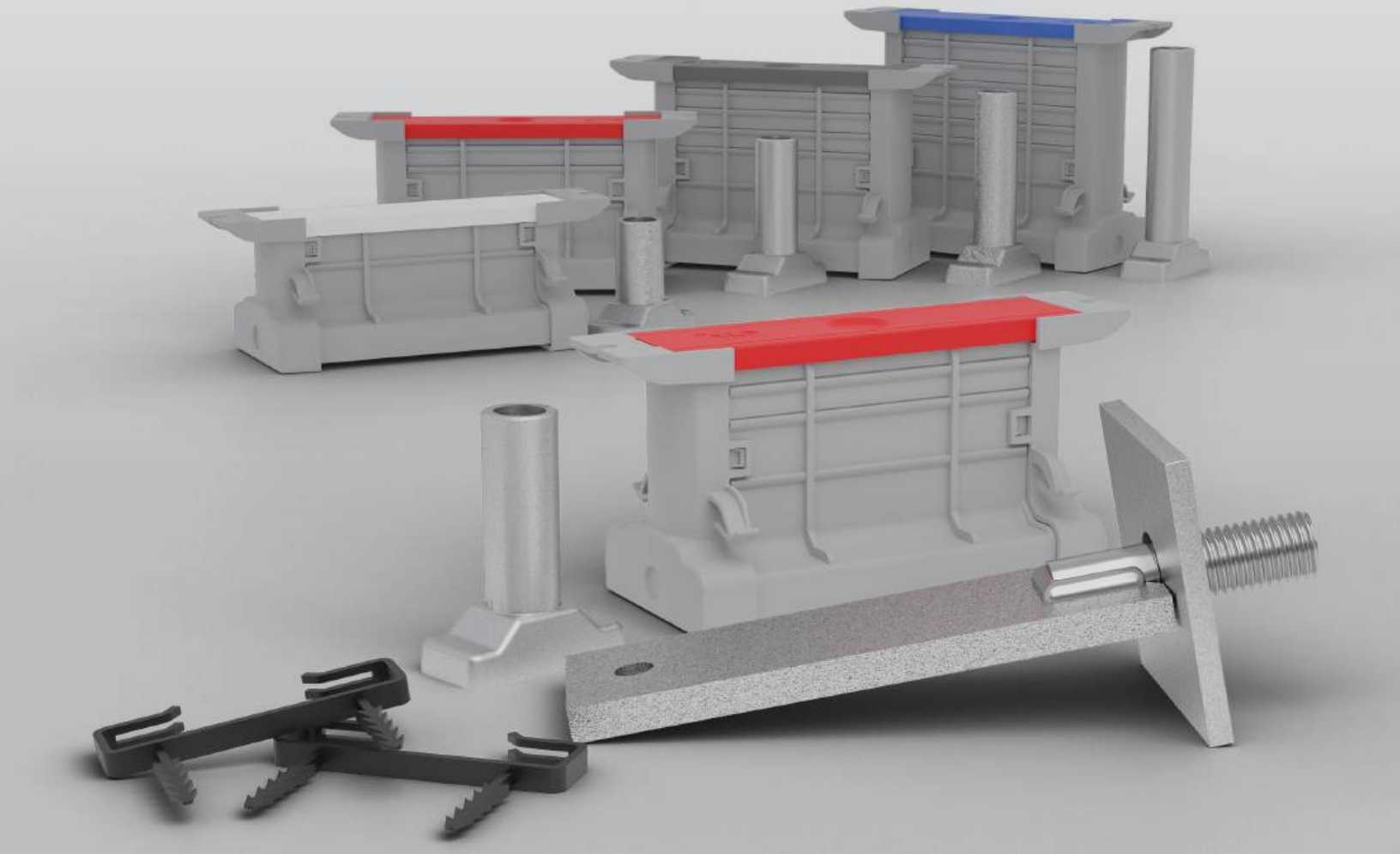
DID YOU KNOW?

At ALP Supply, safety is our number one priority. Our Quality Control Team rigorously tests ALP brand products throughout the manufacturing process.

Learn more at **alpsupply.com**.



TECH SLOT® INSERTS

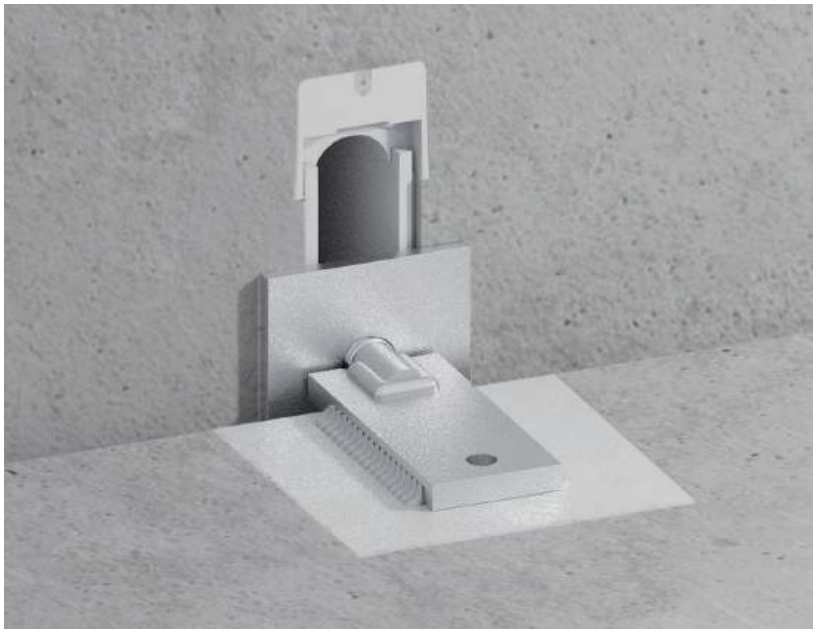


PATENTED

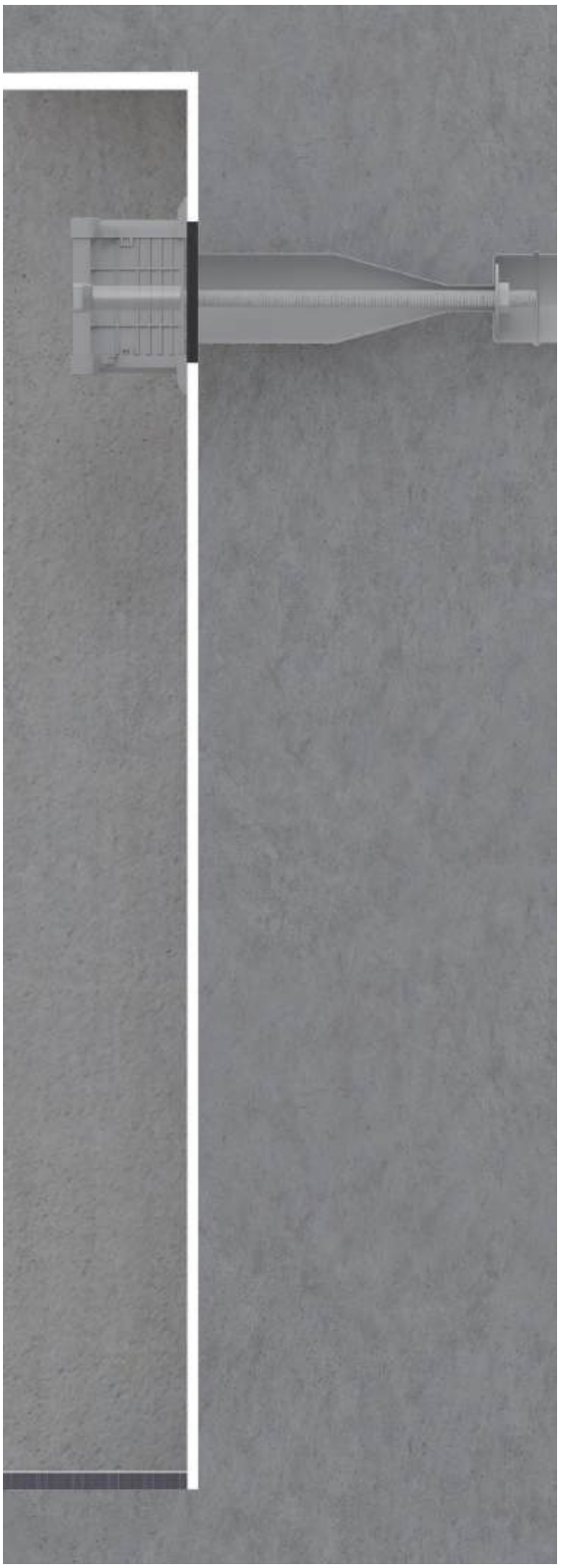
US Patent No: US 10,024,051 B2
Canada Patent No: CA 3,003,657

ALP® TECH SLOT® INSERTS TENSION APPLICATIONS

Panel to Steel Column Connection



Panel to Floor Connection

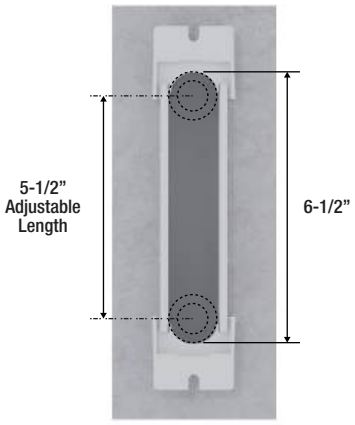


Spandrel to Concrete Column Connection

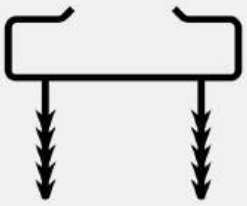
ALP® TECH SLOT® INSERTS

The ALP Tech Slot Inserts are designed to provide an adjustable and high capacity tieback for precast panel connections to framing systems. Tech Slots are manufactured with an all plastic body and comes preassembled with a steel T-Nut that slides inside the plastic body for tolerances in the field. The T-Nut utilizes standard 3/4-10 UNC thread, which can be used with ALP Straps, all-thread, or bolts. Engineers must select the grade of all-thread or bolt that meets the requirements of the application. Tech Slot Inserts were designed and tested to be utilized in both insulated and non-insulated wall panels. **Standard T-Nut Finish is Plated.**

*Lid must stay on when pouring concrete to prevent bowing during the curing process.



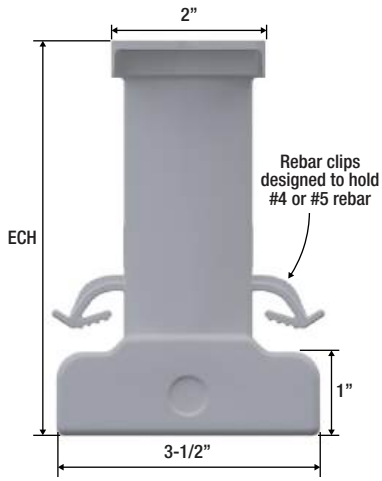
(2) T-Nuts shown for illustration purposes only



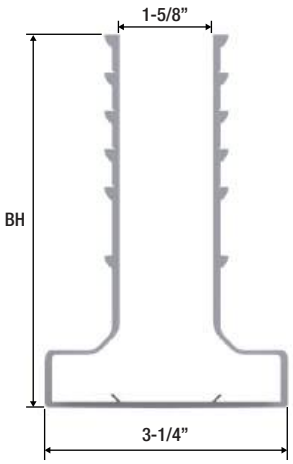
TSFP
Foam Pins clip to base of the Tech Slot Body.

DIMENSIONS

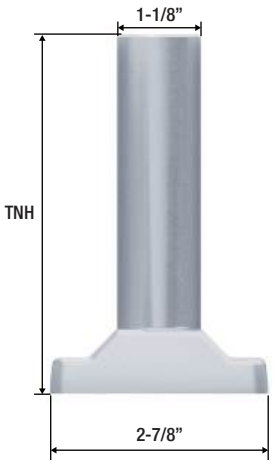
Part #	Description	BH - Body Height	ECH - End Cap Height	TNH - T-Nut Height	BD - Bolt Diameter	Threads Per Inch (UNC)	Cap Color	T-Nut Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Ctn	Qty/ Pallet
TSI63-34NP	TSI-63	3"	3-1/8"	2-3/4"	3/4"	10	White	38,000	1.33	18	864
TSI64-34NP	TSI-64	4"	4-1/8"	3-3/4"	3/4"	10	Red	38,000	1.68	18	720
TSI65-34NP	TSI-65	5"	5-1/8"	4-3/4"	3/4"	10	Black	38,000	2.05	18	576
TSI66-34NP	TSI-66	6"	6-1/8"	5-3/4"	3/4"	10	Blue	38,000	2.39	18	432



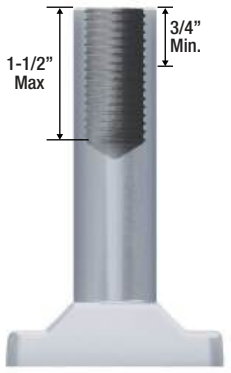
Plastic End Cap



Plastic Body

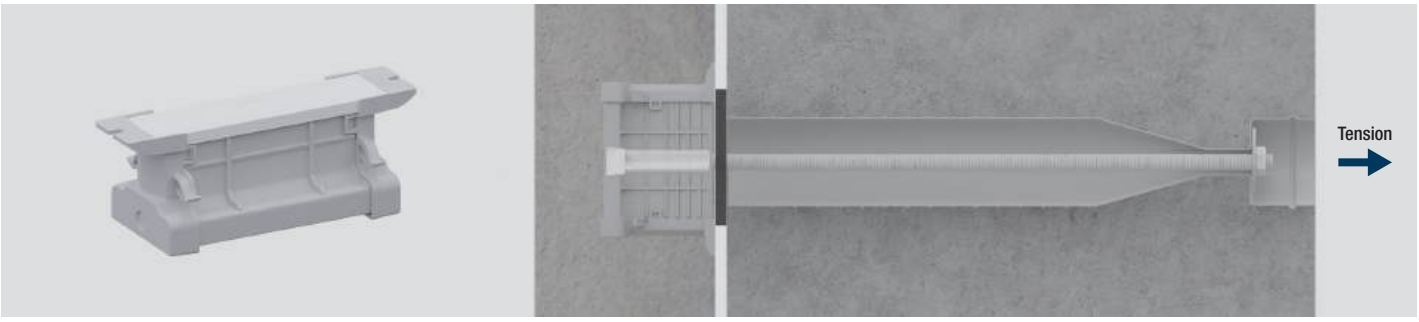


Steel T-Nut

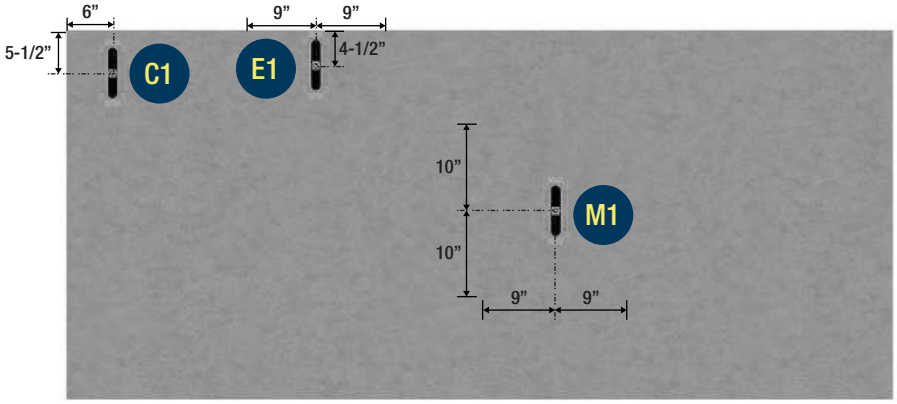


Steel T-Nut Thread Engagement

TSI63 - ALP® TECH SLOT® INSERTS (TENSION)



Dimensions shown are minimum edge distances for insert location and concrete breakout, which can be used in either vertical or horizontal orientations



CAPACITIES - TSI63 - 3” HEIGHT

		5,000 psi			6,000 psi			Max Capacity					
Insert Location	Required Reinforcement*	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	psi	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	# of Tests	Failure Mode
M1	None	9,574	8,508	940	10,488	9,320	1,030	7,000	11,328	10,067	1,112	3	MSC
	#5 x 24” Rebar**	13,518	12,469	646	N/A	N/A	N/A	5,000	13,518	12,469	646	5	MSC
E1	None	6,956	6,664	283	7,620	7,300	310	6,848	8,141	7,799	331	3	ESC
C1	Corner Bars	7,759	7,474	253	8,499	8,187	277	6,006	8,503	8,191	277	4	CSC

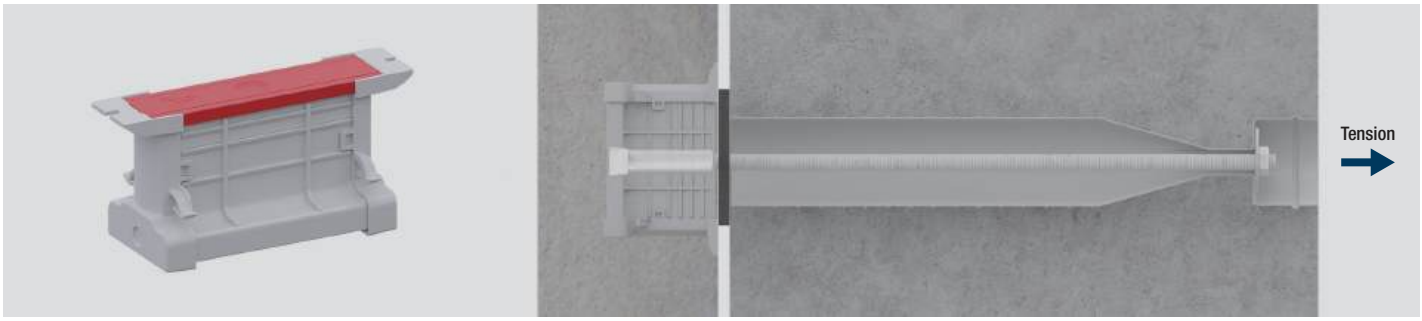
*Refer to Reinforcement Detail page for more information

- 1/4” x 3” x 3” (minimum) washer required for published shear capacities and compression applications
- To ensure sufficient thread engagement, all thread should be turned clockwise until bottoming out inside the T-Nut
- Insert Capacity is based upon T-Nut location that yields the lowest capacity for the application.
- Minimum solid panel thickness is 4”. For insulated wall panels, insert can sit directly on insulation with a minimum 3” wythe thickness

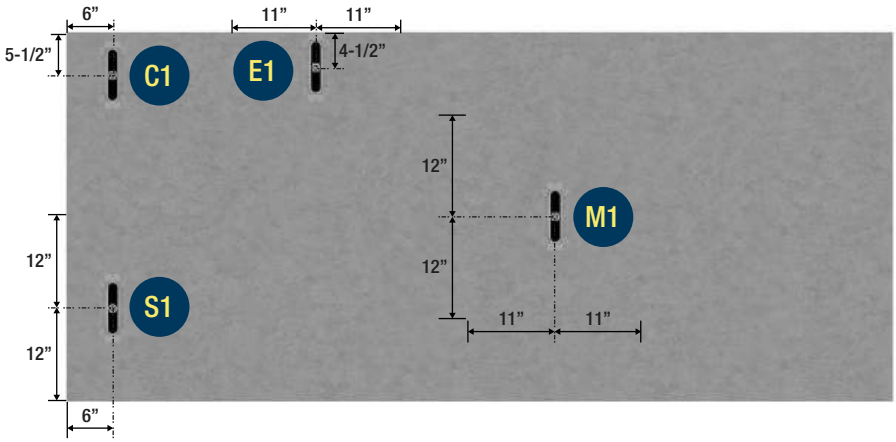
**Minimum edge distances should be adjusted to provide required concrete coverage

- Published values based upon unreinforced concrete, unless noted otherwise
- Tension Values for M1 can be used in applications that sits directly on styrofoam or minimum 1” clear concrete below
- All load values, other than M1, require minimum 1” clear concrete below insert bottom
- Average Ultimate loads above should be reduced by either 5% fractile method or 2 standard deviations for 5 tests or greater or 3 standard deviations for less than 5 tests.
- Other testing values may be available upon request

TSI64 - ALP® TECH SLOT® INSERTS (TENSION)



Dimensions shown are minimum edge distances for insert location and concrete breakout, which can be used in either vertical or horizontal orientations



CAPACITIES - TSI64 - 4" HEIGHT

		5,000 psi			6,000 psi			Max Capacity					
Insert Location	Required Reinforcement*	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	psi	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	# of Tests	Failure Mode
M1	None	19,075	16,462	2,348	20,895	18,033	2,572	7,000	22,569	19,478	2,778	4	MSC
	#5 x 24" Rebar**	19,380	17,021	2,147	21,230	18,646	2,352	7,000	22,931	20,140	2,540	8	MSC
S1	Trim Bar	18,549	18,549	N/A	N/A	N/A	N/A	5,000	18,549	18,549	N/A	1	SSC
E1	None	10,347	9,428	796	11,334	10,328	872	6,848	12,109	11,034	931	3	ESC
C1	Corner Bars	12,456	11,666	686	13,645	12,779	751	6,006	13,651	12,786	752	3	CSC

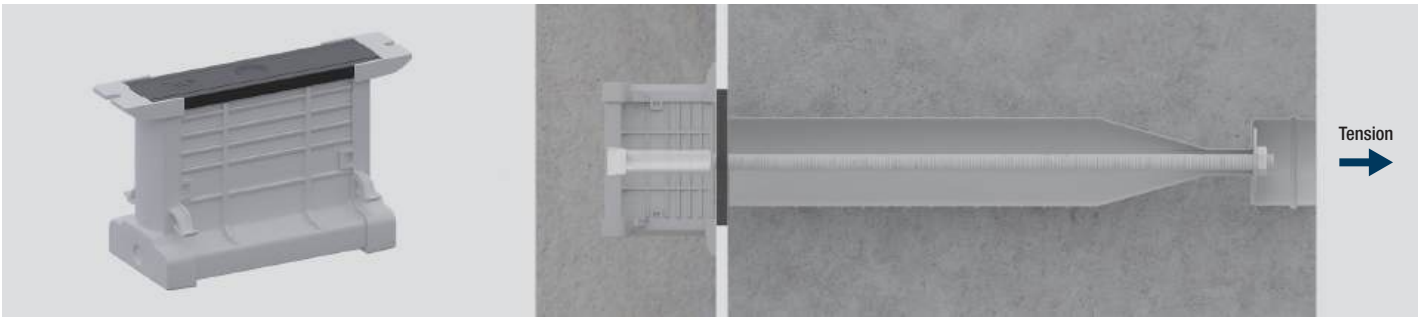
*Refer to Reinforcement Detail page for more information

- 1/4" x 3" x 3" (minimum) washer required for published shear capacities and compression applications
- To ensure sufficient thread engagement, all thread should be turned clockwise until bottoming out inside the T-Nut
- Insert Capacity is based upon T-Nut location that yields the lowest capacity for the application.
- Minimum solid panel thickness is 5". For insulated wall panels, insert can sit directly on insulation with a minimum 4" wythe thickness
- Published values based upon unreinforced concrete, unless noted otherwise

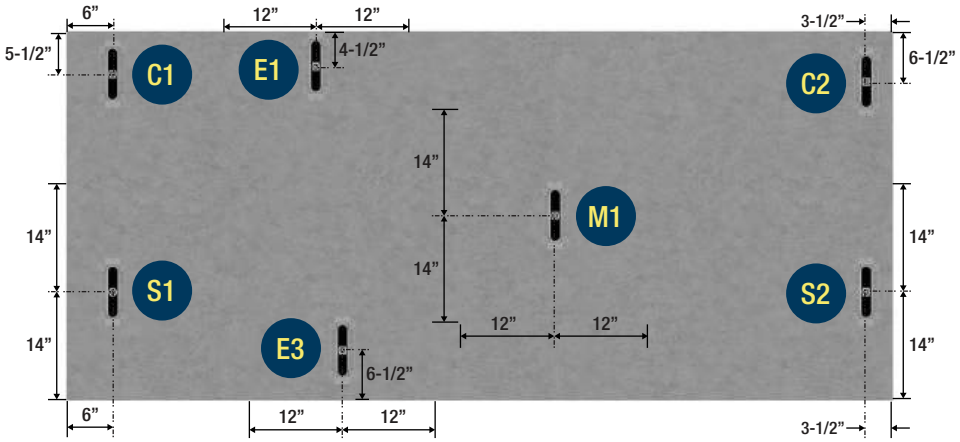
**Minimum edge distances should be adjusted to provide required concrete coverage

- Tension Values for M1 can be used in applications that sits directly on styrofoam or minimum 1" clear concrete below
- All load values, other than M1, require minimum 1" clear concrete below insert bottom
- Average Ultimate loads above should be reduced by either 5% fractile method or 2 standard deviations for 5 tests or greater or 3 standard deviations for less than 5 tests.
- Other testing values may be available upon request

TSI65 - ALP® TECH SLOT® INSERTS (TENSION)



Dimensions shown are minimum edge distances for insert location and concrete breakout, which can be used in either vertical or horizontal orientations



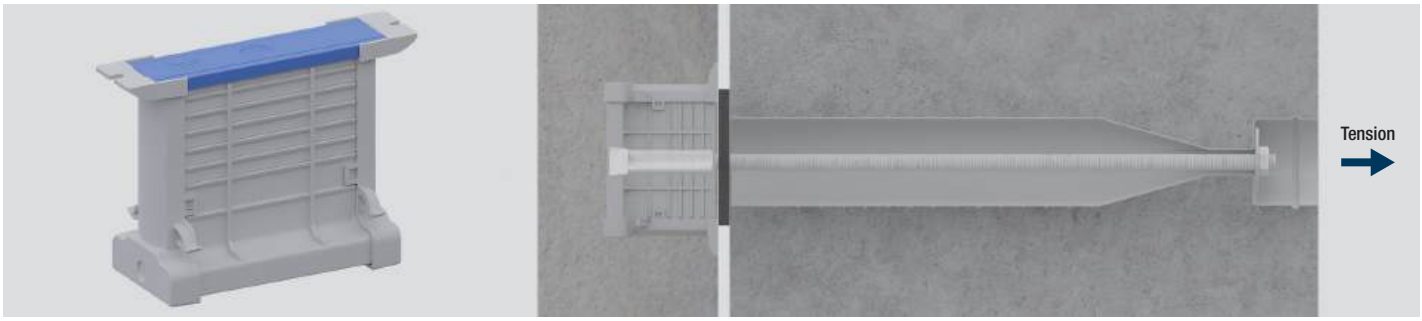
CAPACITIES - TSI65 - 5” HEIGHT

		5,000 psi			6,000 psi			Max Capacity					
Insert Location	Required Reinforcement*	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	psi	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	# of Tests	Failure Mode
M1	None	24,023	21,851	1,891	26,316	23,937	2,071	7,000	28,424	25,854	2,237	3	MSC
S1	Trim Bar	23,678	23,678	N/A	N/A	N/A	N/A	5,000	23,678	23,678	N/A	1	SSC
S2	None	17,055	16,280	591	N/A	N/A	N/A	5,547	17,964	17,147	623	4	SSC
E1	None	13,798	12,823	847	15,115	14,047	928	6,941	16,257	15,108	998	4	ESC
E3	None	22,552	22,082	530	N/A	N/A	N/A	5,547	23,754	23,259	559	3	ESC
C1	Corner Bars	16,807	15,222	1,470	18,411	16,674	1,610	6,006	18,420	16,683	1,611	3	CSC
C2	None	13,979	12,450	1,404	N/A	N/A	N/A	5,547	14,724	13,113	1,479	4	CSC

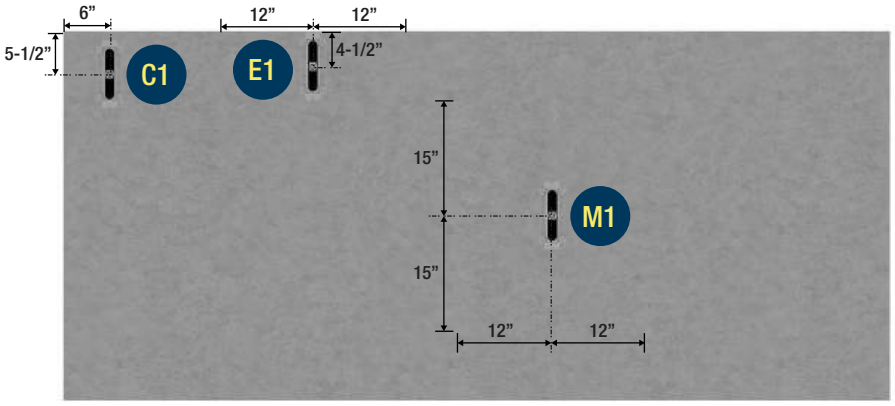
*Refer to Reinforcement Detail page for more information

- 1/4” x 3” x 3” (minimum) washer required for published shear capacities and compression applications
- To ensure sufficient thread engagement, all thread should be turned clockwise until bottoming out inside the T-Nut
- Insert Capacity is based upon T-Nut location that yields the lowest capacity for the application.
- Minimum solid panel thickness is 6”. For insulated wall panels, insert can sit directly on insulation with a minimum 5” wythe thickness
- Published values based upon unreinforced concrete, unless noted otherwise
- Tension Values for M1 can be used in applications that sits directly on styrofoam or minimum 1” clear concrete below
- All load values, other than M1, require minimum 1” clear concrete below insert bottom
- Average Ultimate loads above should be reduced by either 5% fractile method or 2 standard deviations for 5 tests or greater or 3 standard deviations for less than 5 tests.
- Other testing values may be available upon request

TSI66 - ALP® TECH SLOT® INSERTS (TENSION)



Dimensions shown are minimum edge distances for insert location and concrete breakout, which can be used in either vertical or horizontal orientations



CAPACITIES - TSI66 - 6" HEIGHT

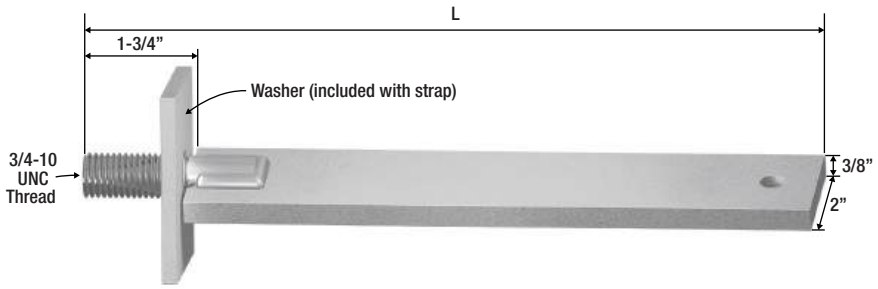
		5,000 psi			6,000 psi			Max Capacity					
Insert Location	Required Reinforcement*	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	psi	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	# of Tests	Failure Mode
M1	None	29,510	27,492	1,852	32,327	30,116	2,029	6,000	32,327	30,116	2,029	3	MSC
E1	None	18,259	17,294	877	20,001	18,944	960	6,941	21,513	20,376	1,033	3	ESC
C1	Corner Bars	18,419	15,917	3,096	20,177	17,436	3,392	6,006	20,187	17,445	3,393	3	CSC

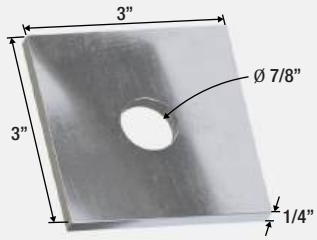
*Refer to Reinforcement Detail page for more information

- 1/4" x 3" x 3" (minimum) washer required for published shear capacities and compression applications
- To ensure sufficient thread engagement, all thread should be turned clockwise until bottoming out inside the T-Nut
- Insert Capacity is based upon T-Nut location that yields the lowest capacity for the application.
- Minimum solid panel thickness is 7". For insulated wall panels, insert can sit directly on insulation with a minimum 6" wythe thickness
- Published values based upon unreinforced concrete, unless noted otherwise
- Tension Values for M1 can be used in applications that sits directly on styrofoam or minimum 1" clear concrete below
- All load values, other than M1, require minimum 1" clear concrete below insert bottom
- Average Ultimate loads above should be reduced by either 5% fractile method or 2 standard deviations for 5 tests or greater or 3 standard deviations for less than 5 tests.
- Other testing values may be available upon request

ALP® TECH SLOT® THREADED STRAPS

The ALP Tech Slot Threaded Strap connects the Tech Slot Insert to the framing system to provide for shear and tension design loads. Strap is threaded into the insert until flush against washer then turned back counter clockwise until strap is flat. Then strap is welded to the framing system or embed. Available in 4 lengths for various field requirements. ALP Threaded Straps should only be used with the ALP Tech Slot Inserts. **Standard Finish is Plated.**





TSW1433P
Tech Slot Washer available separately

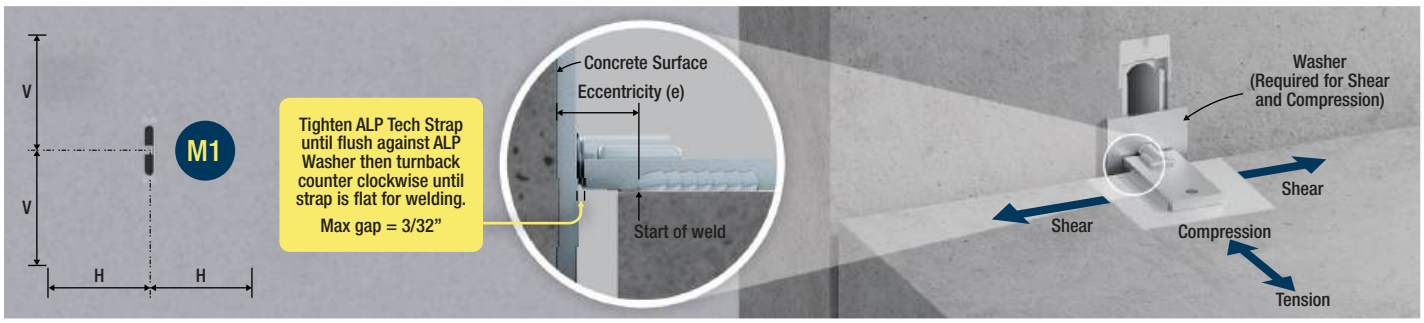
DIMENSIONS

Part #	L	Finish	Ultimate Mechanical in Tension (lbs)	Qty/Ctn	Weight (lbs)
TSS6N34WP	6-1/4"	Plated	38,000	24	1.93
TSS8N34WP	8-1/4"	Plated	38,000	20	2.38
TSS10N34WP	10-1/4"	Plated	38,000	16	2.84
TSS12N34WP	12-1/4"	Plated	38,000	14	3.28

MATERIAL PROPERTIES

	Min. Yield (KSI)	Min. Ult. (KSI)	Min. Elongation
Strap	50	68	20%
Stud	120	140	12%

ALP® TECH SLOT® INSERTS AND STRAPS (SHEAR)

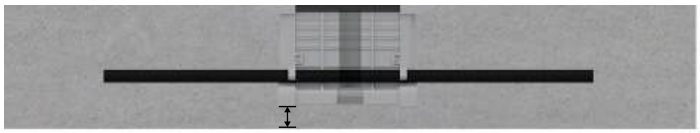


SHEAR CAPACITIES - M1 LOCATION

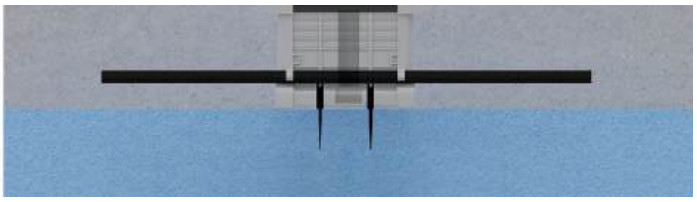
Insert	Loading (Shear) Eccentricity	Max Mechanical Capacity: Ultimate Average (lbs)	Max Mechanical Capacity: Standard Dev. (lbs)	Max Mechanical Capacity: # of Tests	Capacity in Concrete (5,000 psi): Ultimate Average (lbs)	Capacity in Concrete (5,000 psi): Standard Dev. (lbs)	Capacity in Concrete (5,000 psi): # of Tests	Edge Distances H	Edge Distances V
TSI63	1” e	21,488	3,085	5	14,034	N/A	1	11-1/2”	11-1/2”
	3” e	15,753	834	5	13,318	254	3		
TSI64	1” e	21,488	3,085	5	17,743	473	3	13”	13”
	3” e	15,753	834	5	13,318	254	3		
TSI65	1” e	21,488	3,085	5	17,743	473	3	13”	13”
	3” e	15,753	834	5	13,318	254	3		
TSI66	1” e	21,488	3,085	5	17,743	473	3	13”	13”
	3” e	15,753	834	5	13,318	254	3		

- 1/4” x 3” x 3” (min.) washer required for published shear capacities and compression loading applications.
- Insert Capacity is based upon T-Nut location that yields the lowest capacity for the application.
- Shear edge distances are based upon a minimum slab thickness of 8” unreinforced concrete.
- Shear capacities and edge distances for concrete sections with less than 8” thicknesses must be adjusted per ACI 318 edge shear calculations.
- For eccentricity between 1” and 3”, linear regression calculation equations can be used.
- Average Ultimate loads above should be reduced by either 5% fractile method or 2 standard deviations for 5 tests or greater or 3 standard deviations for less than 5 tests. Engineer shall use either mechanical or concrete capacities based on worst-case calculations.
- After ultimate loads are reduced, a strength reduction factor must be applied to arrive at the design capacity.

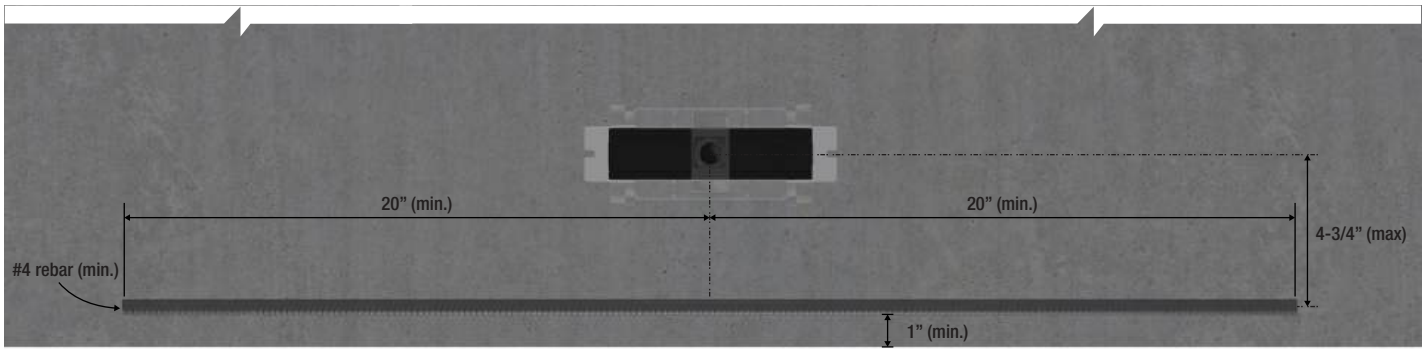
ALP® TECH SLOT® INSERTS - REINFORCEMENT DETAILS



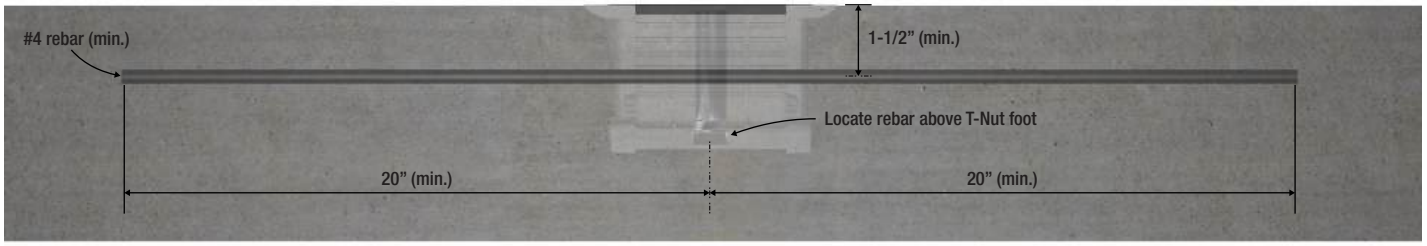
M1 (2) #5 x 24” Rebar



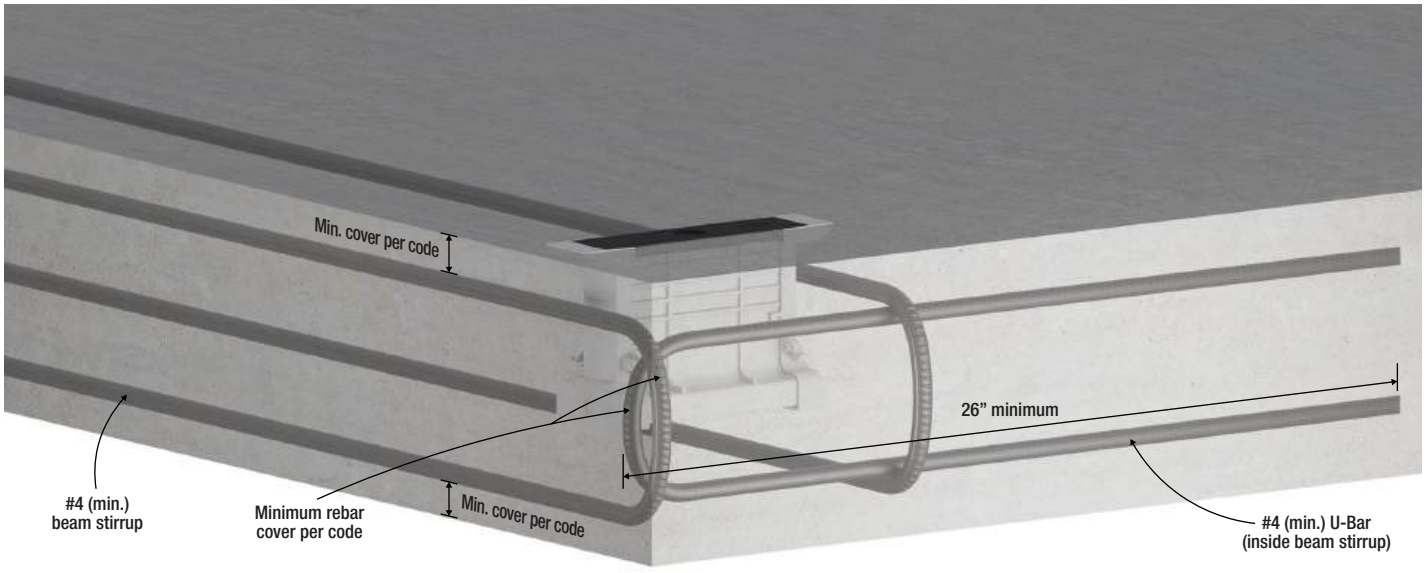
M1 (2) #5 x 24” Rebar on Insulation



S1 Trim Bar Detail (Plan View)

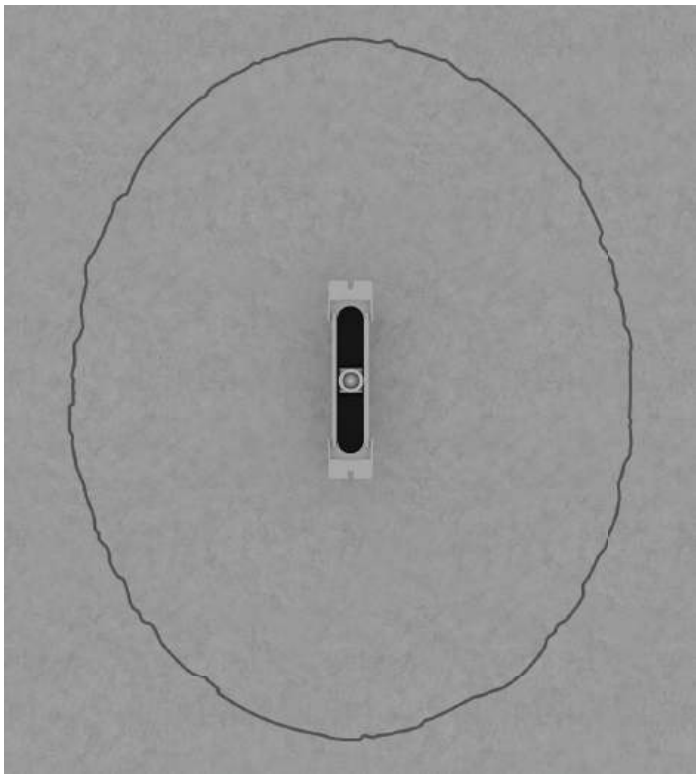


S1 Trim Bar Detail (Side View)

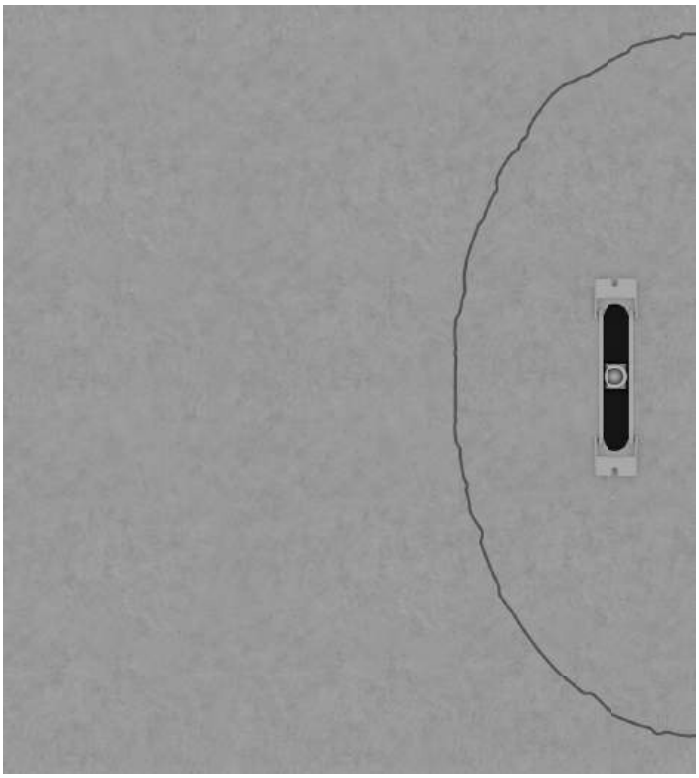


C1 Corner Bars Detail

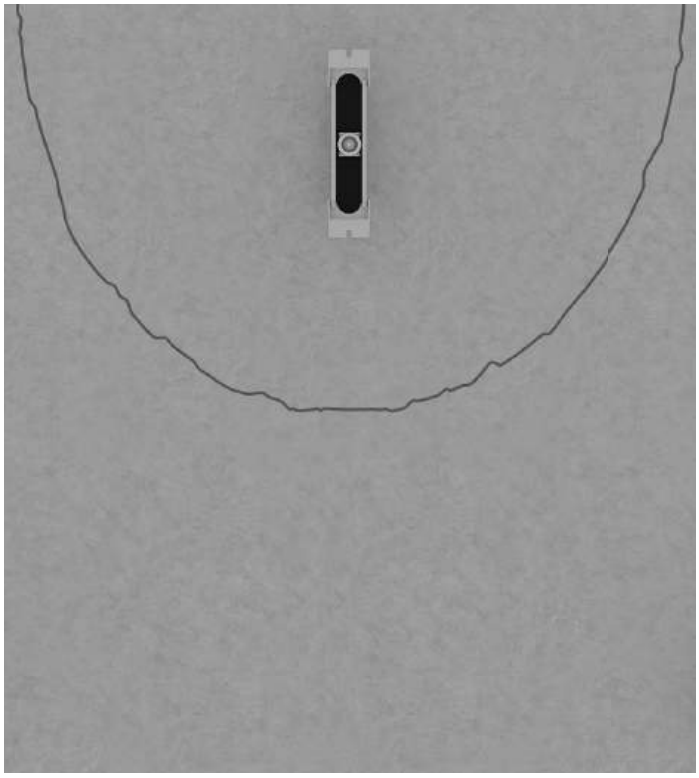
ALP® TECH SLOT® INSERTS - FAILURE MODES



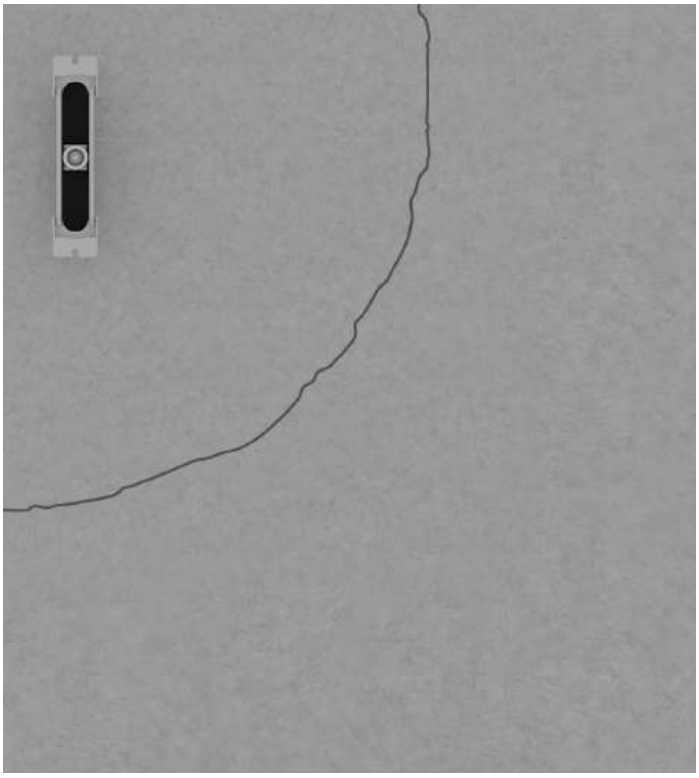
MSC - Middle Shear Cone



SSC - Side Shear Cone

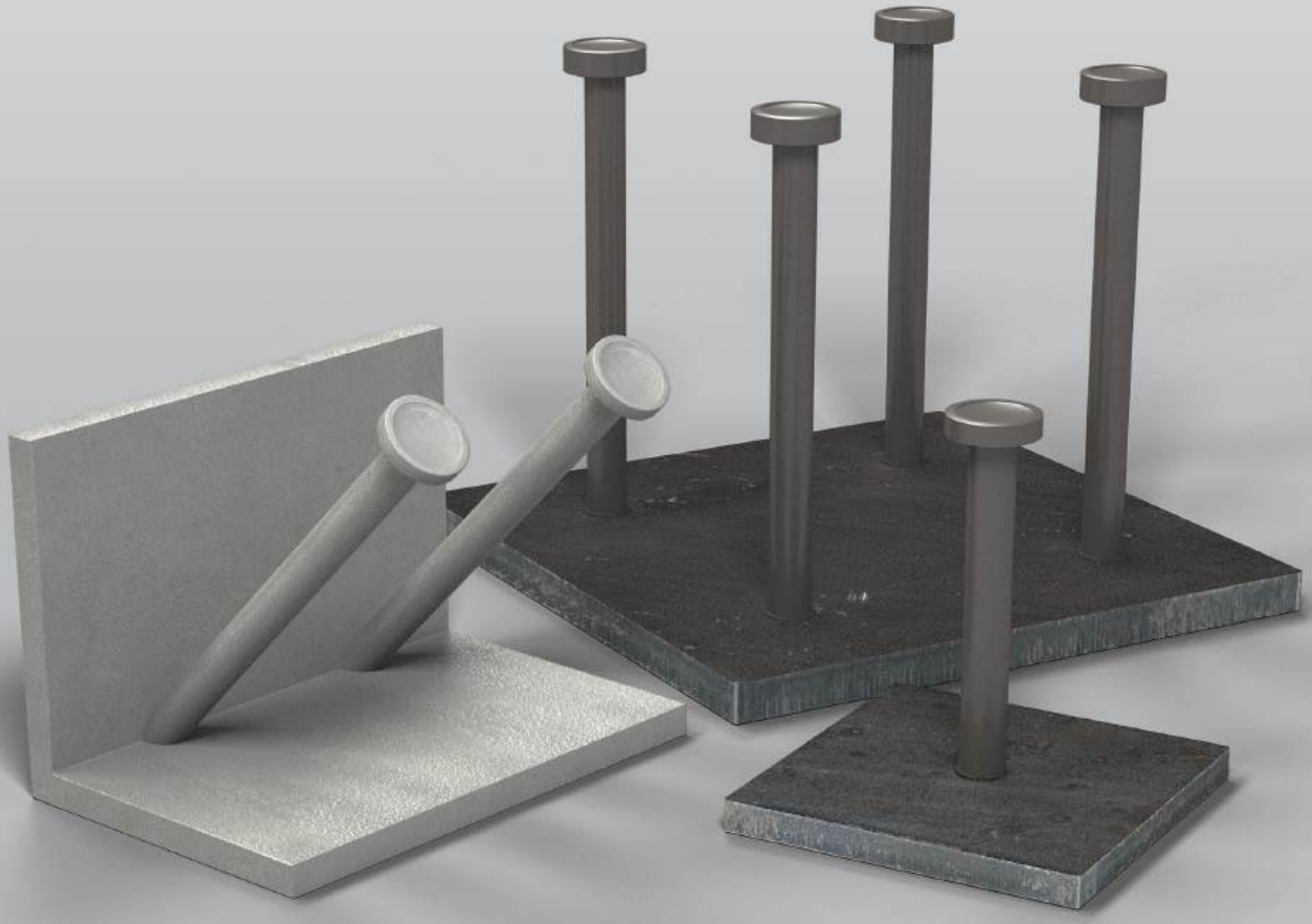


ESC - Edge Shear Cone



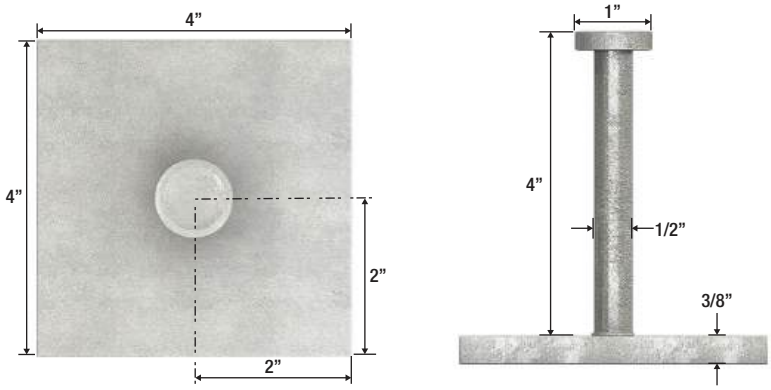
CSC - Corner Shear Cone

EMBED AND WELD PLATES



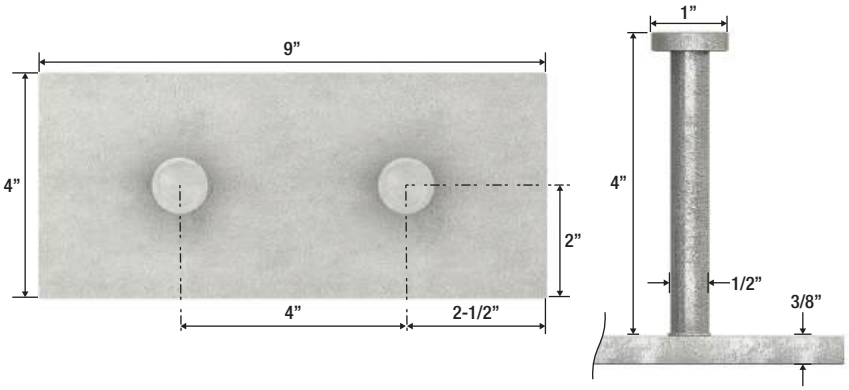
STOCKED EMBED AND WELD PLATES

4” x 4” with 4” Stud



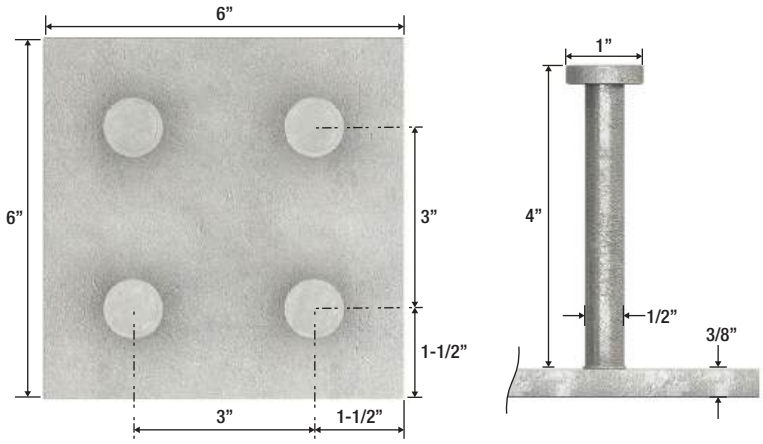
Part #	Weight (lbs)	Finish
EPS44B14	1.94	Plain
EPS44B14G	1.94	HDG

4” x 9” with (2) 4” Studs



Part #	Weight (lbs)	Finish
EPS49B24	4.30	Plain
EPS49B24G	4.30	HDG

6” x 6” with (4) 4” Studs

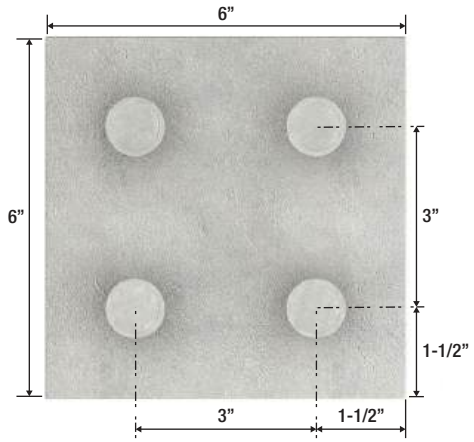


Part #	Weight (lbs)	Finish
EPS66B44	4.76	Plain
EPS66B44G	4.76	HDG

STOCKED EMBED AND WELD PLATES

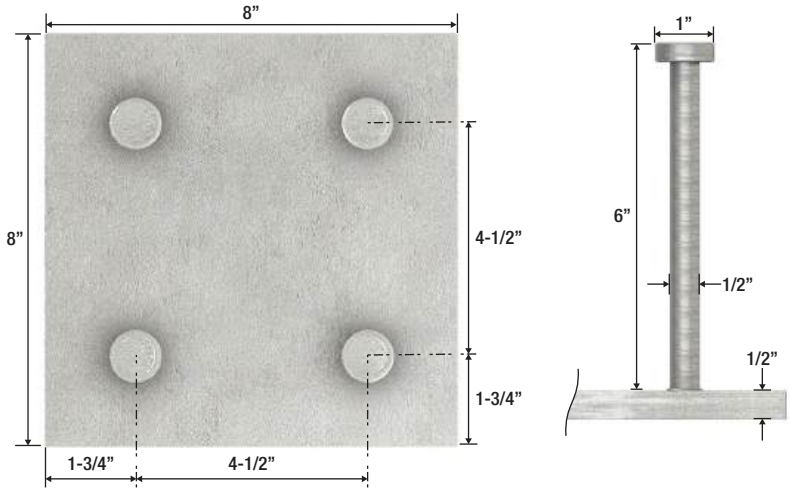
6” x 6” with (4) 6” Studs

Part #	Weight (lbs)	Finish
EPS66B46	5.23	Plain
EPS66B46G	5.23	HDG



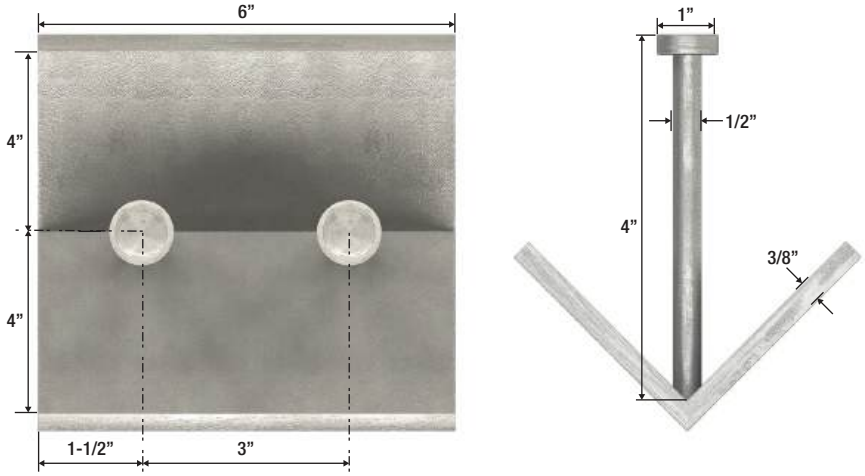
8” x 8” with (2) 6” Studs

Part #	Weight (lbs)	Finish
EPS88C46	10.65	Plain
EPS88C46G	10.65	HDG



Angled 4” x 4” x 6” with (2) 4” Studs

Part #	Weight (lbs)	Finish
EPSA446B26	5.57	Plain
EPSA446B26G	5.57	HDG



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- **Cost-Effective:** Avoid the hidden costs of in-house manufacturing. With ALP Supply, you get high-quality weld plates and embeds at fixed, budget-friendly prices.
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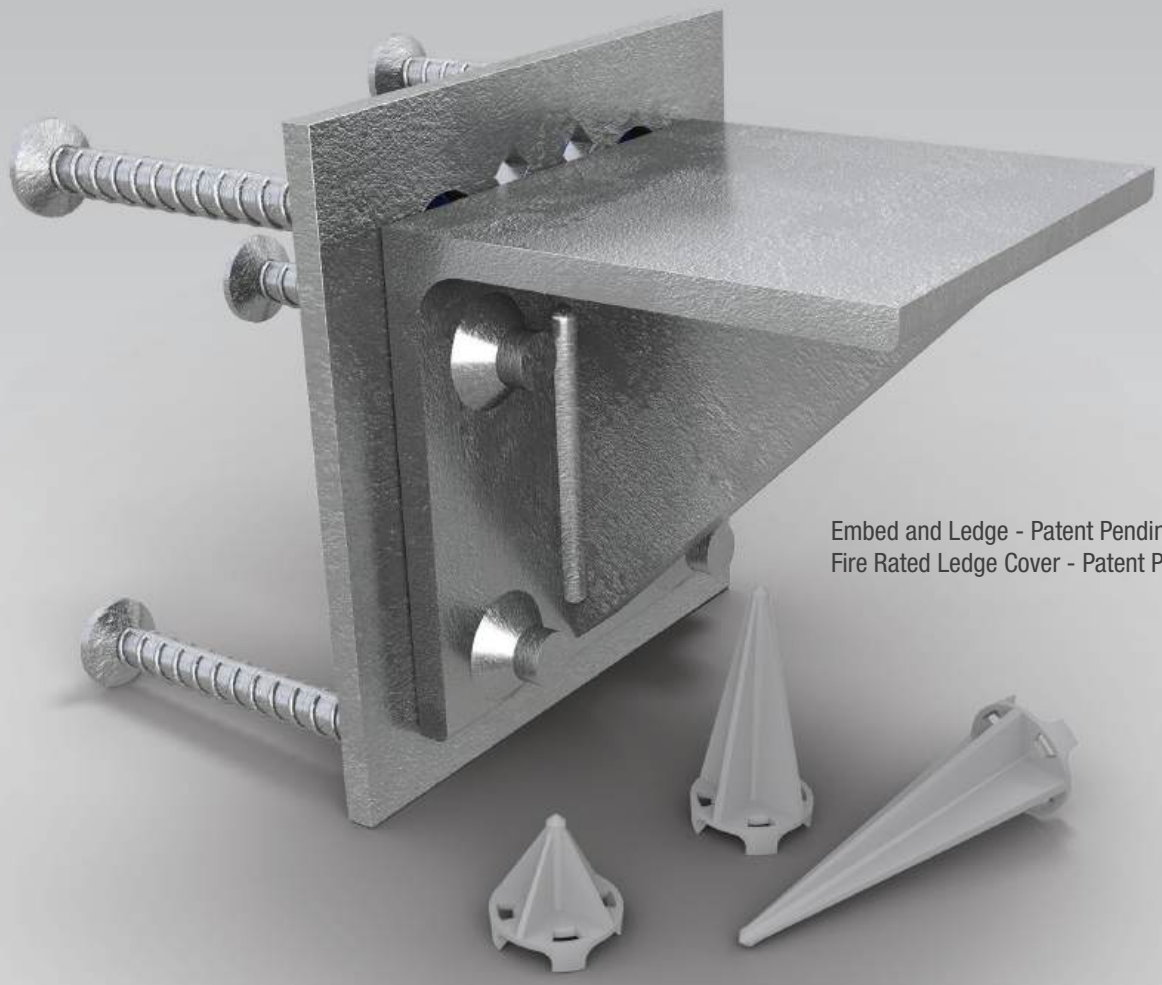
QUIK CORBEL® SYSTEM



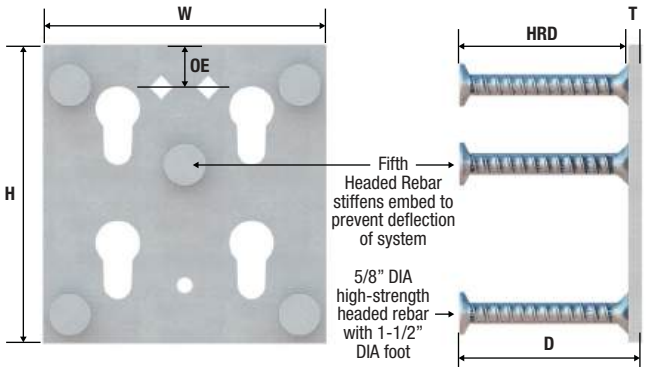
Embed and Ledge - Patent Pending
Fire Rated Ledge Cover - Patent Pending

ALP® QUIK CORBEL® SYSTEM

The Quik Corbel System is designed to improve efficiencies for precast elements that require a bearing ledge. The two-piece design, consisting of an embed and ledge, eliminates the need for specialty forms or secondary cast haunches. The Quik Corbel embed is cast flush to the concrete surface, and the ledge is typically attached to the embed at the job site. Each embed and ledge are marked with lot numbers for material and manufacturing traceability.

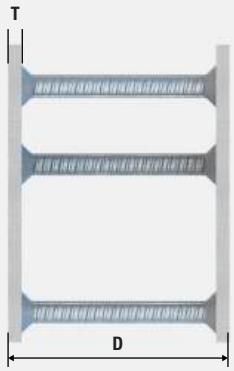
QUIK CORBEL - QC10 EMBED

QC10E6G

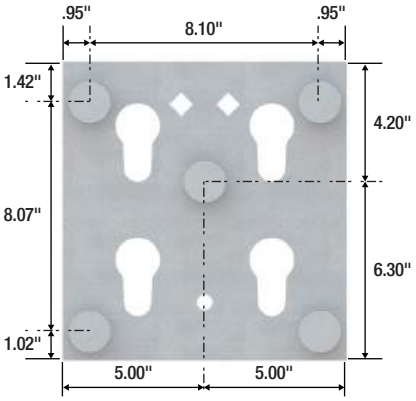


Note: Plastic removed to show steel embed only.

QC10ED8G



QC10 Rebar Locations



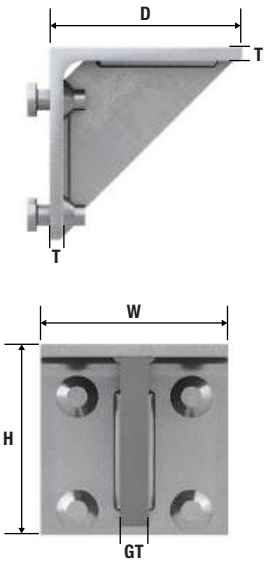
Note: Plastic removed to show steel embed only.

DIMENSIONS - QC10 EMBED

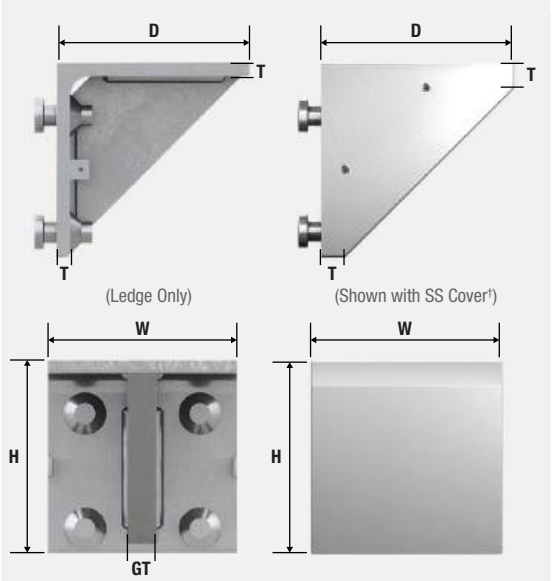
Part #	Description	Finish	W	H	T	D	HRD	OE*	Weight/Piece (lbs)	Qty/Crate
QC10E6G	QC10 Embed, 6"	HDG	10"	10-1/2"	15/32"	6-15/32"	6"	1-1/2"	15.60	108
QC10ED8G	QC10 Double Sided Embed, 8" panel	HDG	10"	10-1/2"	15/32"	8"	N/A	1-1/2"	28.30	64

**OE is to centerline of diamonds*

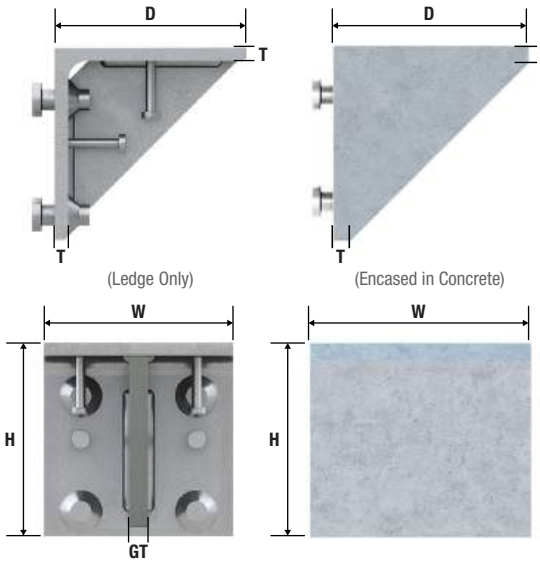
QUIK CORBEL - QC10 LEDGE



QC10L81G - 1-hour Fire Rating



QC10L82G - 2-hour Fire Rating



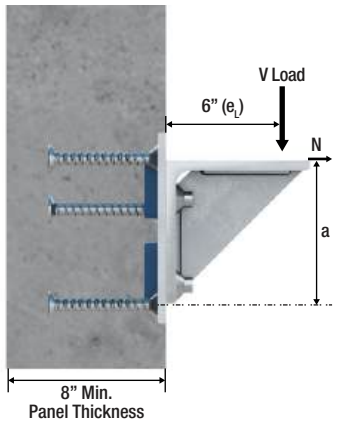
QC10L83G - 3-hour Fire Rating

DIMENSIONS - QC10 LEDGE

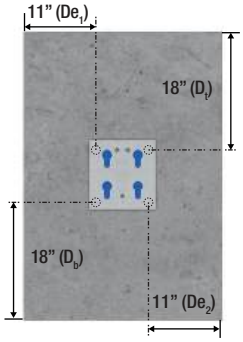
Part #	Description	Finish	Fire Rating	W	H	D	T	GT	Weight/ Piece (lbs)	Qty/Crate
QC10L81G	QC10 Ledge	HDG	1 Hour	7-3/4"	7-7/8"	7-7/8"	9/16"	1-3/16"	28.90	80
QC10L82G*	QC10 Ledge (with SS Cover removed)	HDG	N/A	7-3/4"	7-7/8"	7-7/8"	9/16"	1-3/16"	N/A	N/A
	QC10 Ledge with SS Cover	-	2 Hour	7-7/8"	7-15/16"	7-15/16"	1"		30.50	80
QC10L83G**	QC10 Ledge with studs (ledge only)	HDG	N/A	7-3/4"	7-7/8"	7-7/8"	9/16"	3/4"	26.40	80
	QC10 Ledge with studs (encased in concrete)	-	3 Hour	9-7/8"	8-5/8"	8-5/8"	3/4"		56.00	N/A

**QC10L82G is only sold pre-assembled with fire resistant insulation and stainless steel cover.*
***QC10L83G must be encased in concrete by precaster as noted in illustration, using 145 PCF, 5,000 PSI concrete to achieve 3-hour fire rating.*
†Fire rated ledge cover is patent pending.

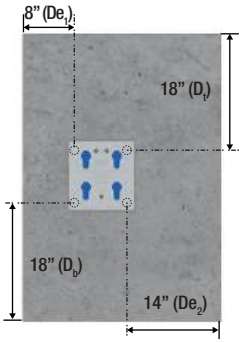
CAPACITIES - QC10



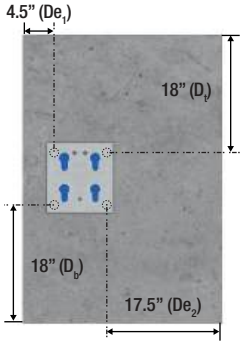
Above shown edge distances are the minimums



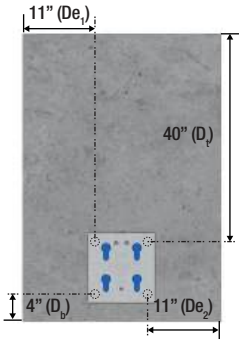
Maximum Mechanical Capacity



Side Edge Location 1
(S1 - Away from Side Edge - Max)



Side Edge Location 2
(S2 - Close to Side Edge - Reduced)



Bottom Edge Location 1
(B1 - Close to Bottom)

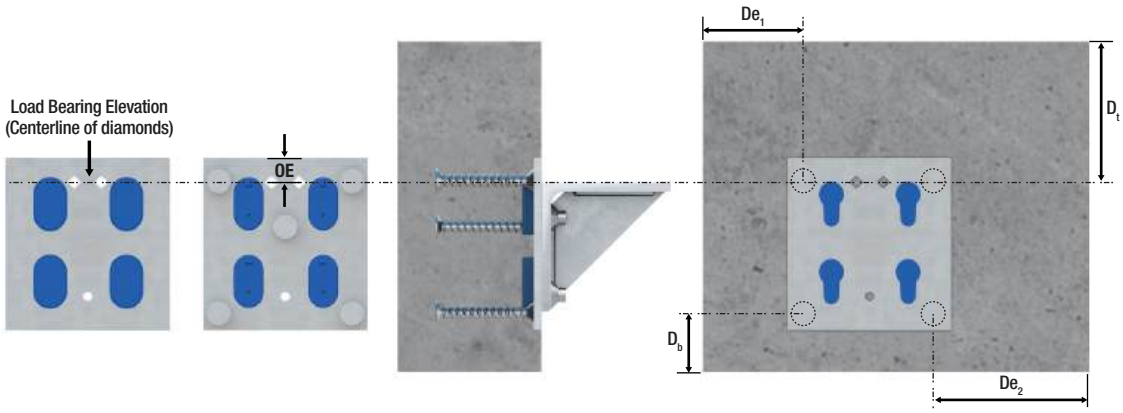
Moment Distance for Horizontal Load (a)		8.071"	8.071"			8.071"			8.071"
Required Reinforcement		Detail "A"	None			None			# 6 U Bar Detail
F'c (psi)		**5,000**	**5,000**	**6,000**	**7,000**	**5,000**	**6,000**	**7,000**	**5,000**
Vertical Shear Load (V)	Ultimate Average (kips)	54.03	59.05	64.68	69.86	46.73	51.19	55.29	47.74
	Ultimate Minimum (kips)	50.04	50.16	54.95	59.35	40.16	44.00	47.52	47.70
	Standard Deviation (kips)	3.37	5.87	6.43	6.95	6.27	6.87	7.42	0.05
	# Tests	7	6	6	6	6	6	6	2
	Notes	D	E	A, E	A, E	E	A, E	A, E	B, E
Tested Horizontal / Vertical Interaction %		12.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Horizontal Load (N)	Ultimate Average (kips)	6.64	C	C	C	C	C	C	C
	Ultimate Minimum (kips)	6.14							
	Standard Deviation (kips)	0.41							
	# Tests	7							
	Notes	NA							
Failure Mode		Bending of Corbel	Concrete			Concrete			Concrete
Maximum Allowed Adjusted Concrete Strength (psi)		NA	7,000			7,000			NA
Maximum Allowed Horizontal / Vertical %		NA	15%			15%			15%
Maximum Allowed Resultant for Combined Vertical and Horizontal Loads (kips)		NA	[(Max Mechanical Design Vertical Capacity - ϕVn)^2 + (Max Mechanical Design Horizontal Capacity - ϕNn)^2]^0.5						

Notes

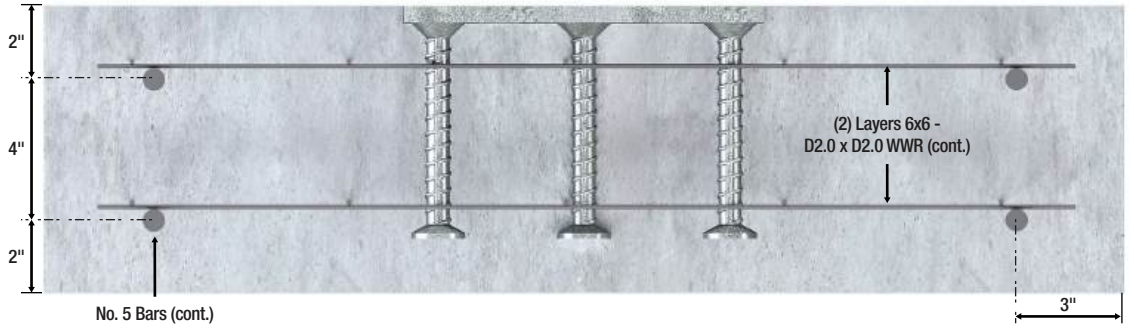
- Table is based on normal weight concrete (145-150PCF), not to be used in shotcrete applications
- Actual concrete test results based on approximately 5,500 psi concrete at time of testing
- Above load values apply to all #10 ledge part numbers, including QC10L81G, QC10L82G & QC10L83G
- Listed capacities should be compared to factored ultimate loads, after reduced for reduction factors
- Design engineer should use above tables and apply applicable code reduction ϕ factors and, if needed, reductions for horizontal load component
- When reinforcement is noted as "None", no reinforcement used in testing, but panel reinforcement is required to prevent flexural failure
- Fire testing performed in accordance with ASTM E119
- For offset tolerance, see Offset Detail
- V Service Load for fire tests = 27 KIPS (tested using 4" x 6" bearing area with a 2" joint)

Reference

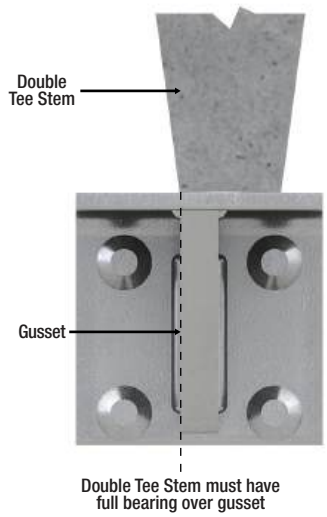
A. Test result loads were reviewed after adjustments and most conservative approach was taken for final published values.
B. Rebar controlled failure
C. Not tested for Horizontal Load Component. Must be calculated and Vertical Load reduced per calculations
D. To achieve full mechanical capacity, reinforcement was used per attached detail
E. For edge distances less than above, consult with ALP Technical Team



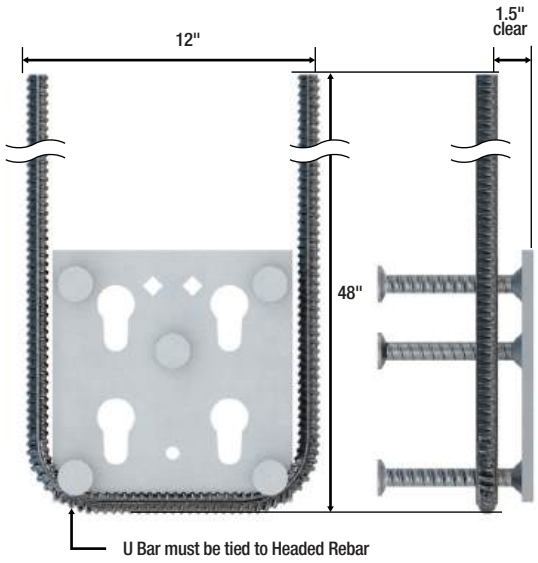
Elevation Detail



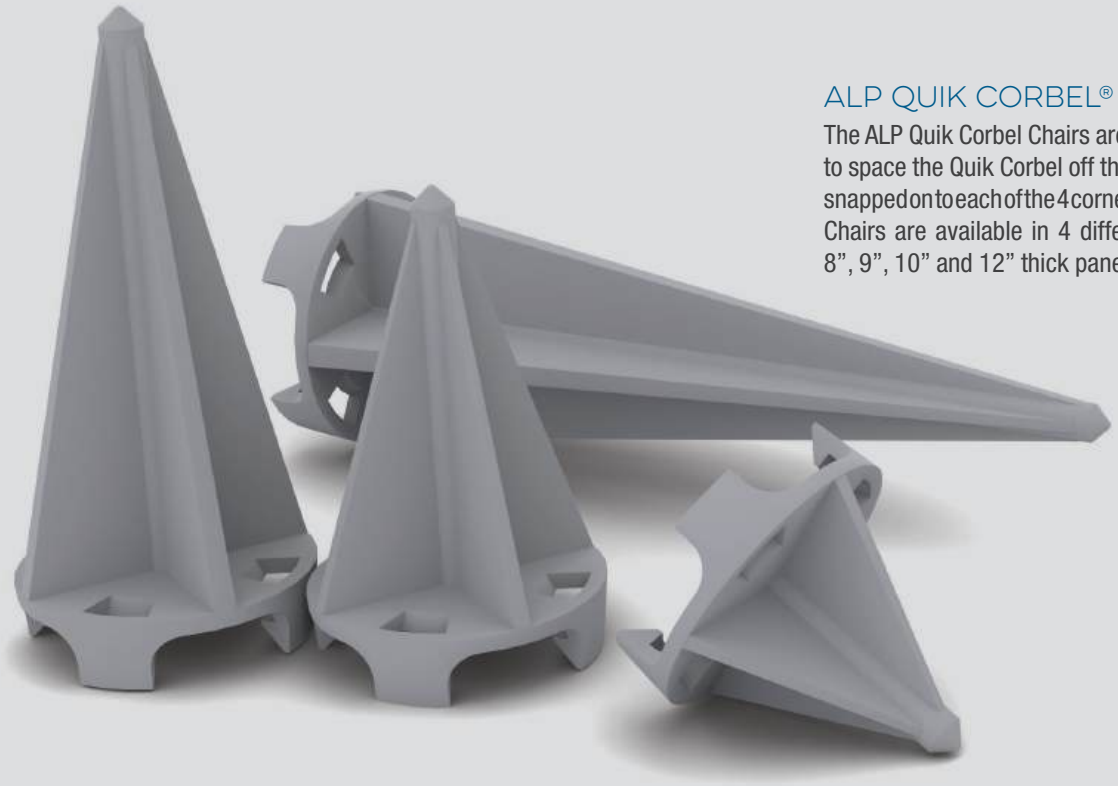
Reinforcing Detail "A"



Offset Detail

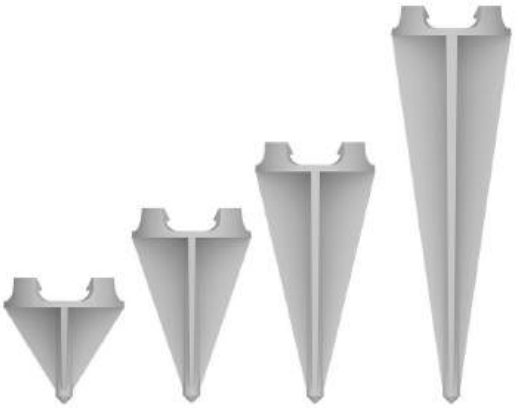


#6 U Bar Detail

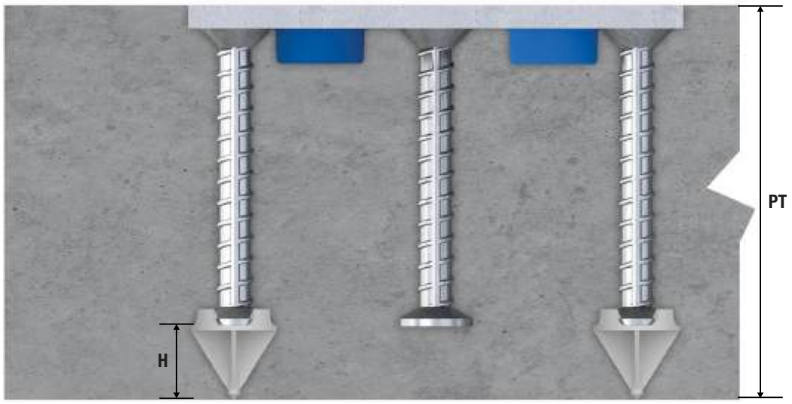


ALP QUIK CORBEL® CHAIRS

The ALP Quik Corbel Chairs are used for top side applications to space the Quik Corbel off the bottom of the form. A chair is snapped on to each of the 4 corner Headed Rebar. The Quik Corbel Chairs are available in 4 different heights to accommodate 8”, 9”, 10” and 12” thick panels. Standard color is light gray.



QC10C8 QC10C9 QC10C10 QC10C12



Part #	Description	PT - Panel Thickness	H - Height	Weight/Carton	Qty/Carton
QC10C8	QC10 Chair for 8” panel	8”	1-1/2”	29.9	1,700
QC10C9	QC10 Chair for 9” panel	9”	2-1/2”	27.0	1,100
QC10C10	QC10 Chair for 10” panel	10”	3-1/2”	25.1	750
QC10C12	QC10 Chair for 12” panel	12”	5-1/2”	28.6	450

NOTES

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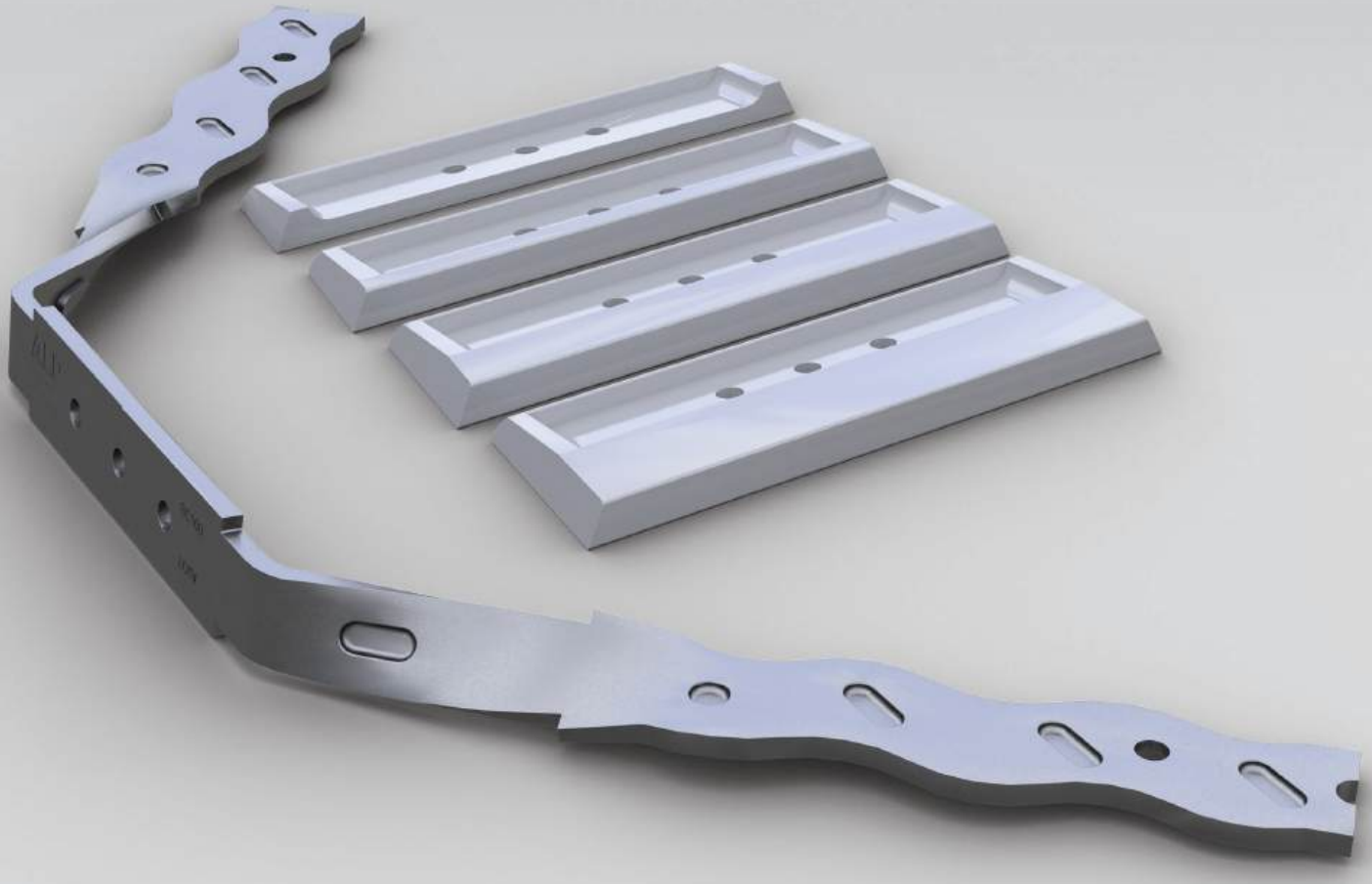
STEALTH® CONNECTOR

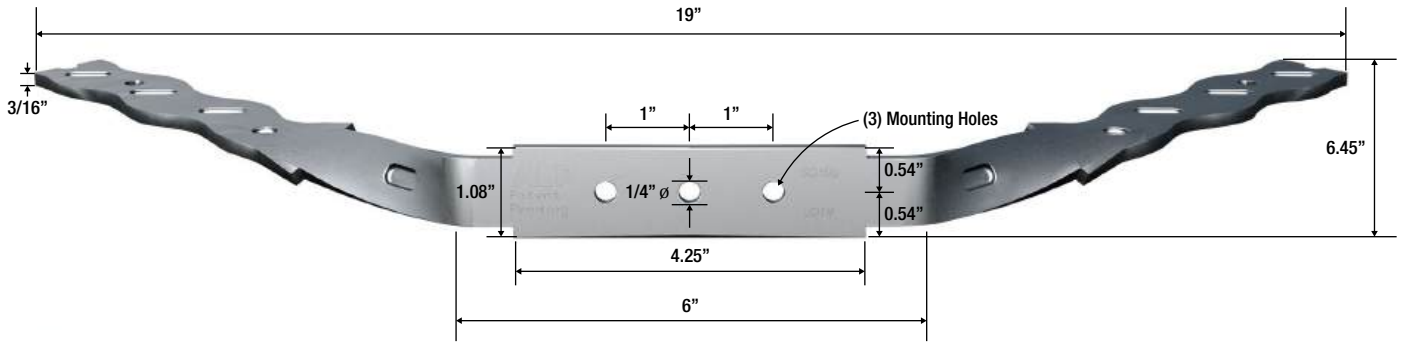


Double Tee Application

Wall Panel Application

STEALTH CONNECTOR - SC100

The SC100 Stealth Connector is a shear and alignment connector typically used in connecting double tee flanges in parking structures. These connectors are also widely used in alignment of wall panels and provides for a structural connection while improving the aesthetics of the finished system. **Available in Stainless Steel and Plated Carbon Steel. Patent No. US 11,492,794 B1.**



Part #	Material/Finish	Weight (lbs)	Qty/Pallet
ACSC100P	Carbon Steel, B633 Plated	1.16	2,100
ACSC100S2	Stainless Steel, 201LN	1.15	2,100

The following testing was performed at UWM SE Laboratory, an ISO-IES 17025 accredited laboratory, which is certified to conduct structural tests on various members including static and seismic diaphragm connector qualification tests according to the 2016 ICC-ES AC468 acceptance criteria. The ISO-IES 17025 certification by the International Standardization Organization (ISO) and the International Electrotechnical Commission (IEC) is the most recognized standard for testing laboratories and instrument calibration throughout the world. Only a few structural testing laboratories in the U.S. are certified under the ISO-IES 17025 standards. The ICC-ES AC468 is the "Acceptance Criteria for Alternative Seismic Design of Precast Concrete Diaphragms and Qualification of Precast Concrete Diaphragm Connectors," that is approved by the Evaluation Service (ES) arm of the International Code Council (ICC).

BLOCKOUT FOR SC100 STEALTH CONNECTOR

The blockout for the SC100 Stealth Connector is used to provide a recess void in the concrete. This blockout will locate the connector at the correct location and angle, provide relief on all sides and the front face plate for welding in the field. For use with ACSC100P and ACSC100S2.

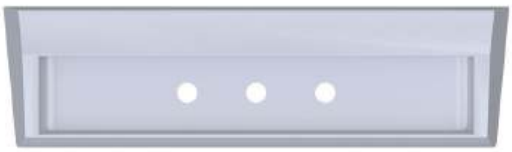
DIMENSIONS

Part #	A	B	H	Qty/Ctn
ACSCB10000	0"	1/2"	1-1/4"	600
ACSCB10038	3/8"	7/8"	1-5/8"	400
ACSCB10034	3/4"	1-1/4"	2"	350
ACSCB10001	1"	1-1/2"	2-1/4"	300
ACSCB1000114C	1-1/4"	1-3/4"	2-1/2"	220

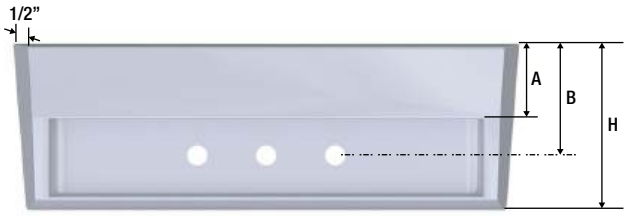
ACSCB1000114C

ACSCB10000

ACSCB10038

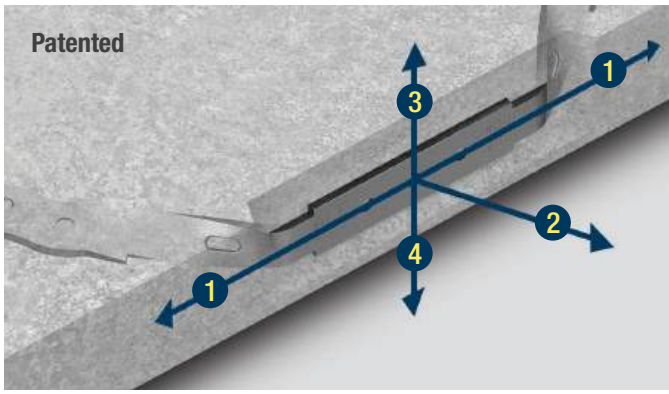


ACSCB10034



ACSCB10001

STEALTH CONNECTOR - SC100 - CARBON STEEL (PLAIN OR PLATED)

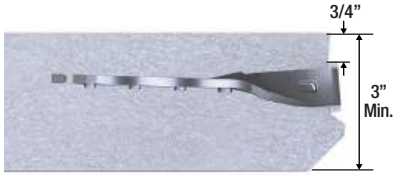


Loading Configurations

1. In-Plane Shear
2. In-Plane Tension
3. Out-of-Plane Shear (towards Blockout top)
4. Out-of-Plane Shear (towards Blockout bottom)

CARBON STEEL STEALTH CONNECTOR 100 - PERFORMANCE AND CAPACITIES (ADJUSTED FOR MATERIAL MINIMUM YIELDS)

2" Thick Concrete (Minimum)	Loading Configurations	Tension	Concrete Strength f'c tested (psi)	Average Ultimate Load (lbs)	# of Tests	Standard Deviation (lbs)	Allowed f'c max (psi)
	1 Monotonic	NT	5,500	14,291	8	1,092	8,000
	2 Monotonic	NT	5,500	5,861	8	583	8,000
	3 Monotonic	NT	5,500	1,982	8	307	8,000
	4 Monotonic	NT	5,500	1,985	8	506	8,000

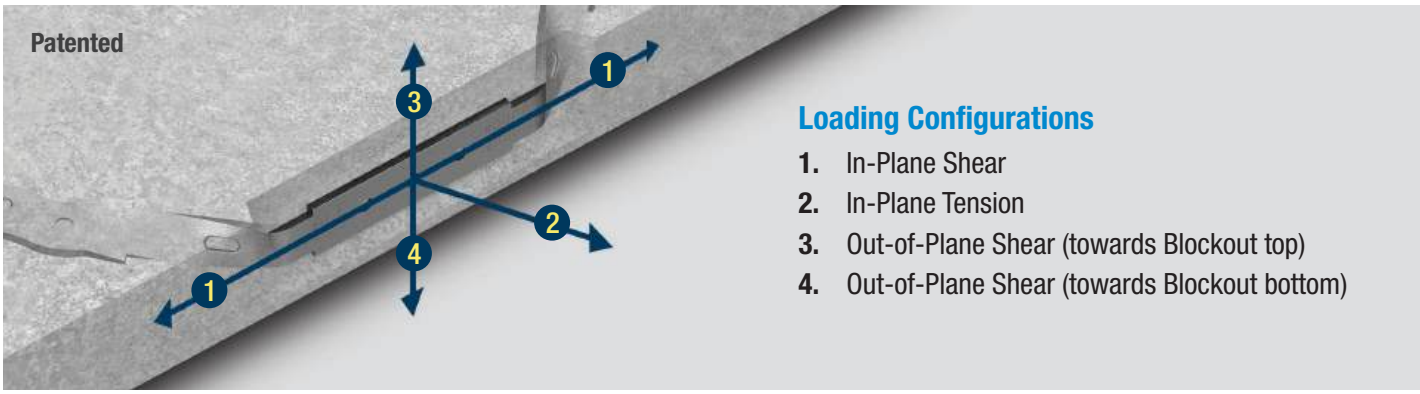
3" Thick Concrete (Minimum)	Loading Configurations	Tension	Concrete Strength f'c tested (psi)	Average Ultimate Load (lbs)	# of Tests	Standard Deviation (lbs)	Allowed f'c max (psi)
	1 Monotonic	NT	5,500	17,912	7	592	6,500
	Monotonic	0.10"	5,500	14,939	3	310	6,500
	Cyclic	NT	6,500	17,518	3	449	6,500
	Cyclic	0.10"	6,500	15,284	4	519	6,500
	2 Monotonic	NT	5,200	8,491	6	266	5,200
	Cyclic*	NT	5,200	6,852	3	171	5,200
	3 Monotonic	NT	5,500	3,584	11	427	8,000
	Monotonic	0.10"	5,500	3,286	4	185	8,000
	4 Monotonic	NT	5,500	3,515	7	207	8,000
	Monotonic	0.10"	5,500	3,415	4	706	8,000

*Tension Deformation Capacity Value = 0.413" (Average 28 cycles at failure with Δ = 0.50")

For all cyclic tension tests, both Carbon Steel and Stainless Steel Stealth Connectors, the calculated tension deformation capacity values were all determined to be within the range of 0.3" to 0.6". This qualifies both the carbon steel and stainless steel Stealth Connectors as Moderate Deformability Elements (MDE). MDE Connectors are permitted to be used in concrete diaphragms under all seismic demand levels (low, moderate, and high) using the Basic Design Options with the requirement that the diaphragm design forces are increased by 15% only when the diaphragm is subject to a high seismic demand level.

- Values based upon testing at Univ. of Wisconsin - Milwaukee (UWM) and ALP
- Average Ultimate Loads above should be reduced by either 5% fractile method, appropriate # of standard deviations, or other reduction factors.
  5% Fractile Capacity = average ultimate load - (5% coeff. x standard dev.)
- After ultimate loads are reduced, a strength reduction factor must be applied to arrive at the design capacity. Calculated design capacities shall be compared to project factored loads.
- The UWM SE Laboratory is an ISO-IES 17025 accredited laboratory certified to conduct structural tests on various members including static and seismic diaphragm connector qualification tests according to the 2016 ICC-IES AC468 acceptance criteria.
- Capacities cannot be adjusted by increasing concrete thickness
- Some capacities may be adjusted (up to f'c max) with increased concrete strength = (Average Ultimate)*(f'c actual/f'c tested)^0.5
- f'c max (psi) = Maximum Concrete Strength Allowed for Adjustment
- All test specimens performed with unreinforced concrete at the location of ACSC100
- Tested using a 3/8" thick x 1" wide x 4" long flat erection slug welded to the ACSC100, over the faceplate holes, with a 1/4" fillet x 3" total length weld.
- Material yield strength = 50 ksi

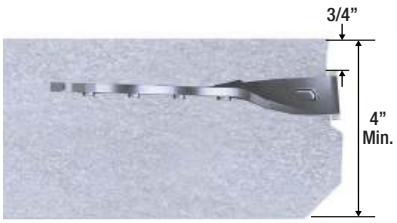
STEALTH CONNECTOR - SC100 - CARBON STEEL (PLAIN OR PLATED)



Loading Configurations

1. In-Plane Shear
2. In-Plane Tension
3. Out-of-Plane Shear (towards Blockout top)
4. Out-of-Plane Shear (towards Blockout bottom)

CARBON STEEL STEALTH CONNECTOR 100 - PERFORMANCE AND CAPACITIES (ADJUSTED FOR MATERIAL MINIMUM YIELDS)



4" Thick Concrete (Minimum)	Loading Configurations	Tension	Concrete Strength f'c tested (psi)	Average Ultimate Load (lbs)	# of Tests	Standard Deviation (lbs)	Allowed f'c max (psi)
1	Monotonic	NT	5,500	17,912	7	592	6,500
	Monotonic	0.10"	5,500	14,939	3	310	6,500
	Cyclic	NT	6,500	17,518	3	449	6,500
	Cyclic	0.10"	6,500	15,284	4	519	6,500
2	Monotonic	NT	5,200	9,881	2	574	5,200
	Cyclic*	NT	5,200	8,592	6	1,067	5,200
3	Monotonic**	NT	5,500	4,235	4	603	8,000
4	Monotonic**	NT	5,500	6,101	4	472	8,000

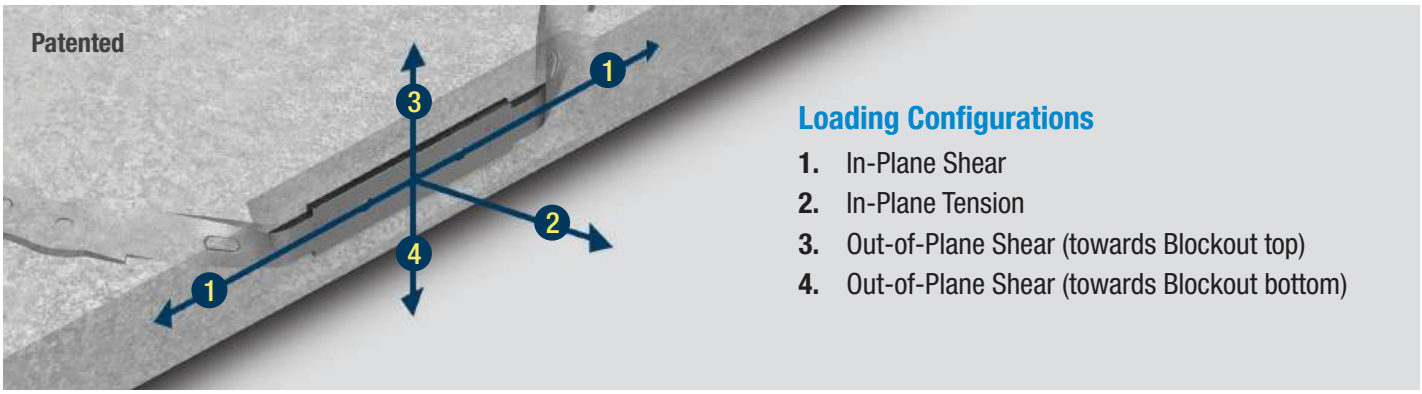
*Tension Deformation Capacity Value = 0.75" (Average 13 cycles at failure with Δ = 0.93")

For all cyclic tension tests, both Carbon Steel and Stainless Steel Stealth Connectors, the calculated tension deformation capacity values were all determined to be greater than 0.6". **This qualifies both the carbon steel and stainless steel Stealth Connectors as High-Deformability Elements (HDE).** HDE connectors may be used in concrete diaphragms under all seismic demand levels (low, moderate and high) using the Reduced Design Option without any required increases in the diaphragm design forces.

** Values based upon using a 1" blockout

- Values based upon testing at Univ. of Wisconsin - Milwaukee (UWM) and ALP
- Average Ultimate Loads above should be reduced by either 5% fractile method, appropriate # of standard deviations, or other reduction factors.
  5% Fractile Capacity = average ultimate load - (5% coeff. x standard dev.)
- After ultimate loads are reduced, a strength reduction factor must be applied to arrive at the design capacity. Calculated design capacities shall be compared to project factored loads.
- The UWM SE Laboratory is an ISO-IES 17025 accredited laboratory certified to conduct structural tests on various members including static and seismic diaphragm connector qualification tests according to the 2016 ICC-IES AC468 acceptance criteria.
- Capacities cannot be adjusted by increasing concrete thickness
- Some capacities may be adjusted (up to f'c max) with increased concrete strength = (Average Ultimate)*(f'c actual/f'c tested)^0.5
- f'c max (psi) = Maximum Concrete Strength Allowed for Adjustment
- All test specimens performed with unreinforced concrete at the location of ACSC100
- Tests were performed in 3" thick plain concrete sections.
- Tested using a 3/8" thick x 1" wide x 4" long flat erection slug welded to the ACSC100, over the faceplate holes, with a 1/4" fillet x 3" total length weld.
- Material yield strength = 50 ksi

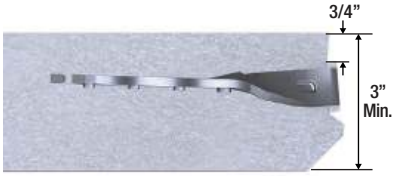
STEALTH CONNECTOR - SC100 - STAINLESS STEEL, 201LN



Loading Configurations

1. In-Plane Shear
2. In-Plane Tension
3. Out-of-Plane Shear (towards Blockout top)
4. Out-of-Plane Shear (towards Blockout bottom)

STAINLESS STEEL, 201LN STEALTH CONNECTOR 100 (ACSC100S2) - PERFORMANCE AND CAPACITIES (ADJUSTED FOR MATERIAL MINIMUM YIELDS)



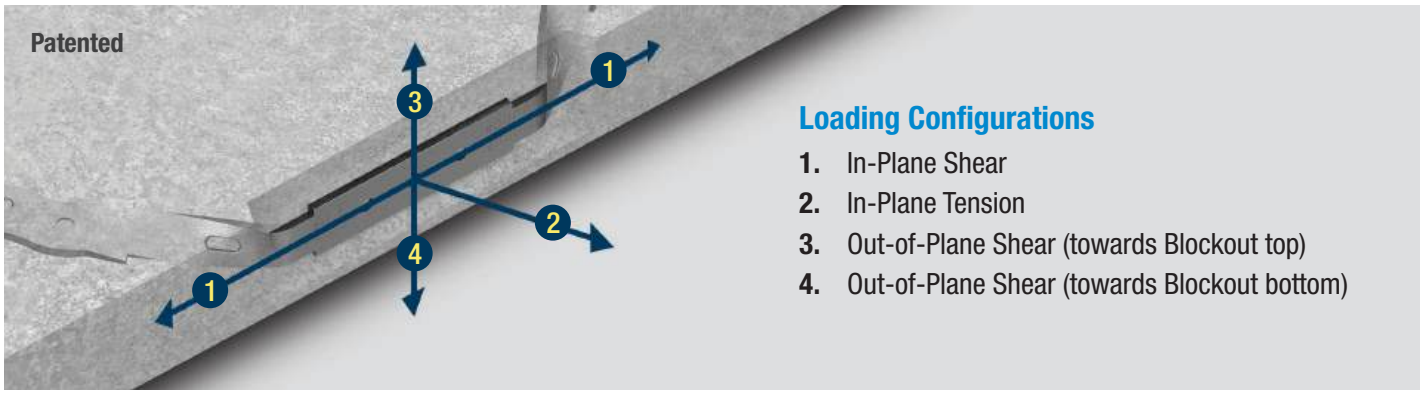
3" Thick Concrete (Minimum)	Loading Configurations	Tension	Concrete Strength f'c tested (psi)	Average Ultimate Load (lbs)	# of Tests	Standard Deviation (lbs)	Allowed f'c max (psi)
	Monotonic	NT	5,500	18,690	3	519	6,500
1	Monotonic	0.10"	5,500	16,430	3	237	6,500
	Cyclic	NT	6,500	21,234	3	1,668	6,500
	Cyclic	0.10"	6,500	17,697	4	509	6,500
2	Monotonic	NT	5,200	8,642	2	441	5,200
	Cyclic*	NT	5,200	6,633	3	357	5,200
3	Monotonic	NT	5,500	3,396	3	157	8,000
	Monotonic	0.10"	5,500	3,525	4	190	8,000
4	Monotonic	NT	5,500	3,436	4	410	8,000
	Monotonic	0.10"	5,500	3,277	4	518	8,000

*Tension Deformation Capacity Value = 0.483" (Average 40 cycles at failure with Δ = 0.73")

For all cyclic tension tests, both Carbon Steel and Stainless Steel Stealth Connectors, the calculated tension deformation capacity values were all determined to be within the range of 0.3" to 0.6". This qualifies both the carbon steel and stainless steel Stealth Connectors as Moderate Deformability Elements (MDE). MDE Connectors are permitted to be used in concrete diaphragms under all seismic demand levels (low, moderate, and high) using the Basic Design Options with the requirement that the diaphragm design forces are increased by 15% only when the diaphragm is subject to a high seismic demand level.

- Values based upon testing at Univ. of Wisconsin - Milwaukee (UWM) and ALP
- Average Ultimate Loads above should be reduced by either 5% fractile method, appropriate # of standard deviations, or other reduction factors.
  5% Fractile Capacity = average ultimate load - (5% coeff. x standard dev.)
- After ultimate loads are reduced, a strength reduction factor must be applied to arrive at the design capacity. Calculated design capacities shall be compared to project factored loads.
- The UWM SE Laboratory is an ISO-IES 17025 accredited laboratory certified to conduct structural tests on various members including static and seismic diaphragm connector qualification tests according to the 2016 ICC-IES AC468 acceptance criteria.
- Capacities cannot be adjusted by increasing concrete thickness
- Some capacities may be adjusted (up to f'c max) with increased concrete strength = (Average Ultimate)*(f'c actual/f'c tested)^0.5
- f'c max (psi) = Maximum Concrete Strength Allowed for Adjustment
- All test specimens performed with unreinforced concrete at the location of ACSC100
- Tested using a 3/8" thick x 1" wide x 4" long flat erection slug welded to the ACSC100, over the faceplate holes, with a 1/4" fillet x 3" total length weld.
- Material yield strength = 50 ksi

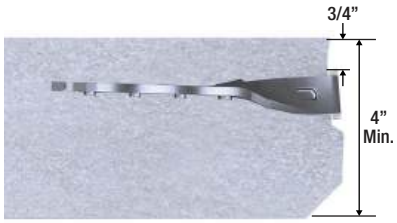
STEALTH CONNECTOR - SC100 - STAINLESS STEEL, 201LN



Loading Configurations

1. In-Plane Shear
2. In-Plane Tension
3. Out-of-Plane Shear (towards Blockout top)
4. Out-of-Plane Shear (towards Blockout bottom)

STAINLESS STEEL, 201LN STEALTH CONNECTOR 100 (ACSC100S2) - PERFORMANCE AND CAPACITIES (ADJUSTED FOR MATERIAL MINIMUM YIELDS)



4" Thick Concrete (Minimum)	Loading Configurations		Tension	Concrete Strength f'c tested (psi)	Average Ultimate Load (lbs)	# of Tests	Standard Deviation (lbs)	Allowed f'c max (psi)
	1	Monotonic	NT	5,500	18,690	3	519	6,500
		Monotonic	0.10"	5,500	16,430	3	237	6,500
		Cyclic	NT	6,500	21,234	3	1,668	6,500
		Cyclic	0.10"	6,500	17,697	4	509	6,500
	2	Monotonic	NT	5,200	8,933	2	224	5,200
		Cyclic*	NT	5,200	9,052	6	425	5,200
	3	Monotonic**	NT	5,500	4,023	4	573	8,000
	4	Monotonic**	NT	5,500	5,796	4	448	8,000

*Tension Deformation Capacity Value = 0.84" (Average 15 cycles at failure with Δ = 0.92")

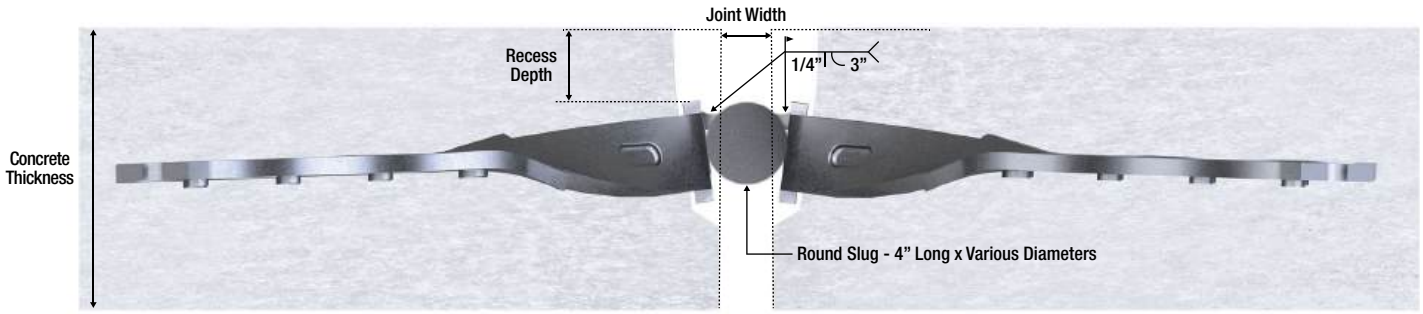
For all cyclic tension tests, both Carbon Steel and Stainless Steel Stealth Connectors, the calculated tension deformation capacity values were all determined to be greater than 0.6". **This qualifies both the carbon steel and stainless steel Stealth Connectors as High-Deformability Elements (HDE).** HDE connectors may be used in concrete diaphragms under all seismic demand levels (low, moderate and high) using the Reduced Design Option without any required increases in the diaphragm design forces.

** Values based upon using a 1" blockout

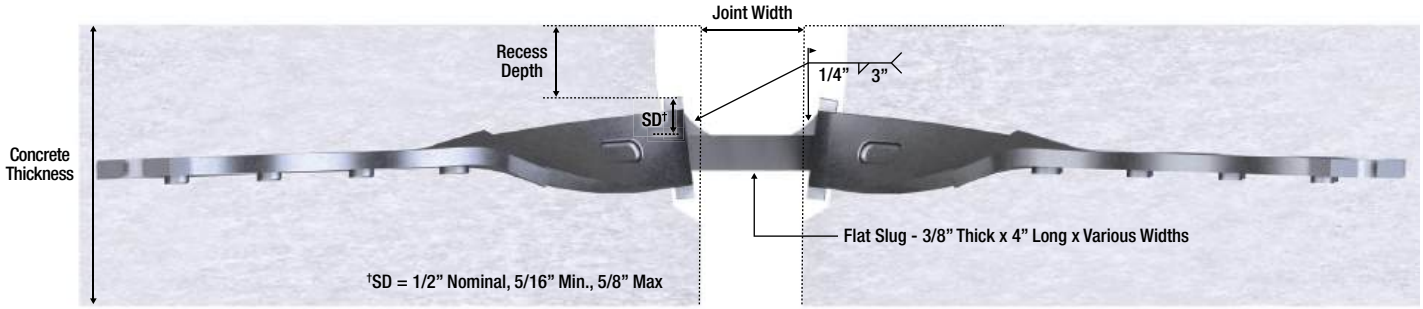
- Values based upon testing at Univ. of Wisconsin - Milwaukee (UWM) and ALP
- Average Ultimate Loads above should be reduced by either 5% fractile method, appropriate # of standard deviations, or other reduction factors.
  5% Fractile Capacity = average ultimate load - (5% coeff. x standard dev.)
- After ultimate loads are reduced, a strength reduction factor must be applied to arrive at the design capacity. Calculated design capacities shall be compared to project factored loads.
- The UWM SE Laboratory is an ISO-IES 17025 accredited laboratory certified to conduct structural tests on various members including static and seismic diaphragm connector qualification tests according to the 2016 ICC-IES AC468 acceptance criteria.
- Capacities cannot be adjusted by increasing concrete thickness
- Some capacities may be adjusted (up to f'c max) with increased concrete strength = (Average Ultimate)*(f'c actual/f'c tested)^0.5
- f'c max (psi) = Maximum Concrete Strength Allowed for Adjustment
- All test specimens performed with unreinforced concrete at the location of ACSC100
- Tests were performed in 3" thick plain concrete sections.
- Tested using a 3/8" thick x 1" wide x 4" long flat erection slug welded to the ACSC100, over the faceplate holes, with a 1/4" fillet x 3" total length weld.
- Material yield strength = 50 ksi

STEALTH CONNECTOR WELD DETAILS

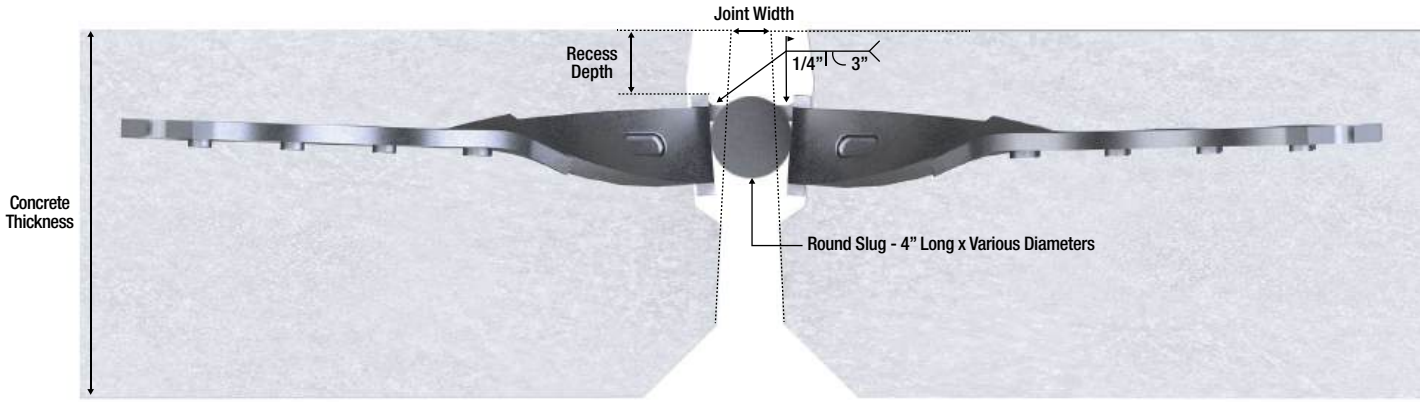
- **Minimum Required Weld = 1/4" fillet x 3" long**
- Weld slug/plate (SD) vertical location range from top of connector to top of slug/plate = 5/16" to 5/8"
- **Weld length does not need to be increased when spanning face plate holes**
- Weld slug/plate about the horizontal center of the connector face plate, +/- 5/8" either direction



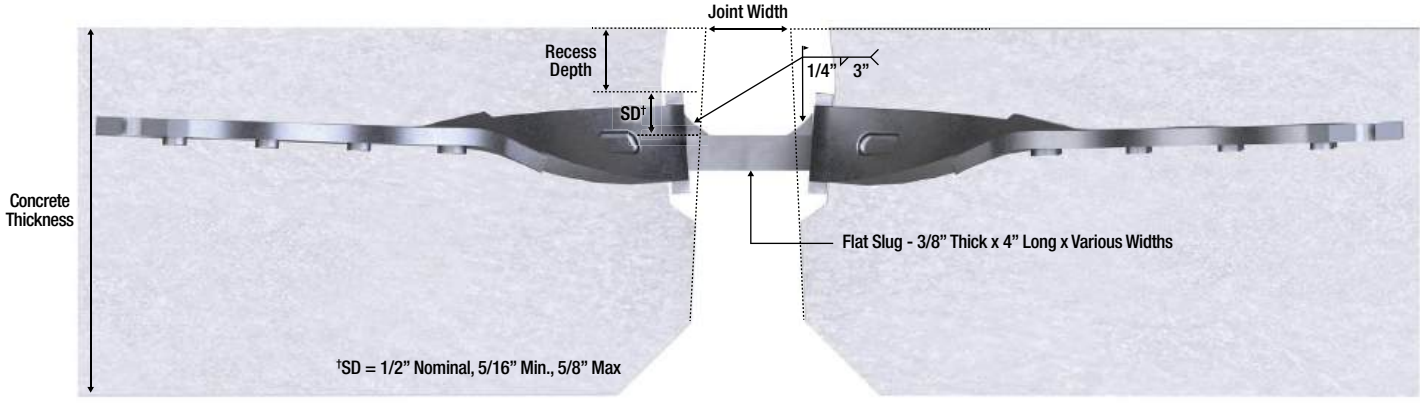
SC100 - Wall Panel Detail, Round Slug: ≤ 1" Wide Joint



SC100 - Wall Panel Detail, Flat Slug (All Joint Widths)

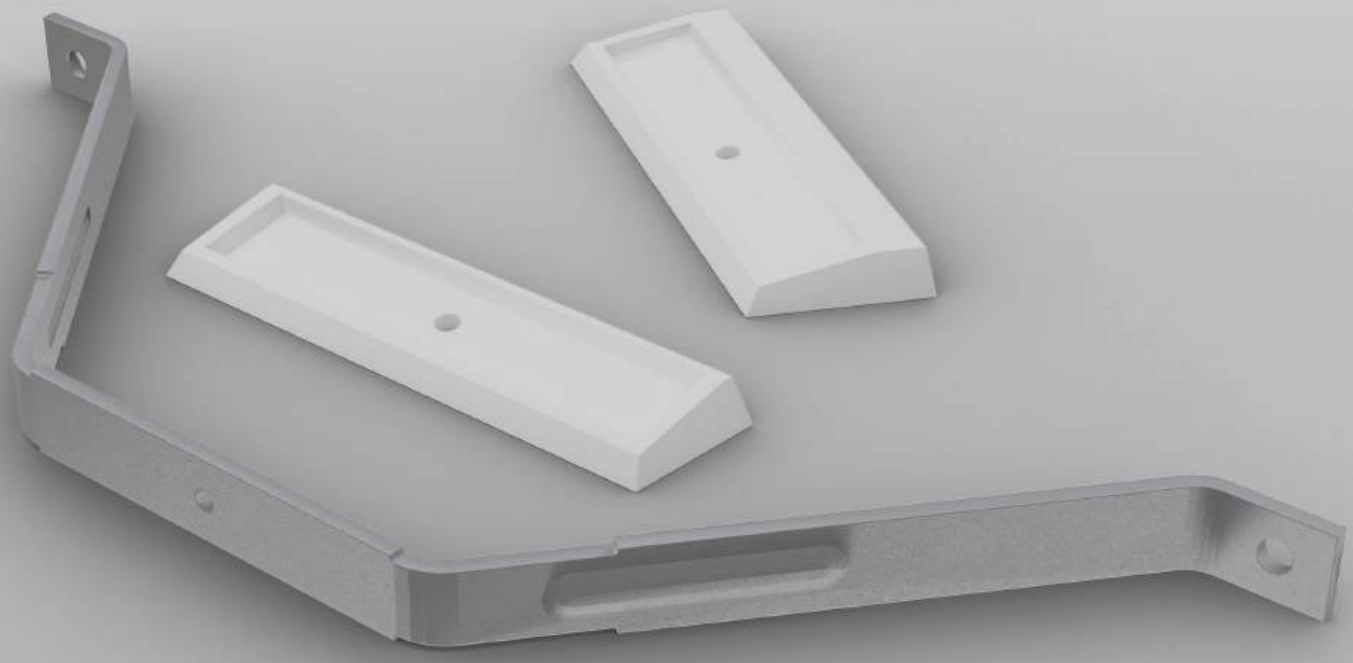


SC100 - Double Tee Detail, Round Slug: ≤ 1" Wide Joint



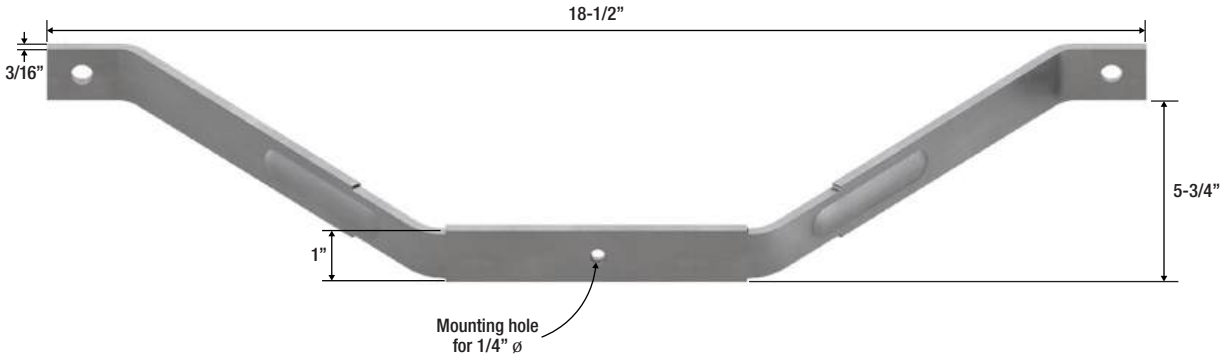
SC100 - Double Tee Detail, Flat Slug (All Joint Widths)

MC SERIES
ALIGNMENT CONNECTOR



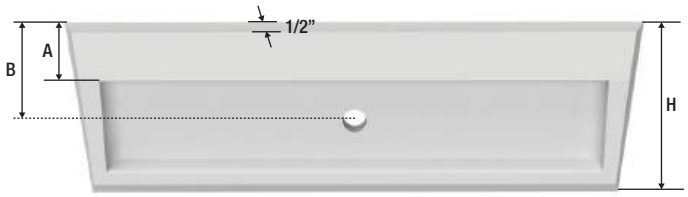
MC-01 CONNECTOR

The MC-01 Connector is a shear and alignment connector typically used in connecting double tee flanges in parking structures. These connectors are also widely used in alignment of wall panels and provides for a structural connection while improving the aesthetics of the finished system. **Available in Stainless Steel and Carbon Steel.**



Part #	Material/Finish	Weight (lbs)	Qty/Pallet
ACMC01P	Carbon Steel, B633 Plated	1.20	2,160
ACMC01S3	Stainless Steel, 304	1.20	2,160

BLOCKOUT FOR MC-01 CONNECTOR

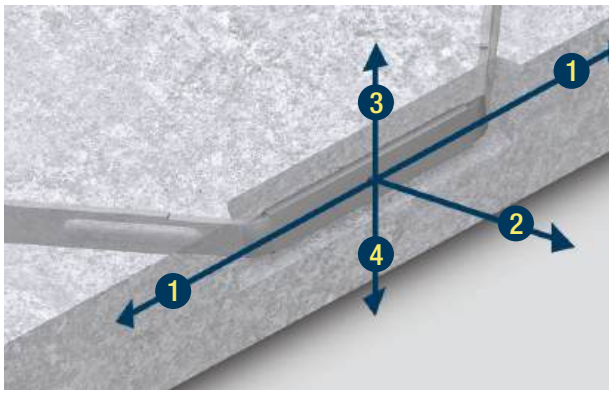


The blockout for the MC-01 Connector is used to provide a recess void in the concrete. This blockout will locate the connector at the correct location and angle, provide relief on all sides and the front face plate for welding in the field. For use with ACMC01P and ACMC01S3.

DIMENSIONS

Part #	A	B	H	Qty/Ctn
ACB134	3/4”	1-1/4”	2-1/4”	150

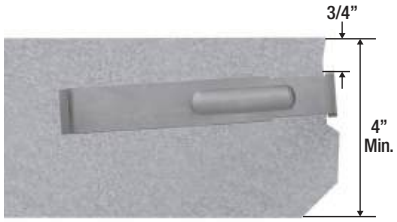
MC-01 CONNECTOR



Loading Configurations

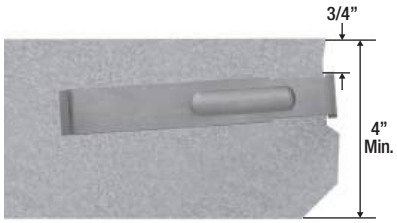
1. In-Plane Shear
2. In-Plane Tension
3. Out-of-Plane Shear (towards Blockout top)
4. Out-of-Plane Shear (towards Blockout bottom)

CARBON STEEL, PLATED MC CONNECTOR - PERFORMANCE AND CAPACITIES



4" Thick Concrete (Minimum)	Loading Configurations	Tension	Concrete Strength f'c tested (psi)	Average Ultimate Load (lbs)	# of Tests	Standard Deviation (lbs)
	Monotonic	NT	5,000	16,870	3	353
	Monotonic	0.10"	5,000	15,104	4	66
1	Cyclic	NT	5,000	16,794*	5	2,101
	Cyclic	0.10"	5,000	14,492	4	1,061
	Monotonic	NT	5,000	9,555	2	1,195
2	Cyclic	NT	5,000	5,919	3	185
3	Monotonic	NT	5,000	5,850	3	358
4	Monotonic	NT	5,000	7,788	3	680

STAINLESS STEEL, 304 MC CONNECTOR - PERFORMANCE AND CAPACITIES

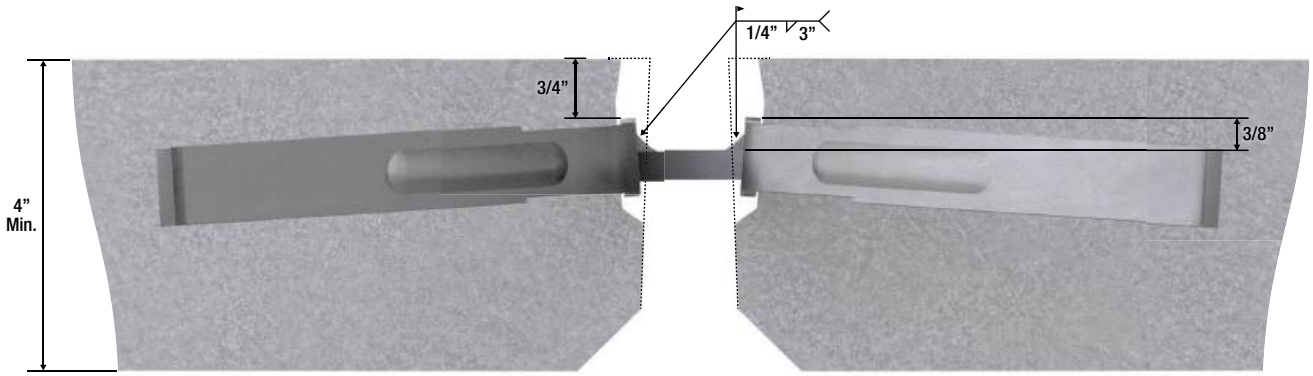


4" Thick Concrete (Minimum)	Loading Configurations	Tension	Concrete Strength f'c tested (psi)	Average Ultimate Load (lbs)	# of Tests	Standard Deviation (lbs)
	Monotonic	NT	5,000	23,404	3	1,543
	Monotonic	0.10"	5,000	18,098	4	704
1	Cyclic	NT	5,000	20,225*	5	410
	Cyclic	0.10"	5,000	17,803	4	815
	Monotonic	NT	5,000	8,798	2	124
2	Cyclic	NT	5,000	5,269	3	411
3	Monotonic	NT	5,000	5,607	3	791
4	Monotonic	NT	5,000	6,314	3	1,056

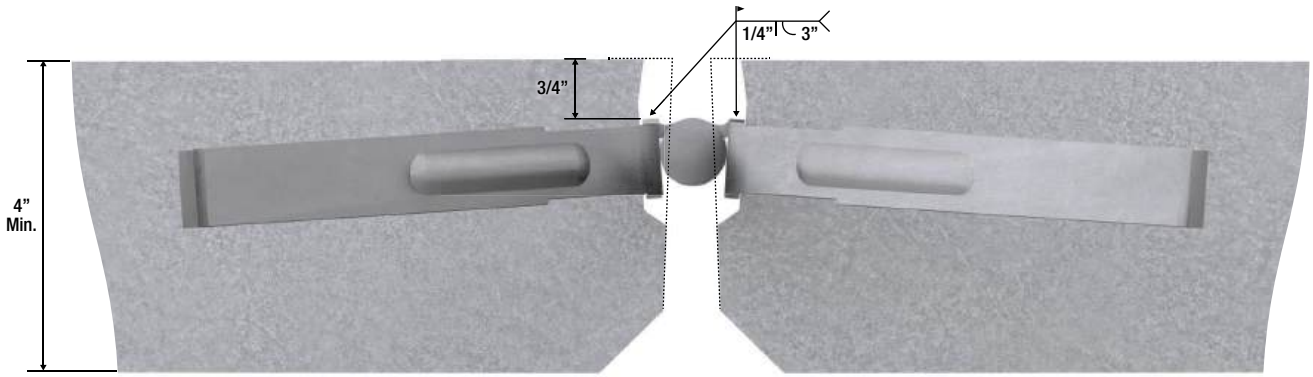
Under conditions as defined in the Lehigh University ATLSS Report No. 16-06, the MC Connector Tension Deformation Capacity = 1.13". **This qualifies the MC Connector as a High Deformability Element.**

- Average Ultimate Loads above should be reduced by either 5% fractile method, appropriate # of standard deviations, or other reduction factors.
  5% Fractile Capacity = average ultimate load - (5% coeff. x standard dev.)
- After ultimate loads are reduced, a strength reduction factor must be applied to arrive at the design capacity. Calculated design capacities shall be compared to project factored loads.
- Tested Values are based upon a 3/4" blockout to position the MC Connector, 4" slab with no reinforcement in the tested region and 5,000 psi concrete.
- Tested using 3/8" thick x 1" wide x 4" long flat erection slug was positioned on the MC Connector faceplate and attached with a 1/4" x 3" long fillet weld along top only.
- Capacities cannot be adjusted by increasing concrete thickness
- All test specimens performed with unreinforced concrete at the location of ACMC01
- Material yield strength = 50 ksi
- Testing conducted at University of Wisconsin - Milwaukee (UWM) in November 2019 (Values with * also utilize additional testing data performed at Lehigh University in September 2008 and January 2010)

MC-01 CONNECTOR WELD DETAILS

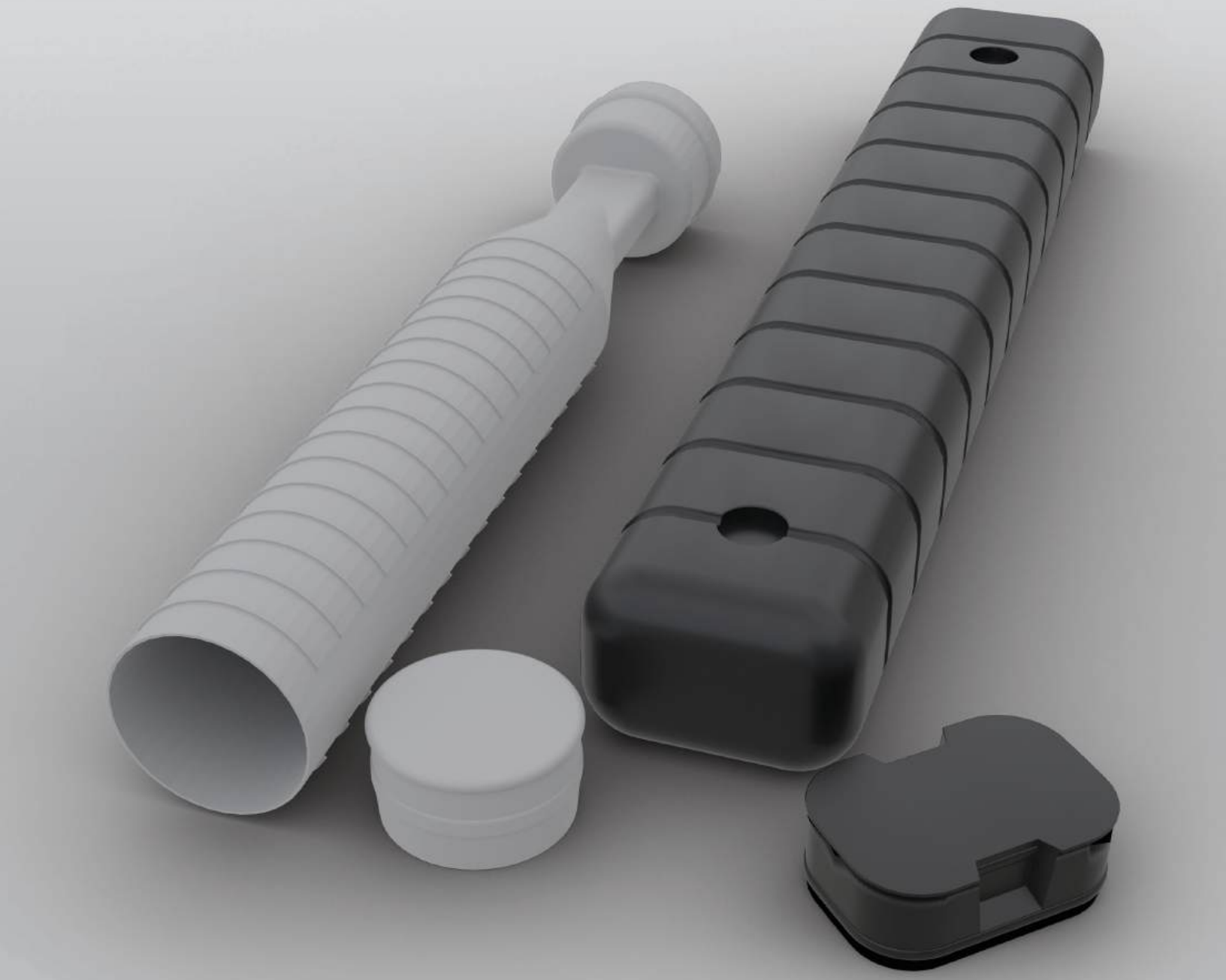


Double Tee Detail, Flat Slug (All Joint Widths)



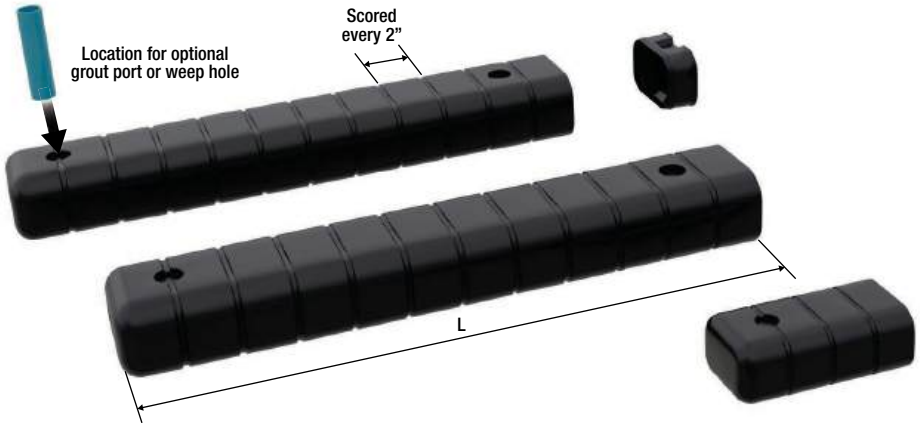
Double Tee Detail, Round Slug: ≤ 1" Wide Joint

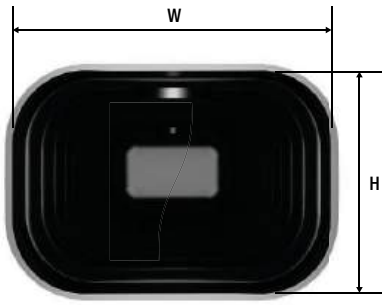
MISCELLANEOUS CONNECTIONS



GROUT TUBES

Grout Tubes are blow molded, concrete voids, typically used as a grouted tension and shear connection between precast panels. When the panels are erected at the job site, Grout Tubes can be pre-filled with grout before setting the top panel. When optional grout ports are cast into the precast element, the ports can be used to pump the grout into the tube through the bottom hole. Grout Tube and Caps are sold separately, standard black color. Caps can be used for mounting to the form and to prevent water and debris from filing up grout tubes in storage. Other colors made to order.





End View

Part #	Description	L	W	H
CVGT212	2” Grout Tube	12”	3”	1-7/8”
CVGT216	2” Grout Tube	16”	3”	1-7/8”
CVGT38	3” Grout Tube	8”	4”	2-3/4”
CVGT316	3” Grout Tube	16”	4”	2-3/4”
CVGT324	3” Grout Tube	24”	4”	2-3/4”

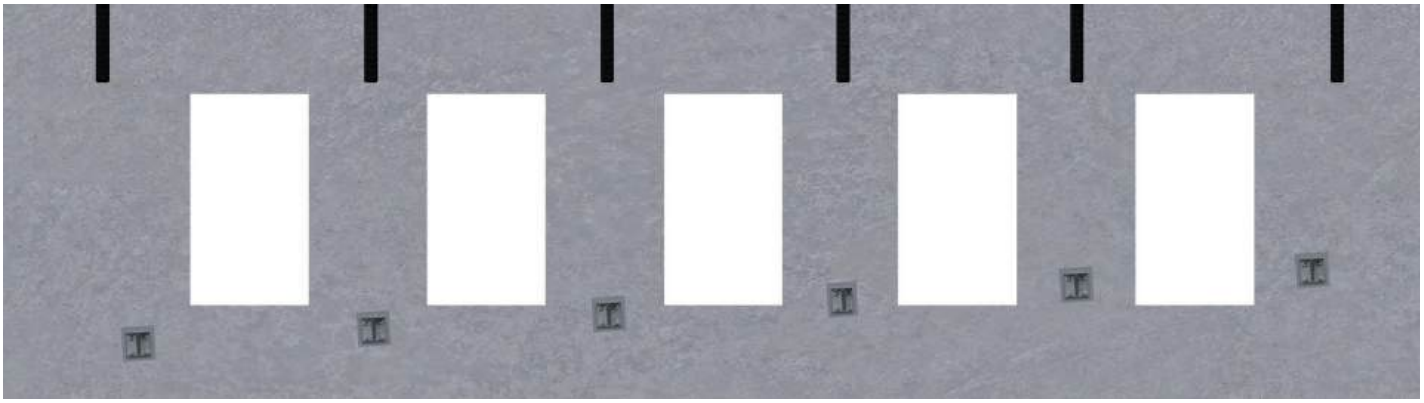
For concrete capacities, contact ALP Supply Technical Support.

CVGT2CAP

CVGT3CAP

Grout Tube Caps are used to cover tube to prevent water and snow from filling up tube while precast element is in storage.

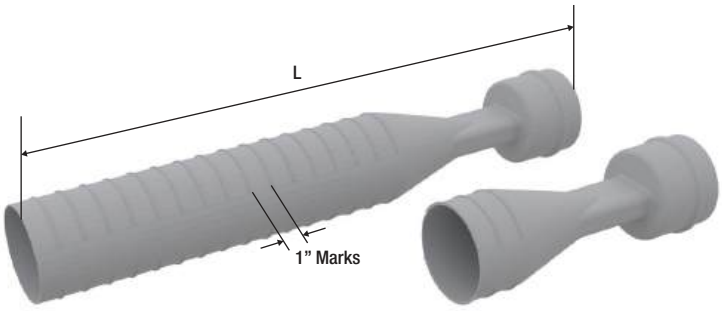
Magnetic locator available. **Contact ALP Sales for more information.**



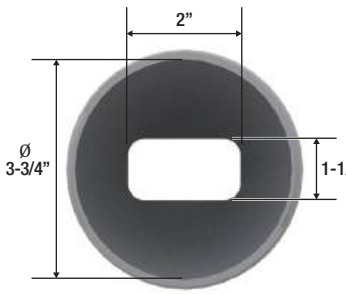
Grout Tubes in Lite Wall application

COLUMN AND SPANDREL SLEEVES

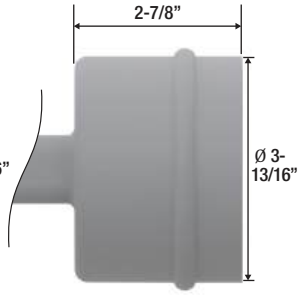
Column and Spandrel Sleeves are blow molded concrete voids, designed for a bolt through-connection, typically used between columns and spandrels. Sleeves accommodate up to a 1" threaded-rod bolted connection and typically use a round washer. Sleeves come pre-marked in 1" increments for cutting to shorter lengths. Standard color is light gray color. Other colors made to order.



Column Sleeve **Spandrel Sleeve**



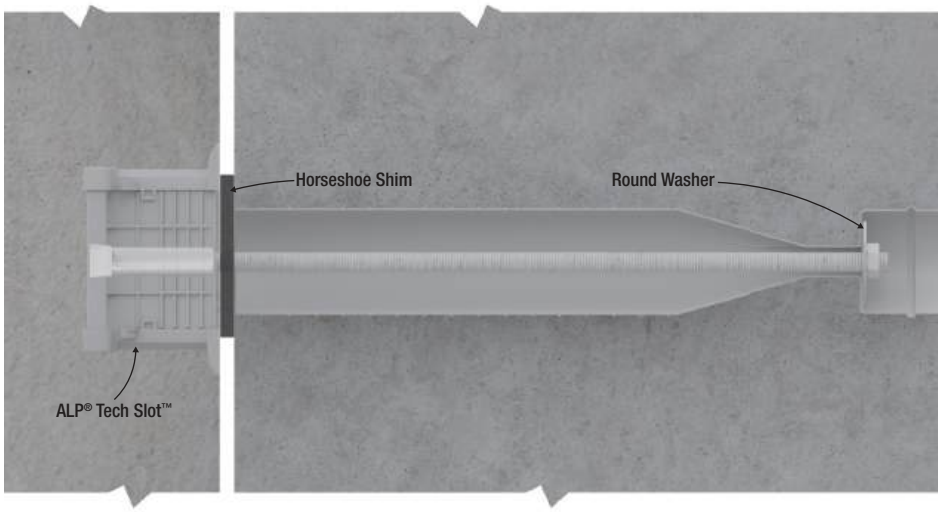
End View



Profile View

Part #	L
CVSS12	12"
CVCS26	26"

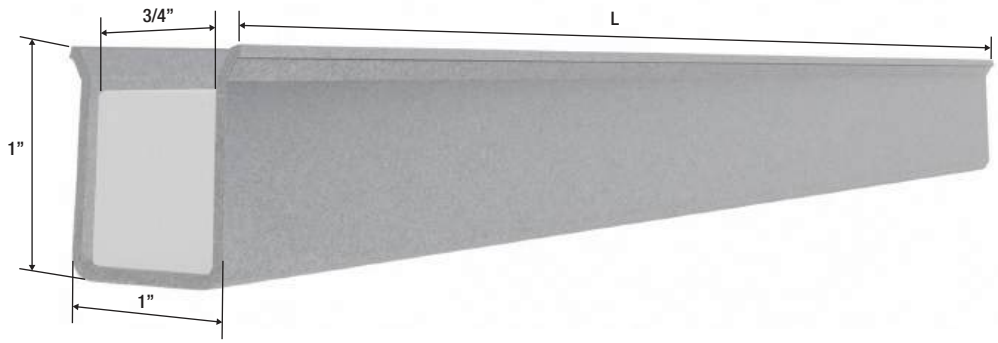
Sleeve Caps (Part #: CVSCAP) are used to cover up bolted connection and protect it from the elements, while allowing removal for periodic inspection of connection.



Typical Column to Spandrel Connection

DOVETAIL ANCHOR SLOT - FOAM FILLED

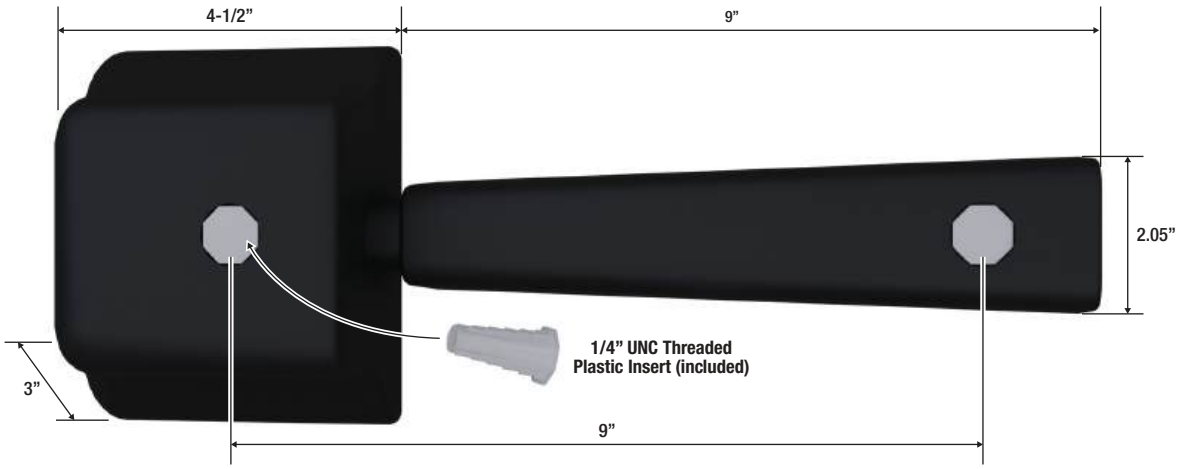
Dovetail Anchor Slots come in standard 26 gauge, mill galvanized finish in 10 ft lengths. Custom gauges and finishes available upon request.

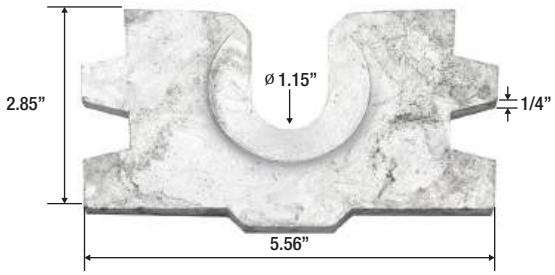


Part #	Gauge	Finish	L	Feet/Bundle
MCDAS26	26	Mill Galvanized	10’	250’

PA INSERT® BOLT POCKET FORMER SYSTEM

The PA Insert Bolt Pocket Former System is used to bolt two underground precast structures together. Bolt Pocket Plates are cast into the concrete to eliminate spalling. The former holds the steel plate in place during the production process, creates a void in the concrete and is removed after product is stripped from the form. Threaded Insert Locators can be used to hold the former in place, magnetic formers are also available. Installation kits are used after precast products are installed at the job site. **See www.alpsupply.com for more information.**



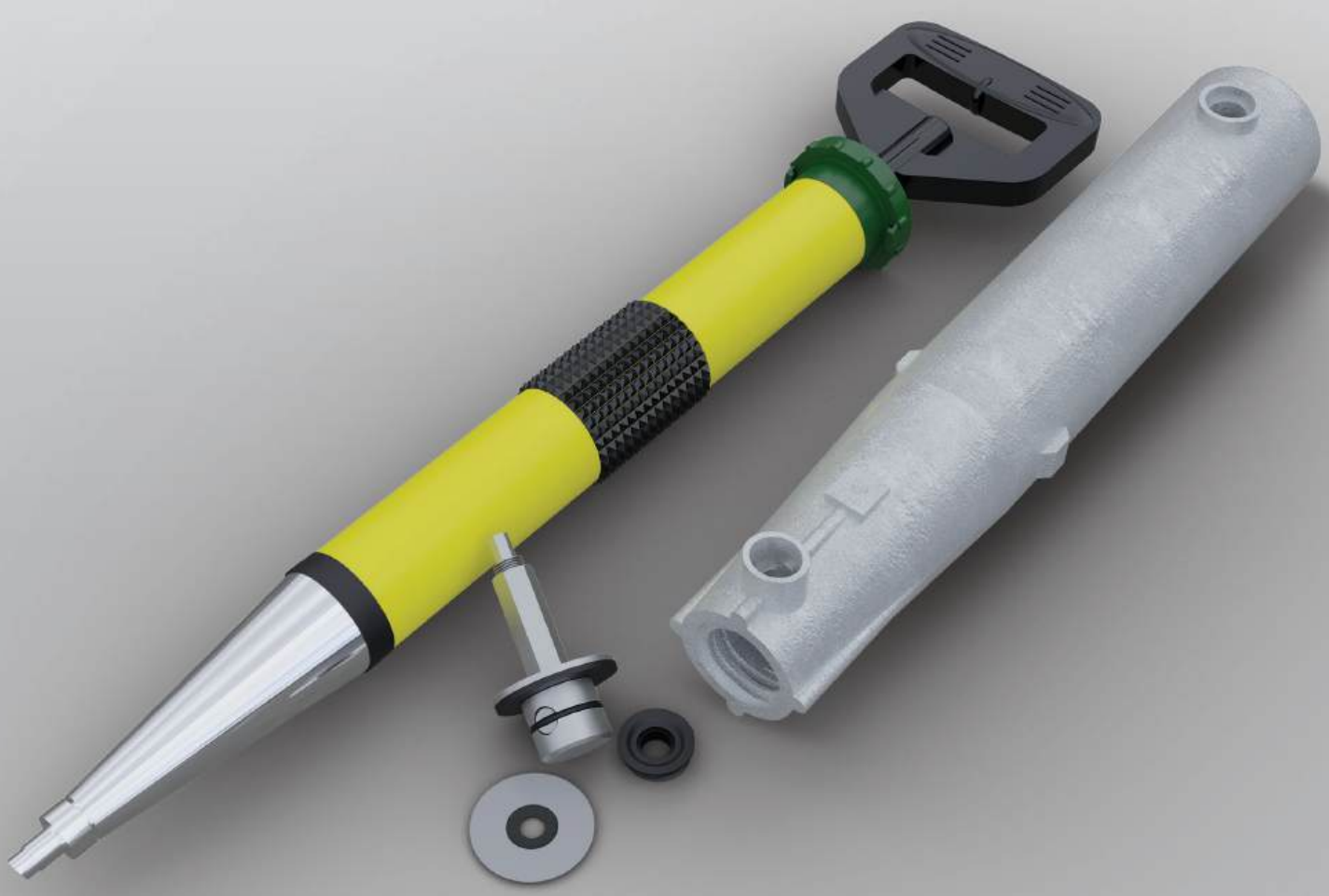


Each Connection Requires:

Bolt Pocket Former (Reusable) 2X | Bolt Pocket Plate 2X | Installation Kit 1X

Part #	Description	Weight (lbs)
PABPF2	Bolt Pocket Former (Reusable)	1.15
PABPFM2	Bolt Pocket Former - Magnetic	1.55
PABPP	Bolt Pocket Plate, HDG	0.95
PABPIK	Installation Kit, Plated	4.90

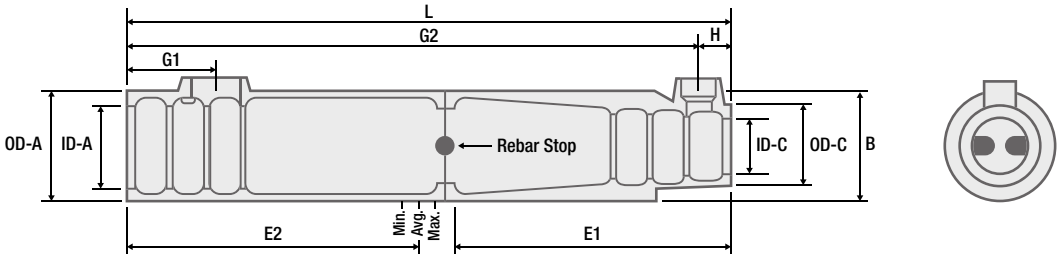
NMB SPLICE SLEEVE



U-X SERIES

The NMB Splice Sleeve System is a mechanical coupler for splicing reinforcing bars which uses a cylindrical shaped steel sleeve filled with a Portland cement based non-shrink high early strength grout. Reinforcing bars to be spliced are inserted into the sleeve to meet approximately at the center of the sleeve. The interior of the sleeve is then filled with SS Mortar Grout.

- System develops the tensile and compressive strengths in excess of the specified minimum for ASTM A615 and A706, Grade 60 bars conforming to the latest ACI 318 Building Code Requirements.
- Exceeds requirements of:
  - Type 1 connection - 125% Fy of grade 60 rebar
  - Type 2 connection - 150% Fy of grade 60 rebar
- Sleeve iron castings conform to proprietary specification based on ASTM A536-84
- SS Mortar meets the requirements for use in the sleeves under ICC-ESR 3433 and is required for use in NMB Splice Sleeve System
- **Standard finish is plain. Cold galvanized or epoxy coated available.**



DIMENSIONS

			Narrow End Diameter			Wide End Diameter		Grout Port Locations			
Part #	Rebar Size (Grade 60)	L	ID-C	OD-C	B - Max Diameter	ID-A	OD-A	G1	G2	H	Weight (lbs)
NSS-5UX	#5	9-5/8”	7/8”	1-1/2”	1-7/8”	1-1/4”	1-7/8”	1-7/8”	8-3/4”	7/8”	2.80
NSS-6UX	#6	11-1/4”	1”	1-5/8”	2”	1-3/8”	2”	1-7/8”	10-3/8”	7/8”	4.60
NSS-7UX	#7	12-3/4”	1-1/8”	1-3/4”	2-3/8”	1-3/4”	2-3/8”	1-7/8”	11-7/8”	7/8”	5.60
NSS-8UX	#8	14-5/8”	1-1/4”	1-7/8”	2-1/2”	1-7/8”	2-1/2”	1-7/8”	13-5/8”	7/8”	5.86
NSS-9UX	#9	16-3/8”	1-3/8”	2”	2-5/8”	2”	2-5/8”	1-7/8”	15-1/2”	7/8”	6.50
NSS-10UX	#10	17-7/8”	1-5/8”	2-1/4”	2-7/8”	2-1/8”	2-7/8”	1-7/8”	17”	7/8”	9.20
NSS-11UX	#11	19-1/2”	1-3/4”	2-3/8”	3”	2-3/8”	3”	1-7/8”	18-5/8”	7/8”	11.86
NSS-14UX	#14	24-3/8”	2”	2-3/4”	3-1/2”	2-5/8”	3-1/2”	1-7/8”	23-3/4”	7/8”	20.00

Each Splice Sleeve Set includes the following: sleeve, grout washer (GRW), hole seals (HS) and rubber plug (RP).

SPECIFICATIONS

		Recommended Rebar Embedment Length					
Part #	Rebar Size (Grade 60)	Factory Dowel - E1		Field Dowel - E2			Total Tolerances
		Min.	Max	Min.	Average	Max	
NSS-5UX	#5	4-1/8”	4-3/8”	4-1/8”	4-1/2”	4-7/8”	5/8”
NSS-6UX	#6	4-7/8”	5-1/8”	4-7/8”	5-3/8”	5-3/4”	5/8”
NSS-7UX	#7	5-3/4”	5-7/8”	5-3/4”	6-1/8”	6-1/2”	7/8”
NSS-8UX	#8	6-1/2”	6-3/4”	6-1/2”	7”	7-1/2”	7/8”
NSS-9UX	#9	7-3/8”	7-1/2”**	7-3/8”	7-7/8”	8-3/8”**	7/8”
NSS-10UX	#10	8-1/4”	8-3/8”	8-1/4”	8-5/8”	9-1/8”	7/8”
NSS-11UX	#9*	9”	9-1/8”**	9”	9-1/2”	9-7/8”**	1-7/16”*
	#11	9”	9-1/8”	9”	9-1/2”	9-7/8”**	7/8”
NSS-14UX	#11*	11-3/8”	11-5/8”**	11-3/8”	11-7/8”	12-3/8”	1-7/16”*
	#14	11-3/8”	11-5/8”	11-3/8”	11-7/8”	12-3/8”	7/8”

Each sleeve is included with a grout washer (GRW), hole seals (HS) and rubber plug (RP).
* Tolerances listed are based upon up-sizing of the sleeve in relation to the rebar to increase the total tolerances.
**The minimum embedment length for the bars in the sleeve must follow the requirements for the sleeve size, not the bar size. For example, for a #9 bar with #11U-X sleeve, the embedment length must be based upon 11U-X, i.e. the maximum factory dowel (E1) is 9.13”; the maximum field dowel (E2) is 9.92”.

RUBBER PLUGS

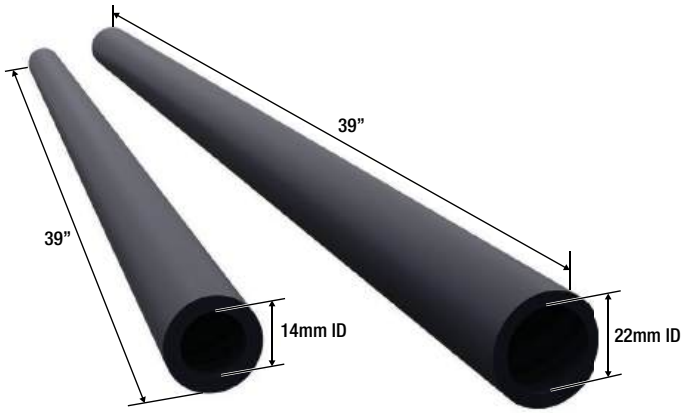
Rubber Plugs (RP) are designed to prevent the intrusion of concrete into the Splice Sleeve during the casting of the concrete elements.

Part #	Fits Part #	Rebar Size (Grade 60)	Material
NSS-RP05	NSS-5UX	#5	Rubber
NSS-RP06	NSS-6UX	#6	Rubber
NSS-RP07	NSS-7UX	#7	Rubber
NSS-RP08	NSS-8UX	#8	Rubber
NSS-RP09	NSS-9UX	#9	Rubber
NSS-RP10	NSS-10UX	#10	Rubber
NSS-RP0911	NSS-11UX	#9	Rubber
NSS-RP11	NSS-11UX	#11	Rubber
NSS-RP1114	NSS-14UX	#11	Rubber
NSS-RP14	NSS-14UX	#14	Rubber

* (1) Rubber Plug included with each Splice Sleeve

INLET AND OUTLET PIPES

Inlet/Outlet Pipes are designed to attach to the Splice Sleeve to create a path for the grout to be pumped from the concrete surface into the Splice Sleeve. Pipes are installed into the Splice Sleeve and capped with a hole seal before casting of the concrete elements.



Part #	Description	For Use With
NSS-PV22	Inlet PVC Pipe	U-X Series
NSS-PV14	Outlet PVC Pipe	U-X Series

HOLE SEALS

Hole Seals (HS) are plastic plugs designed to temporarily prevent intrusion of the concrete into PVC pipe during casting of concrete elements.

22mm Inlet **14mm Outlet**

Part #	PVC Pipe	For Use With
NSS-HS22	22mm	U-X Series
NSS-HS14	14mm	U-X Series

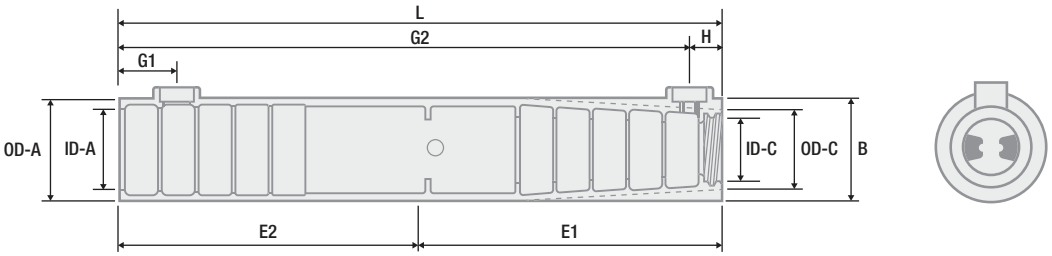
*(1) Set of Hole Seals included with each Splice Sleeve

* Sold in sets including (1) 14mm and (1) 22mm Hole Seal

A11W

The NMB Splice Sleeve System is a mechanical coupler for splicing reinforcing bars which uses a cylindrical shaped steel sleeve filled with a Portland cement based non-shrink high early strength grout. Reinforcing bars to be spliced are inserted into the sleeve to meet approximately at the center of the sleeve. The interior of the sleeve is then filled with SS Mortar Grout.

- System develops the tensile and compressive strengths in excess of the specified minimum for ASTM A615 and A706, Grade 60 bars conforming to the latest ACI 318 Building Code Requirements.
- Exceeds requirements of:
  - Type 1 connection - 125% Fy of grade 60 rebar
  - Type 2 connection - 150% Fy of grade 60 rebar
- Sleeve iron castings conform to proprietary specification based on ASTM A536-84
- SS Mortar meets the requirements for use in the sleeves under ICC-ESR 3433 and is required for use in NMB Splice Sleeve System
- **Standard finish is plain. Cold galvanized or epoxy coated available.**



DIMENSIONS

			Narrow End Diameter			Wide End Diameter		Grout Port Locations			
Part #	Rebar Size (Grade 60)	L	ID-C	OD-C	B - Max Diameter	ID-A	OD-A	G1	G2	H	Weight (lbs)
NSS-A11W	#11	19-1/2”	1-3/4”	3-1/4”	3-1/4”	2-5/8”	3-1/4”	1-7/8”	18-7/16”	1-1/16”	11.49

Each Splice Sleeve Set includes the following: sleeve, grout washer (GRW), hole seals (HS) and elastomer plug (EP).

SPECIFICATIONS

		Recommended Rebar Embedment Length					
Part #	Rebar Size (Grade 60)	Factory Dowel - E1		Field Dowel - E2			Total Tolerances
		Min.	Max	Min.	Average	Max	
NSS-A11W	#9*	8-7/8”	9-3/4”**	8-1/4”	9”	9-1/2”**	1-1/2”*
	#11	8-7/8”	9-3/4”	8-1/4”	9”	9-1/2”	1-3/16”

Each sleeve is included with a grout washer (GRW), hole seals (HS) and elastomer plug (EP).

* Tolerances listed are based upon up-sizing of the sleeve in relation to the rebar to increase the total tolerances.

**The minimum embedment length for the bars in the sleeve must follow the requirements for the sleeve size, not the bar size. For example, for a #9 bar with #11U-X sleeve, the embedment length must be based upon 11U-X, i.e. the maximum factory dowel (E1) is 9.13”; the maximum field dowel (E2) is 9.92”.

ELASTOMER PLUGS

Elastomer Plugs (EP) are designed to prevent the intrusion of concrete into the Splice Sleeve during the casting of the concrete elements.

Part #	Fits Part #	Rebar Size (Grade 60)	Color	Material
NSS-E0911	NSS-A11W	#9	Yellow	Elastomer
NSS-E1011	NSS-A11W	#10	White	Elastomer
NSS-E11	NSS-A11W	#11	Black	Elastomer

* (1) Elastomer Plug included with each Splice Sleeve

INLET AND OUTLET PIPES

Inlet/Outlet Pipes are designed to attach to the Splice Sleeve to create a path for the grout to be pumped from the concrete surface into the Splice Sleeve. Pipes are installed into the Splice Sleeve and capped with a hole seal before casting of the concrete panels.

Inlet Pipe

Part #	Description	For Use With
N/A	3/4" Schedule 40 PVC Pipe*	A11W Series

*Not supplied by Splice Sleeve North America. Can be picked up at a local supplier.

HOLE SEALS

Hole Seals (HS) are plastic plugs designed to temporarily prevent intrusion of the concrete into PVC pipe during casting of concrete elements.

3/4" Inlet

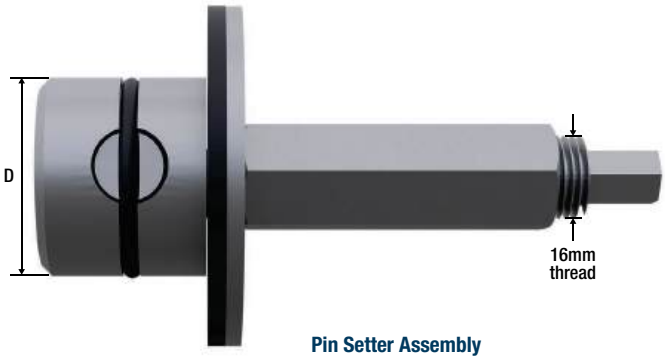
Part #	PVC Pipe	For Use With
NSS-HS34	3/4"	A11W Series

*(1) Set of Hole Seals included with each Splice Sleeve

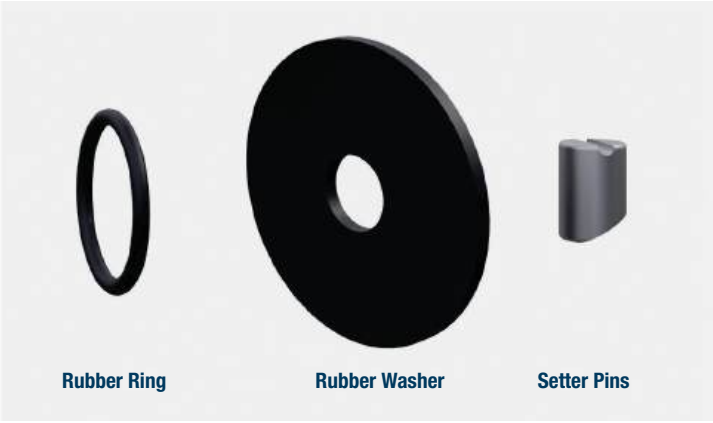
* Sold in sets including (1) 14mm and (1) 22mm Hole Seal

PIN SETTER

Pin Setters are designed to secure the Splice Sleeve into position on the form before casting of the concrete panels.



Pin Setter Assembly

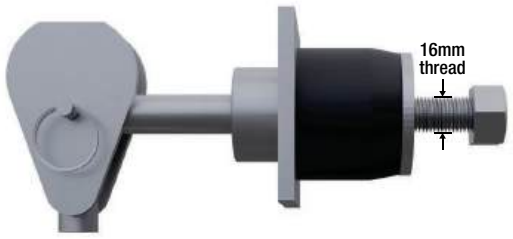


Rubber Ring | Rubber Washer | Setter Pins

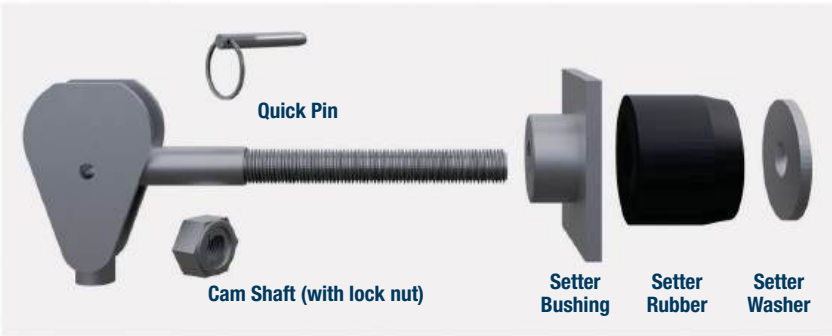
				Replacement Parts		
Rebar Size (Grade 60)	Fits Part #	D	Pin Setter Assembly	Rubber Ring	Rubber Washer	Setter Pins
#7, #8, #9	NSS-7UX, NSS-8UX, NSS-9UX	1-5/8”	NSS-PS0810	NSS-PSRR0810	NSS-PSRW0810	NSS-PSP0810
#10, #11, #14	NSS-10UX, NSS-11UX, NSS-A11W, NSS-14UX	2”	NSS-PS1114	NSS-PSRR1114	NSS-PSRW1114	NSS-PSP1114

SLEEVE SETTER

Sleeve Setters are designed to secure the Splice Sleeve into position on the form before casting of the concrete panels.



Sleeve Setter Assembly



Cam Shaft (with lock nut) | Setter Bushing | Setter Rubber | Setter Washer

			Replacement Parts				
Rebar Size (Grade 60)	Fits Part #	Sleeve Setter Assembly	Setter Rubber	Setter Washer	Setter Bushing	Cam Shaft	Quick Pin
#5	NSS-5UX	NSS-STR05	NSS-SR05	NSS-SW05	NSS-SBU	NSS-SHA	NSS-SQP
#6	NSS-6UX	NSS-STR06	NSS-SR06	NSS-SW06	NSS-SBU	NSS-SHA	NSS-SQP
#7	NSS-7UX	NSS-STR07	NSS-SR07	NSS-SW07	NSS-SBU	NSS-SHA	NSS-SQP
#8	NSS-8UX	NSS-STR08	NSS-SR08	NSS-SW08	NSS-SBU	NSS-SHA	NSS-SQP
#9	NSS-9UX	NSS-STR09	NSS-SR09	NSS-SW09	NSS-SBU	NSS-SHA	NSS-SQP
#10	NSS-10UX	NSS-STR10	NSS-SR10	NSS-SW10	NSS-SBU	NSS-SHA	NSS-SQP
#11	NSS-11UX	NSS-STR11	NSS-SR11	NSS-SW11	NSS-SBU	NSS-SHA	NSS-SQP
#11	NSS-A11W	NSS-STR14	NSS-SR14	NSS-SW14	NSS-SBU	NSS-SHA	NSS-SQP
#14	NSS-14UX	NSS-STR14	NSS-SR14	NSS-SW14	NSS-SBU	NSS-SHA	NSS-SQP

SS MORTAR

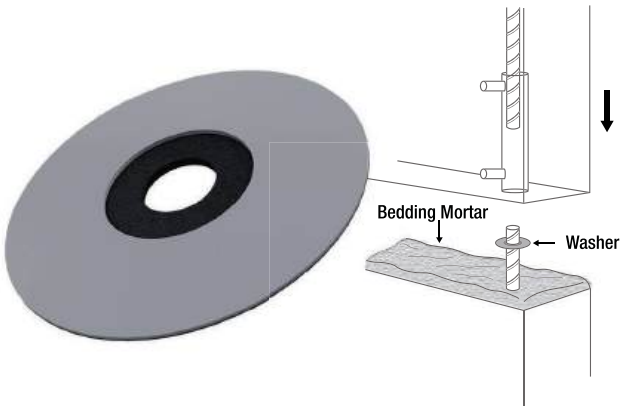
- Packaged in 55 lb. bags
- Non Metallic, grout, **will not stain or rust**
- High Early Strength grout - achieves 4,000 PSI in less than 24 hours at 68˚ F
- High flow consistency
- High Ultimate Strength - exceeds 13,860 PSI in 28 days
- 35˚ F to 140˚ F ambient temperature application (inside sleeve temperature)
- Fast 2-1/2 minute mixing time (depending on mixing speed)
- Flowable acceptable range from 8" to 12-1/4"
- **See Splice Sleeve Engineering Sheet for proper mixing instructions**

Part #	Rebar Size (Grade 60)	SS Mortar per Sleeve (lbs.)	Sleeves per Bag
NSS-5UX	#5	0.94	58.8
NSS-6UX	#6	1.31	42.0
NSS-7UX	#7	2.06	26.7
NSS-8UX	#8	2.7	20.4
NSS-9UX	#9	3.2	17.2
NSS-10UX	#10	4.01	13.7
NSS-11UX	#11	5.01	11.0
NSS-A11W	#11	6.07	9.1
NSS-14UX	#14	7.67	7.2

- Factor in additional 0.25 lbs per sleeve for 5" long inlet and outlet pipes.
- Factor in additional 15% for waste and field loss.

GROUT WASHER

Grout Washers are custom metal washers with a rubber seal designed to prevent the intrusion of bedding mortar into the sleeve for post grout applications or to prevent leakage of SS Mortar out of the sleeve in pre-Grout applications.



Part #	Sleeve Size	Fits Part #
NSS-G56	#5, #6	NSS-5UX, NSS-6UX
NSS-G789	#7, #8, #9	NSS-7UX, NSS-8UX, NSS-9UX
NSS-G10	#10	NSS-10UX
NSS-G11	#11	NSS-11UX
NSS-GA11W	#11	NSS-A11W
NSS-GRW14	#14	NSS-14UX

*(1) Grout Washer included with each Splice Sleeve

COIL SPRING

Coil Springs are designed to support the grout washer tight against the Splice Sleeve during the grouting process.

Part #	Sleeve Size
NSS-CS	#5-#14

LARGE TAPER SPRING

Large taper springs are a heavy duty spring designed to support the grout washer tight against the Splice Sleeve in Pre-Grout applications.

Part #	Sleeve Size
NSS-CSLT	#5-#14

MIXING PADDLE

NMB Mixing Paddle for consistent mixing of SS Mortar.

Part #	Description
NSS-MXB	Mixing Paddle

HANDY PUMP

The NMB Splice Sleeve Handy Pump is a simple, robust, plunger-style pump that has been designed to allow the user to inject small amounts of SS Mortar Grout into Splice Sleeves for small or hard-to-reach jobs. Can fill up to 9U-X with 5" PVC or less in length.

Part #	Description
NSS-HDP	Handy Pump

SELF-SEALING VALVE (SSV)

The NMB Self Sealing Valve (SSV) is designed with a built in micro-flap one way valve. The self-sealing valve is designed to be inserted in the PVC pipe (22mm) and allow grout to flow inward while preventing back-flow. When the Splice Sleeve is full with grout, the valve closes, allowing the user to quickly move to grouting the next sleeve.

Part #	Description
NSS-SSV	Self Sealing Valve

GROUT PUMP

The Grout Pump is designed for pumping a small or moderate quantity of grout in bag batch sizes.

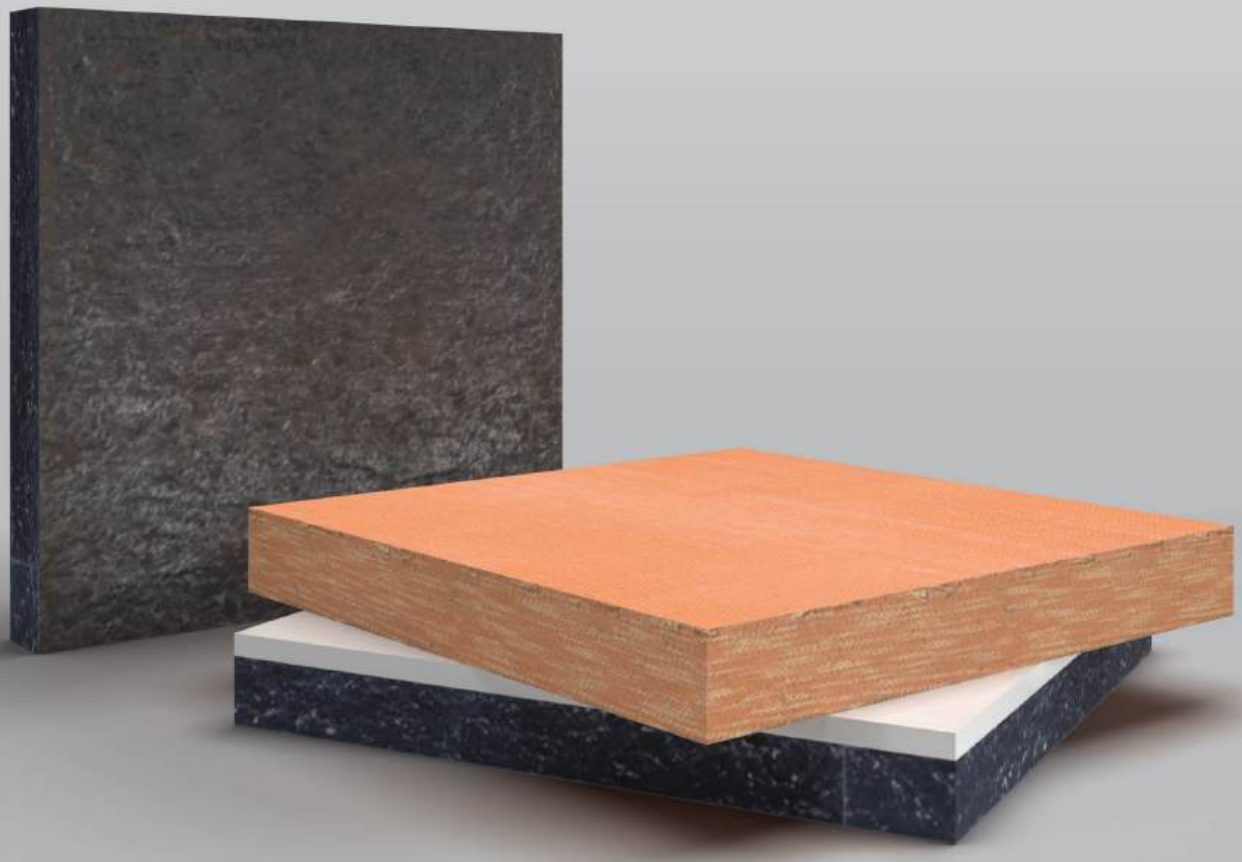
Part #	Description
NSS-GP2	Kenrich GP-2HDSS Grout Pump

STOPPER WITH INDICATOR (SWI)

The NMB Stopper with Indicator (SWI) is designed to be placed in the grout outlet pipe opening. The stopper inserts tight into the PVC outlet pipe (14mm). Stopper allows air and water to pass the indicator but when solid grout arrives, it pushes the plunger against the stopper and seals off the pipe.

Part #	Description
NSS-SWI	14mm Stopper with Blue Indicator
NSS-SWI22	22mm Stopper with White Indicator

BEARING PADS



ALP® X-CORD® RANDOM ORIENTED FIBER PADS

X-Cord Random Oriented Fiber Pads (ROF) are preformed fabric bearing pads that are composed of cross-layered, bi-directional reinforcing fibers. This is a composite material comprised of elastomer with reinforced fibers.

The use of fibers strengthens the elastomer's stiffness to resist vertical loads while increasing capacity, but soft enough to allow for shear deformation and rotational stresses.

ALP has replaced the traditional periodic material testing methodology used for ROF bearing pads. Material specification requirements do not provide assurance that the finished product is acceptable since the testing is performed using only single layer, one directional raw materials.

In order to meet or exceed the ALP X-Cord Design Guide criteria, X-Cord bearing pads are Lot tested to provide assurance that the finished pads are fabricated using the proper cross layered material and are within the required batching heat, pressure and time ranges.

Load Requirement: the applied compressive load (V_{ap}) must be less than or equal to the max compressive load (V_{ar}) for the bearing pad to pass the vertical load requirement.	
Max compressive strain, e_{max} @ 40%	
Max compressive load **without** rotation, V_{nr}	$V_{nr} = \frac{(0.6 \cdot SF + 2) \cdot e_{max}^{1.8} \cdot w_1 \cdot b_1}{1000}$
Loaded bearing pad length under rotation, w_2	$w_2 = \frac{e_{max} \cdot t}{100 \cdot \tan(\theta_w)} \leq w_1$
Loaded bearing pad width under rotation, b_2	$b_2 = \frac{e_{max} \cdot t}{100 \cdot \tan(\theta_b)} \leq b_1$
Compressive stress load limit, S_{limit}	
Max compressive stress, S_{nr}	$S_{nr} = \frac{V_{nr}}{w_2 \cdot b_2}$

The max compressive stress of any X-Cord bearing pad, regardless of size, is 8,000 psi (S_{limit}). If the calculated maximum compressive stress (S_{nr}) is greater than this limit, than the limit will be used to calculate the max compressive load (V_{ar}) instead.

ROTATION FACTOR

t - Thickness	0.125	0.25	0.375	0.5	0.625	0.75	0.875	1
k_t	4,000	2,500	1,500	500	400	325	295	275

The rotation factor (k_t) is based on the bearing pad thickness

Rotation reduction factor parallel to span, R_w	$R_w = \frac{1}{k_t \cdot \theta_w^2 + 1}$
Rotation reduction factor perpendicular to span, R_b	$R_b = \frac{1}{k_t \cdot \theta_b^2 + 1}$
Max Compressive Load **with** rotation, V_{ar}	$V_{ar} = \min(S_{limit}, S_{nr}) \cdot w_2 \cdot b_2 \cdot R_w \cdot R_b$

SPECIFICATIONS

Material Properties	Values
Hardness (Shore A)	75 (±10)
Tensile Strength	1,000 psi

Dimensional Information	Values
Stocked Thicknesses	1/8", 1/4", 3/8", 1/2", 5/8", 3/4", 7/8", 1"
Tolerance - Thickness	15% or ± 1/16", whichever is greater
Tolerance - Plan Dimensions	3% or ± 1/8", whichever is greater

*1/8" thickness is comprised of single-layered, uni-directional reinforcing fibers.

ALP® ISOFLEX® COTTON DUCK PADS

ALP Isoflex cotton duck pads are reinforced pads that are used when a higher compressive strength is needed. These pads are reinforced with horizontal layers of fabric, bonded in the elastomer. Designed with a high load capacity (10,000 PSI), Isoflex Pads are used to control shock and vibration and create a uniform bearing area.

Product Overview

- High load capacity with limited deflection
- Absorbs and reduces shock and vibration
- Allows for lateral movement
- Helps prevent spalling
- Conforms to AASHTO Section 18.4.10.1 Grade III
- Tested in accordance with MIL-C-882E
- Also available for slide bearing applications as Iso-Slide™

SPECIFICATIONS

Material Properties	Values	ASTM Test Method
Hardness (Shore A)	90 (± 5)	D2240
Compression - Permanent Set	13% Max at 10,000 PSI	D395
Density	67 Lb. / Cu. Ft. Min	N/A
Volume Swell (%)	25% Max	N/A
Fabric	8 oz. Polyester & Cotton Min	N/A
Delamination	None	N/A
Fungus	None	N/A

Dimensional Information	Values
Stocked Thicknesses	1/8", 1/4", 3/8", 1/2", 5/8", 3/4", 1"
Maximum Size	48" x 48"
Tolerance - Thickness	Nominal ± 5%
Tolerance - Plan Dimensions	3% or ± 1/8", whichever is greater

ALP® X-SLIDE® AND ISO-SLIDE® - SLIDE BEARING PADS

ALP X-Slide and Iso-Slide bearing pads are manufactured with a Polytetrafluoroethylene (PTFE) sheet permanently bonded to either an Isoflex™ or X-Cord™ bearing pad to create a bearing point with a low coefficient of friction, but high bearing capacity. A polished stainless steel plate is attached to the bottom of an upper bearing element to maintain the low coefficient of friction with this system.

Product Overview

- Allows for lateral movement due to thermal and unrestrained forces
- Low coefficient of friction
- Engineered for predictable performance

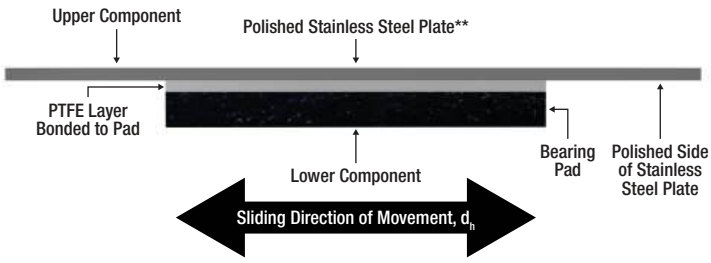
ALP PTFE PROPERTIES	25% Glass Filled PTFE (Type 1) "Most Popular"		Unfilled PTFE (Type 1, Grade 2)	
Material Properties	**Values**	**ASTM Test Method**	**Values**	**ASTM Test Method**
Compressive Strength (Recommended)	2,500 PSI Max.	N/A	2,000 PSI Max.	N/A
Tensile Strength	2,270 PSI Min.	D4745	2,500 PSI Min.	D4894
Elongation	180% Min.	D4745	200% Min.	D4894
Specific Gravity	2.15 - 2.25	D4745	2.13 - 2.18	D4894
Coefficient of Friction*	0.12 (Typical)	D1894	.06 (Typical)	D1894

*Against a stainless steel mating surface with a 2B finish or smoother.

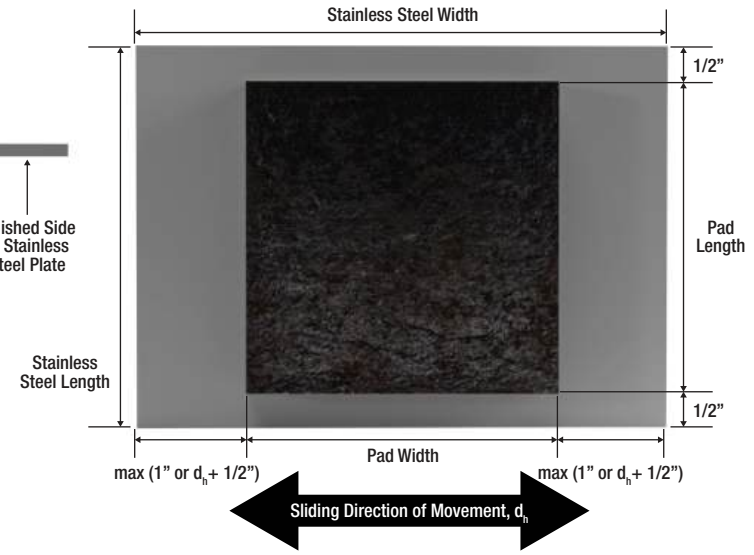
Dimensional Information	X-Slide Values	Iso-Slide Values
Standard Thickness*	3/32" PTFE (+ Bearing Pad)	3/32" PTFE (+ Bearing Pad)
Tolerance - Thickness	15% or ± 1/16", whichever is greater	Nominal ± 5%
Tolerance - Plan Dimensions	3% or ± 1/8", whichever is greater	3% or ± 1/8", whichever is greater

*Other thicknesses are available upon request.

Elevate View



Plain View



*Upper Component must be designed to provide full bearing on Lower Component at all times, even under worst case horizontal movements per illustration

**ALP Standard-304 Stainless Steel, 10 gage thickness, one side No. 2B Finish (Mirror). Other thicknesses available upon request.

ALP® NEOPAD® 50/60/70 NEOPRENE BEARING PADS

Neopads (Neoprene Bearing Pads) are made of 100% chloroprene and are the only material that meets the requirements of AASHTO, Section 18 Standard Specifications for Highway Bridges. Neoprene Bearing Pads allow for the most freedom of movement at the bearing point, for compressive stresses lower than other pad types.

Product Overview

- Original bearing pad, typically specified by Highway DOT officials
- Available in 50, 60, or 70 durometer hardness
- Absorbs and reduces shock and vibration
- Helps prevent spalling
- Meets AASHTO Highway Specifications
- Meets A.R.E.A. Railroad Specifications

SPECIFICATIONS

Material Properties	Values			ASTM Test Method
Hardness (Shore A)	50 (± 5)	60 (± 5)	70 (± 5)	D2240
Compression Set		35% Max		D395
Tensile Strength		2,248 PSI Min		D412
Ultimate Elongation	400%	350%	300%	D412
Heat Resistance · Change in Hardness · Change in Tensile Strength · Change in Elongation		15 points Max -15% Max -40% Max		D573

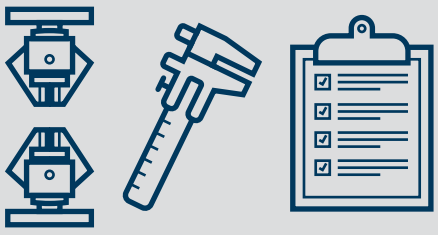
Dimensional Information	Values	
	50 Durometer	60 Durometer
Stocked Thicknesses	1/2”	1/4”, 1/2”, 3/4”, 1”
Maximum Size	48” x 48”	
Tolerance - Thickness	Nominal ± 5%	
Tolerance - Plan Dimensions	3% or ± 1/8”, whichever is greater	

NOTES

DID YOU KNOW?

At ALP Supply, safety is our number one priority. Our Quality Control Team rigorously tests ALP brand products throughout the manufacturing process.

Learn more at **alpsupply.com**.



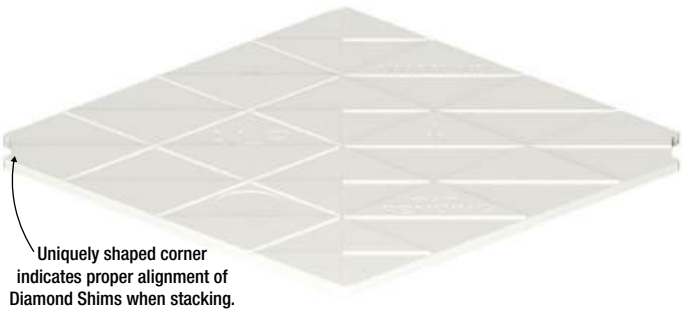
SHIMS

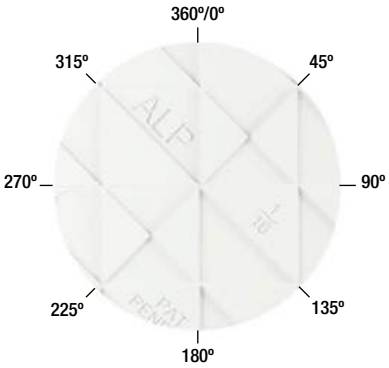
ALP® DIAMOND SHIMS®

The ALP® Diamond Shims have distinct triangle shapes that interlock, preventing horizontal movement 360° along a compass axis which provides stability and strength when leveling precast elements. **Patent No. US D957,693 S and US 11,927,048 B1.**

Plastic injection molded from Virgin High Impact Polystyrene (HIPS) material, our Diamond Shims are resilient while providing high load capacities.

- 8,000 psi minimum yield strength in compression
- Made from non-corrosive material
- Product will not stain concrete
- Manufactured with lot number traceability
- **Shims stacked greater than 1-3/16" in height will have a reduced capacity and are not recommended.**



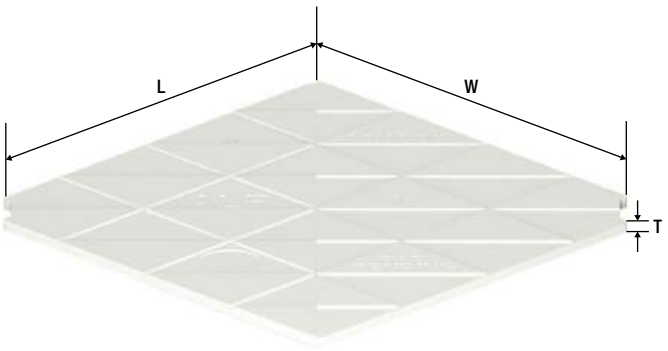


Interlocking System

Corner Close-up

Diamond Shims - Individual Shims

Sold in 1/4", 1/8", and 1/16" thickness, conveniently packaged in stacks, held together with a rubber band for ease of handling.

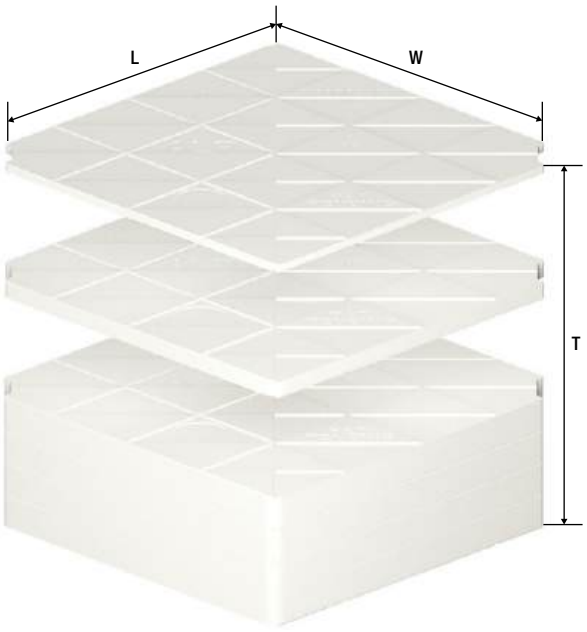


DIMENSIONS - INDIVIDUAL SHIMS

Part #	W	L	T	# of shims per stack	Qty/Ctn
PSDS0303116	3"	3"	1/16"	35	1,680
PSDS030318	3"	3"	1/8"	20	960
PSDS030314	3"	3"	1/4"	10	480
PSDS0606116	6"	6"	1/16"	35	420
PSDS060618	6"	6"	1/8"	20	240
PSDS060614	6"	6"	1/4"	10	120

Diamond Shims - Shim Packs

Shim Packs come preassembled 1-3/16" tall, held together with a rubber band.



DIMENSIONS - SHIM PACKS

Part #	W	L	T	Shim Pack Configuration	Packs/Ctn
PSDSP03031316	3"	3"	1-3/16"	(4) 1/4", (1) 1/8", (1) 1/16"	96
PSDSP06061316	6"	6"	1-3/16"	(4) 1/4", (1) 1/8", (1) 1/16"	24

KOROLATH® SHIMS

Korolath is an engineered, multi-polymer plastic, specifically formulated for use in the construction industry as a bearing and shimming material. Shims are commonly used for hollow-core slabs and architectural precast cladding panels.

- Will not stain or rust
- Gives permanent support
- Not effected by alkali, micro organisms or rot
- Easy to use and lightweight
- Scored for use at various lengths

DIMENSIONS - 2” X 2” SHIMS

Part #	T	W	L	Qty/Ctn
KCS11622	1/16”	2”	2”	2,000
KCS1822	1/8”	2”	2”	2,000
KCS1422	1/4”	2”	2”	1,000
KCS1222	1/2”	2”	2”	500

DIMENSIONS - 2” X 4” SHIMS

Part #	T	W	L	Qty/Ctn
KCS1624	1/16”	2”	4”	2,000
KCS1824	1/8”	2”	4”	2,000
KCS1424	1/4”	2”	4”	1,000
KCS1224	1/2”	2”	4”	500

DIMENSIONS - 3” X 4” SHIMS

Part #	T	W	L	Qty/Ctn
KCS11634	1/16”	3”	4”	1,000
KCS1834	1/8”	3”	4”	1,000
KCS1434	1/4”	3”	4”	500
KCS1234	1/2”	3”	4”	250

DIMENSIONS - 4” X 4” SHIMS

Part #	T	W	L	Qty/Ctn
KCS11644	1/16”	4”	4”	1,000
KCS1844	1/8”	4”	4”	1,000
KCS1444	1/4”	4”	4”	500
KCS1244	1/2”	4”	4”	250

DIMENSIONS - 4” X 6” SHIMS

Part #	T	W	L	Qty/Ctn
KCS11646	1/16”	4”	6”	1,000
KCS1846	1/8”	4”	6”	500
KCS1446	1/4”	4”	6”	250
KCS1246	1/2”	4”	6”	125

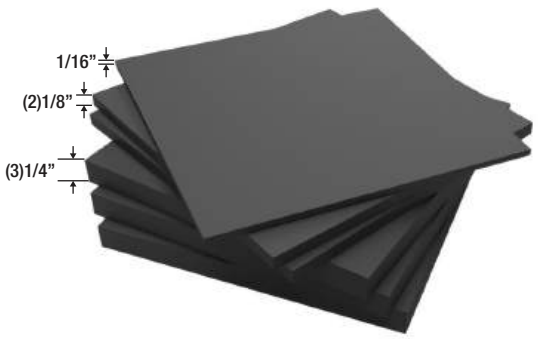
DIMENSIONS - 6” X 6” SHIMS

Part #	T	W	L	Qty/Ctn
KCS11666	1/16”	6”	6”	500
KCS1866	1/8”	6”	6”	250
KCS1466	1/4”	6”	6”	125
KCS1266	1/2”	6”	6”	90

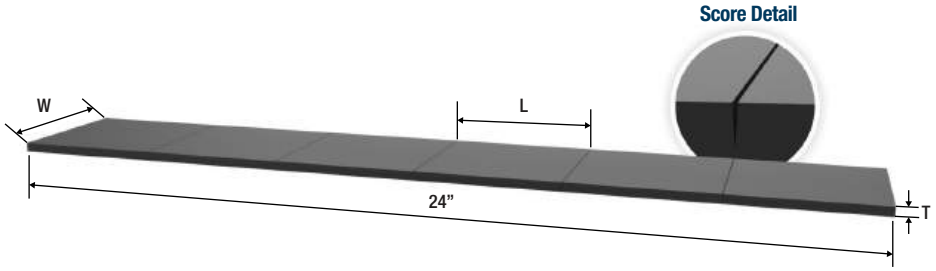
KOROLATH® SHIM PACKS

Korolath® Shim Packs are pre-assembled packages of Korolath Shims that are designed for precise placing and leveling of large precast panels. Shim Packs should be used in grouted applications only. Custom configurations available per your requirements. Also available with heat sealed edge.

- Popular sizes are: 3” x 3”, 4” x 4”, 4” x 6” and 6” x 6”
- Typical Shim Packs are 1-1/16” thick and consist of (1) 1/16”, (2) 1/8”, (3) 1/4”
- Available in thicknesses from 1/2” to 2-1/16”



KOROLATH® SHIM STRIPS



Korolath Shim Strips are available in thicknesses of 1/16”, 1/8” and 1/4” in 24” lengths. Shim Strips are scored in 2”, 3” or 4” lengths for easy snap-off. Common widths are 2”, 3” and 4”. Other widths are available.

KOROLATH® HORSESHOE SPACERS

Korolath Horseshoe Spacers are commonly used in vertical applications that require a slot to fit a bolt.

DIMENSIONS - 3” X 3”

Part #	T	W	L	Qty/Ctn
KCHS11633	1/16”	3”	3”	1,000
KCHS1833	1/8”	3”	3”	1,000
KCHS1433	1/4”	3”	3”	500
KCHS1233	1/2”	3”	3”	250

DIMENSIONS - 3” X 4”

Part #	T	W	L	Qty/Ctn
KCHS11634	1/16”	3”	4”	1,000
KCHS1834	1/8”	3”	4”	1,000
KCHS1434	1/4”	3”	4”	500
KCHS1234	1/2”	3”	4”	250

DIMENSIONS - 4” X 4”

Part #	T	W	L	Qty/Ctn
KCHS11644	1/16”	4”	4”	1,000
KCHS1844	1/8”	4”	4”	500
KCHS1444	1/4”	4”	4”	250
KCHS1244	1/2”	4”	4”	250

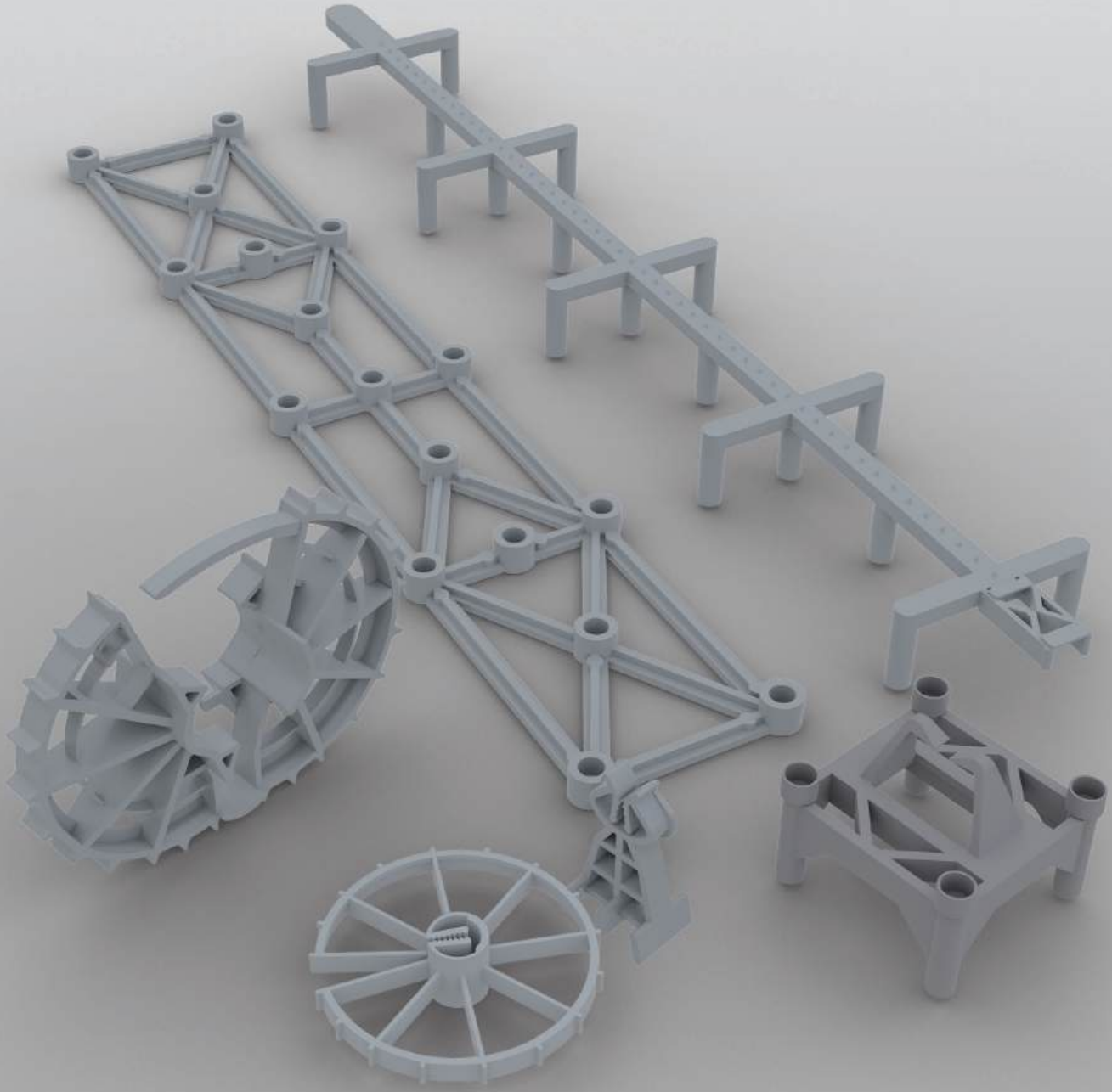
KOROLATH® BEARING STRIPS

Korolath Bearing Strips are commonly used for hollow-core planks and precast slabs.

DIMENSIONS

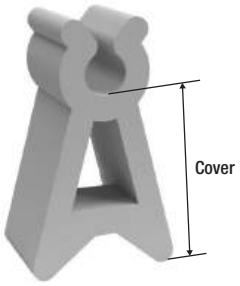
Part #	T	W	L	Qty/Ctn
KCBS18248	1/8”	2”	48”	300
KCBS14248	1/4”	2”	48”	150
KCBS18348	1/8”	3”	48”	200
KCBS14348	1/4”	3”	48”	100
KCBS14448	1/4”	4”	48”	75

PLASTIC BAR SUPPORTS



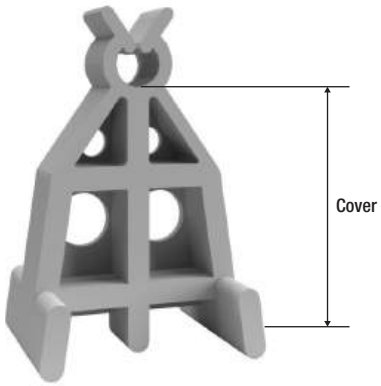
STANDARD CHAIRS FOR MESH

- 100% plastic construction, eliminating exposed metal that can rust
- 7 different head designs optimized for supporting a wide range of mesh and bar sizes
- Most models have flow holes for concrete
- Comes in 1/2" through 3" covers
- Standard Color - Light Gray for most chairs
- Some style of chairs available in custom colors



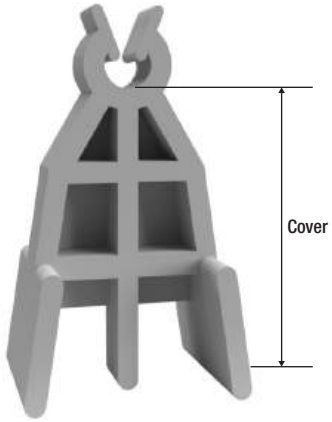
A CHAIR: W1 - W6 MESH

Part #	Cover/Size	Standard Color	Qty/Ctn
PWA34	3/4"	Light Gray	15,000
PWA1	1"	Light Gray	8,000



B CHAIR: W2 - W7.4 MESH

Part #	Cover/Size	Standard Color	Qty/Ctn
PWB34	3/4"	Light Gray	5,500
PWB1	1"	Light Gray	4,300
PWB114	1-1/4"	Light Gray	3,200
PWB112	1-1/2"	Light Gray	2,600
PWB2	2"	Light Gray	1,500
PWB212	2-1/2"	Light Gray	1,100
PWB3	3"	Light Gray	700



C CHAIR: W5 - W11.2 MESH

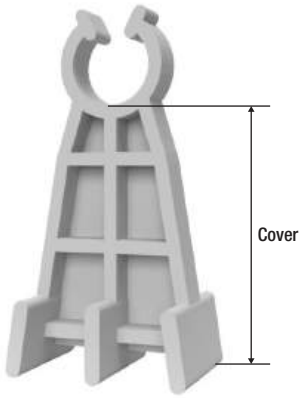
Part #	Cover/Size	Color	Qty/Ctn
PWC34	3/4"	Light Gray	4,200
PWC1	1"	Light Gray	3,600
PWC114	1-1/4"	Light Gray	2,400
PWC112	1-1/2"	Light Gray	2,200
PWC134	1-3/4"	Light Gray	1,600
PWC2	2"	Light Gray	1,200
PWC212	2-1/2"	Light Gray	1,000
PWC3	3"	Light Gray	600

STANDARD CHAIRS FOR REBAR

- 100% plastic construction, eliminating exposed metal that can rust
- 7 different head designs optimized for supporting a wide range of mesh and bar sizes
- Most models have flow holes for concrete
- Comes in 1/2" through 3" covers
- Standard Color - Light Gray for most chairs
- Some style of chairs available in custom colors

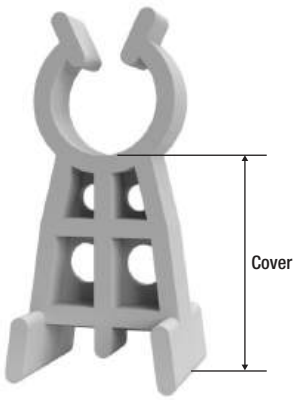
D CHAIR: #3 - #5 REBAR

Part #	Cover/Size	Standard Color	Qty/Ctn
PWD12	1/2"	Light Gray	6,500
PWD34	3/4"	Light Gray	3,500
PWD1	1"	Light Gray	3,500
PWD114	1-1/4"	Light Gray	2,300
PWD112	1-1/2"	Light Gray	2,000
PWD2	2"	Light Gray	1,200
PWD212	2-1/2"	Light Gray	800
PWD3	3"	Light Gray	600



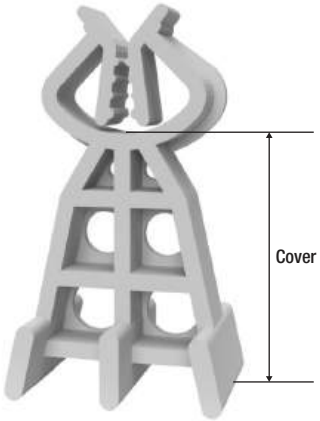
E CHAIR: #6 - #9 REBAR

Part #	Cover/Size	Standard Color	Qty/Ctn
PWE34	3/4"	Light Gray	2,700
PWE1	1"	Light Gray	2,800
PWE114	1-1/4"	Light Gray	1,600
PWE112	1-1/2"	Light Gray	1,600
PWE2	2"	Light Gray	1,100
PWE212	2-1/2"	Light Gray	850
PWE3	3"	Light Gray	500



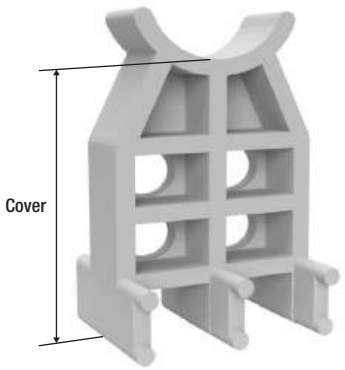
F CHAIR: #2 - #5 REBAR

Part #	Cover/Size	Standard Color	Qty/Ctn
PWF34	3/4"	Light Gray	2,500
PWF1	1"	Light Gray	2,200
PWF114	1-1/4"	Light Gray	1,600
PWF112	1-1/2"	Light Gray	1,600
PWF2	2"	Light Gray	1,000
PWF212	2-1/2"	Light Gray	750
PWF3	3"	Light Gray	500



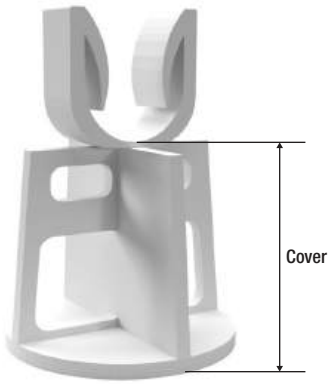
STANDARD CHAIRS

- 100% plastic construction, eliminating exposed metal that can rust
- 7 different head designs optimized for supporting a wide range of mesh and bar sizes
- Most models have flow holes for concrete
- Comes in 1/2” through 3” covers
- Standard Color - Light Gray for most chairs
- Some style of chairs available in custom colors



AB CHAIR: ANY REINFORCEMENT SIZE

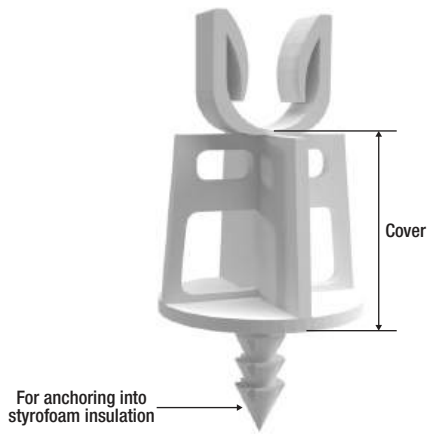
Part #	Cover/Size	Standard Color	Qty/Ctn
PWAB34	3/4”	Light Gray	5,000
PWAB1	1”	Light Gray	3,500
PWAB114	1-1/4”	Light Gray	2,800
PWAB112	1-1/2”	Light Gray	2,400
PWAB134	1-3/4”	Light Gray	1,800
PWAB2	2”	Light Gray	1,200
PWAB3	3”	Light Gray	600



G CHAIR (#3-#7 REBAR)

Part #	Cover/Size	Standard Color	Qty/Ctn
PWG112	1-1/2”	White	600
PWG2	2”	White	500
PWG212	2-1/2”	White	450
PWG3	3”	White	375

Note: Large clip-on head will clip on a #3 through #7 rebar



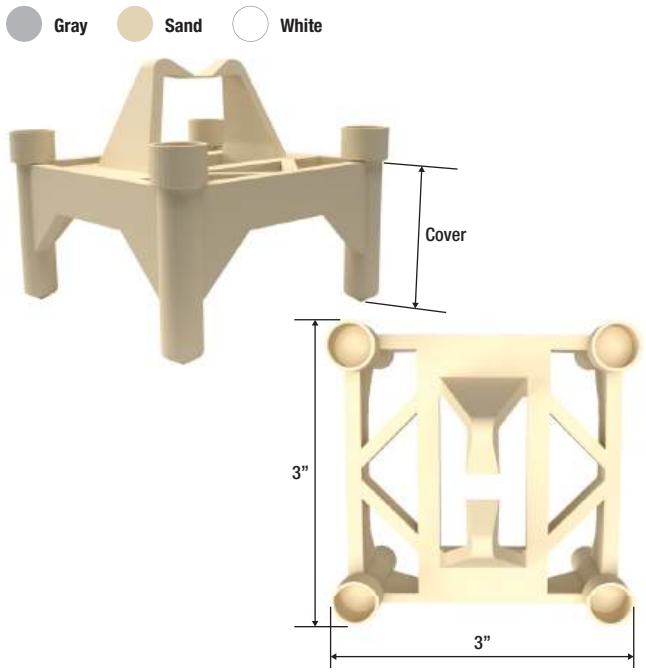
I CHAIR (#3-#7 REBAR)

Part #	Cover/Size	Standard Color	Qty/Ctn
PWI112	1-1/2”	White	500
PWI2	2”	White	425
PWI212	2-1/2”	White	400
PWI3	3”	White	350

Note: Large clip-on head will clip on a #3 through #7 rebar

STACK CHAIRS - STANDARD AND HEAVY DUTY

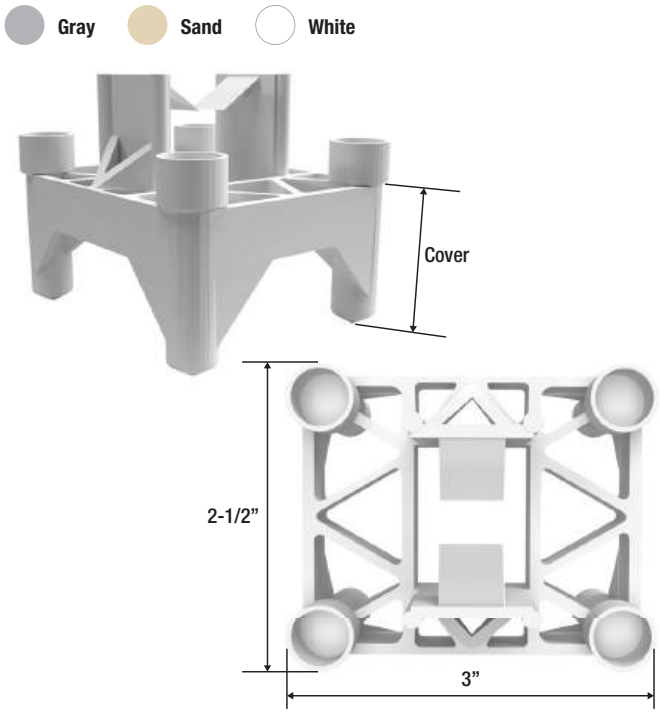
- 100% plastic construction, eliminating exposed metal that can rust
- Stackable for multi-mat applications or to achieve higher covers
- Open design allows maximum concrete flow, eliminating voids
- Small contact footprint design minimizes exposure on concrete surface
- Available in Light Gray, White and Sand.



STANDARD STACK CHAIRS

Part #	Cover/Size	Standard Color	Qty/Ctn
PWSC1	1"	Light Gray	500
PWSC112	1-1/2"	Light Gray	400
PWSC2	2"	Light Gray	300

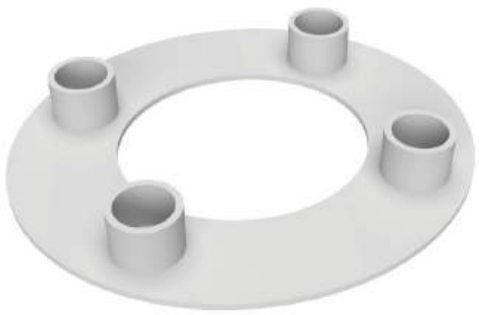
Note: Add "S" at the end of the Product Code for Sand, add "W" for White.



HEAVY DUTY STACK CHAIRS

Part #	Cover/Size	Standard Color	Qty/Ctn
PWSCHD114	1-1/4"	Light Gray	446
PWSCHD112	1-1/2"	Light Gray	360
PWSCHD134	1-3/4"	Light Gray	300
PWSCHD2	2"	Light Gray	300
PWSCHD214	2-1/4"	Light Gray	300
PWSCHD212	2-1/2"	Light Gray	250
PWSCHD3	3"	Light Gray	240
PWSCHD312	3-1/2"	Light Gray	200
PWSCHD4	4"	Light Gray	180
PWSCHD414	4-1/4"	Light Gray	180
PWSCHD412	4-1/2"	Light Gray	180

Note: Add "S" at the end of the Product Code for Sand, add "W" for White.



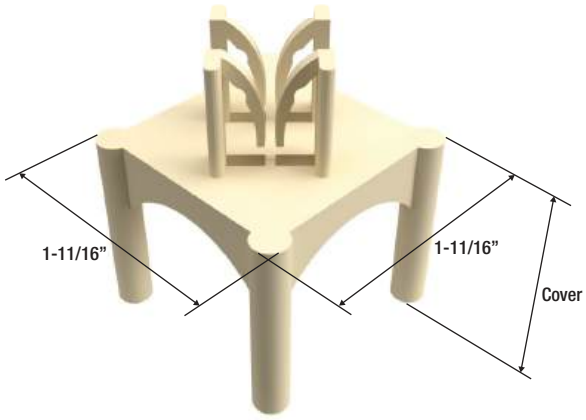
SAND PLATE FOR HD STACK CHAIRS

Part #	Standard Color	Qty/Ctn
PWSCHDSP	Light Gray	650

Note: For use with Heavy Duty Stack Chairs only.

ARCHITECTURAL MESH CHAIRS

Gray Sand White

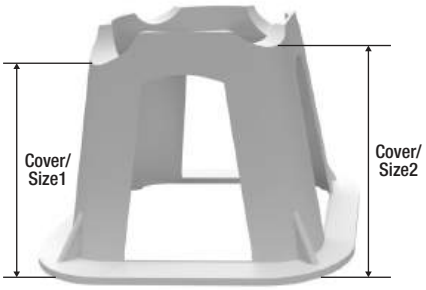


Architectural Mesh Chairs are designed specifically for architectural applications. Best suited for exposed aggregate, sand blasted and acid washed finishes due to their small feet design and color options. Used for mesh and rebar up to #4 size. Available in Light Gray, White and Sand.

Part #	Cover/Size	Standard Color	Qty/Ctn
PWAM1	1"	Light Gray	1,000
PWAM114	1-1/4"	Light Gray	900
PWAM112	1-1/2"	Light Gray	750
PWAM2	2"	Light Gray	550

Note: Add "S" at the end of the Product Code for Sand, add "W" at the end of the Product Code for White.

KONSTRUCTION CHAIRS (K CHAIR)



L Chairs
Also available with legs for 4", 4-1/2", 5", 5-1/2" and 6" heights.

Konstruction Chairs are designed for use in on-grade construction for slab work or to support reinforcing off of insulation. Stable design, high strength, and multiple cover heights makes this the spacer of choice for quality construction. Recommended for W1.4-W44 sized wire mesh & #3-#9 rebar.

Part #	Cover/Size 1	Cover/Size 2	Qty/Ctn
PWKC3	3"	3-1/4"	216
PWKC312	3-1/2"	3-3/4"	204
PWKC4	4"	4-1/4"	192
PWKC412	4-1/2"	4-3/4"	180

Note: Additional sizes available. Call for more information.

REBAR BULLET SPACERS

Rebar Bullet Spacers are designed to provide a protective covering for rebar ends in a vertical application. The bullets space rebar 1" from the bottom of the form and keep the rebar protected from rusting on the surface of the concrete. Solid plastic construction allows the bullets to support heavy loads.

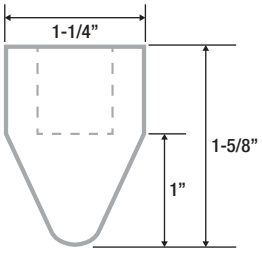

#3 Rebar


#4 Rebar


#5 Rebar


#6 Rebar


Top View



Part #	Rebar Size	Color	Qty/Ctn
PWRB3	#3 Rebar	Brown	1,000
PWRB4	#4 Rebar	White	1,000
PWRB5	#5 Rebar	Light Gray	1,000
PWRB6	#6 Rebar	Black	1,000

PLASTIC SPACER WHEELS FOR REBAR AND MESH

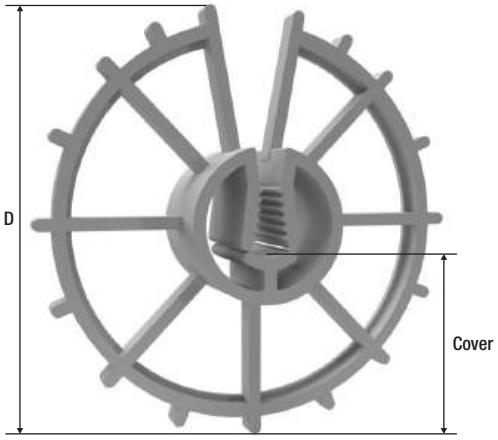
- 100% plastic construction, eliminating exposed metal that can rust
- Available for bar and mesh support
- Small form contact points
- Ample through holes for maximum concrete flow
- Comes in 5/8” through 3-1/2” covers
- All wheels come standard in Light Gray

STANDARD BAR WHEELS

Part #	Rebar Size	Size	Cover Range	D	Color	Qty/Ctn
PWWB058	#3 - #4 Rebar	5/8”	11/16” - 3/4”	1-7/8”	Light Gray	1,800
PWWB1	#3 - #5 Rebar	1”	1” - 1-1/8”	2-5/8”	Light Gray	900
PWWB112	#3 - #6 Rebar	1-1/2”	1-7/16” - 1-5/8”	3-5/8”	Light Gray	700
PWWB2	#3 - #6 Rebar	2”	1-15/16” - 2-1/8”	4-5/8”	Light Gray	450
PWWB3	#3 - #6 Rebar	3”	2-9/16” - 2-3/4”	5-7/8”	Light Gray	270
PWWB312	#3 - #6 Rebar	3-1/2”	3-1/16” - 3-1/4”	6-7/8”	Light Gray	200

STANDARD MESH WHEELS

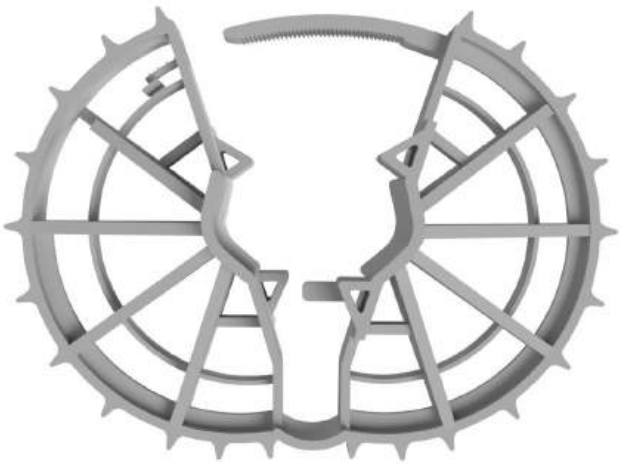
Part #	Mesh Size	Size	Cover Range	D	Color	Qty/Ctn
PWWM034	Mesh W2.9 - W12	3/4”	3/4” - 13/16”	1-7/8”	Light Gray	1,800
PWWM1	Mesh W2.9 - W12	1”	1-1/8” - 1-3/16”	2-5/8”	Light Gray	1,500
PWWM112	Mesh W2.9 - W12	1-1/2”	1-5/8” - 1-11/16”	3-5/8”	Light Gray	800
PWWM1034	Mesh W2.9 - W12	1-3/4”	1-13/16” - 1-7/8”	4”	Light Gray	600
PWWM2	Mesh W2.9 - W12	2”	2-1/8” - 2-3/16”	4-5/8”	Light Gray	450
PWWM3	Mesh W2.9 - W12	3”	2-3/4” - 2-13/16”	5-7/8”	Light Gray	300

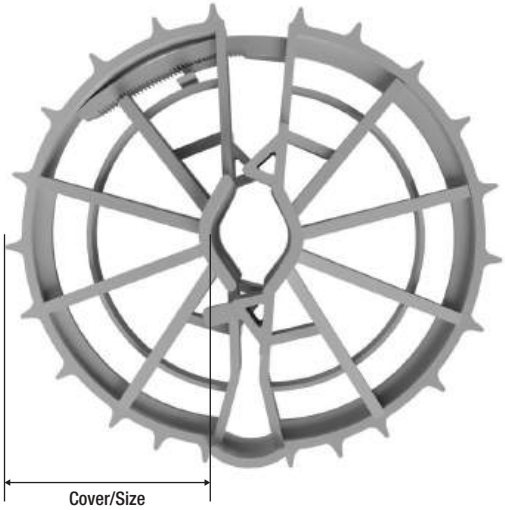


Dual sided hub for maximum support and resistance to leaning (Available on 1-1/2”- 3” Models)

ZIP WHEEL - LOCKING SPACER WHEELS

The specially designed locking wheel mechanism allows each size wheel to cover a wide range of coverage. They are made from a sturdy, heavy material that supply maximum grip on rebar over traditional rebar wheels. All wheels come standard in Light Gray.

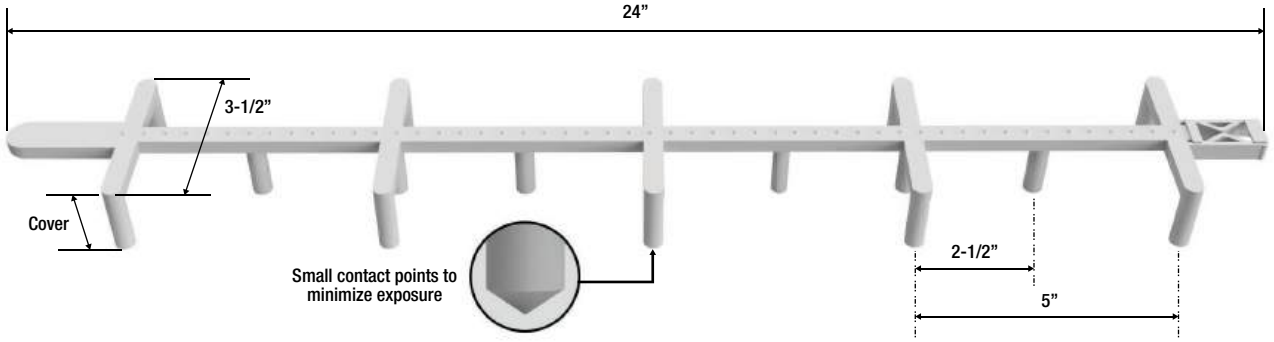




Part #	Rebar Size	Cover/Size	Color	Qty/Ctn
PWZW114	#3 - #7 Rebar	1-1/4”	Light Gray	550
PWZW112	#3 - #7 Rebar	1-1/2”	Light Gray	600
PWZW2	#3 - #7 Rebar	2”	Light Gray	300

STANDARD PLASTIC SLAB BOLSTER

- 100% plastic construction, eliminating exposed metal that can rust
- Locking clip allows Slab Bolsters to be clipped together
- Bar stops on the top to help prevent bars from moving
- A wide T-back backbone beam for strength and stability
- All Slab Bolsters come standard in Light Gray



Part #	Cover/Size	Color	Feet /Ctn
PWSBS034	3/4”	Light Gray	356’
PWSBS1	1”	Light Gray	356’
PWSBS114	1-1/4”	Light Gray	300’
PWSBS112	1-1/2”	Light Gray	280’
PWSBS134	1-3/4”	Light Gray	248’
PWSBS2	2”	Light Gray	224’
PWSBS214	2-1/4”	Light Gray	180’
PWSBS212	2-1/2”	Light Gray	180’
PWSBS3	3”	Light Gray	148’
PWSBS312	3-1/2”	Light Gray	140’
PWSBS4	4”	Light Gray	130’
PWSBS412	4-1/2”	Light Gray	100’

PLASTIC SLAB BOLSTER UPPER PLATE*

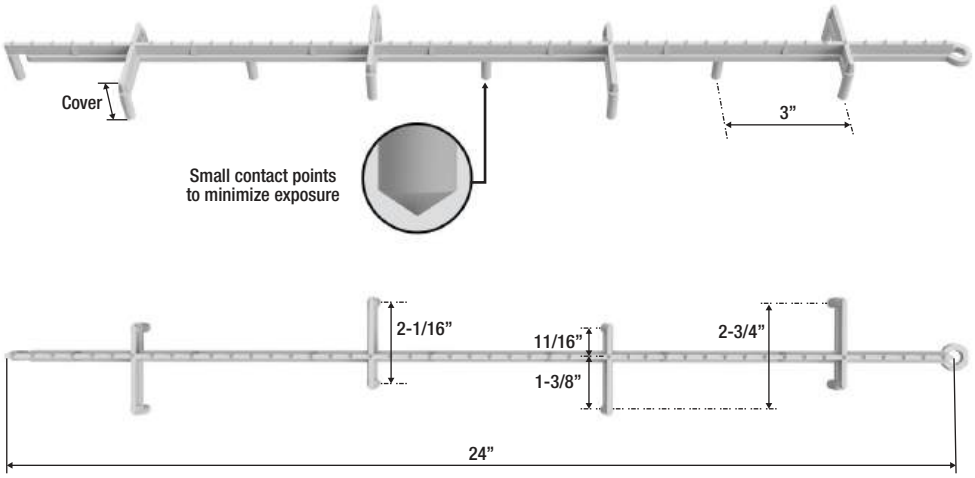
All plastic construction keeps rust from forming on the surface of the concrete. Snaps onto Standard Slab Bolster to convert it into an Upper Slab Bolster. Standard length is 24”.

Part #	Color	Feet /Ctn
PWSBSUP	Light Gray	168’

*Works with Standard Slab Bolster only

LIGHT DUTY PLASTIC SLAB BOLSTER

- 100% plastic construction, eliminating exposed metal that can rust
- Engineered design that reduces excess plastic and costs
- Staggered legs for stability
- **Patent Pending**

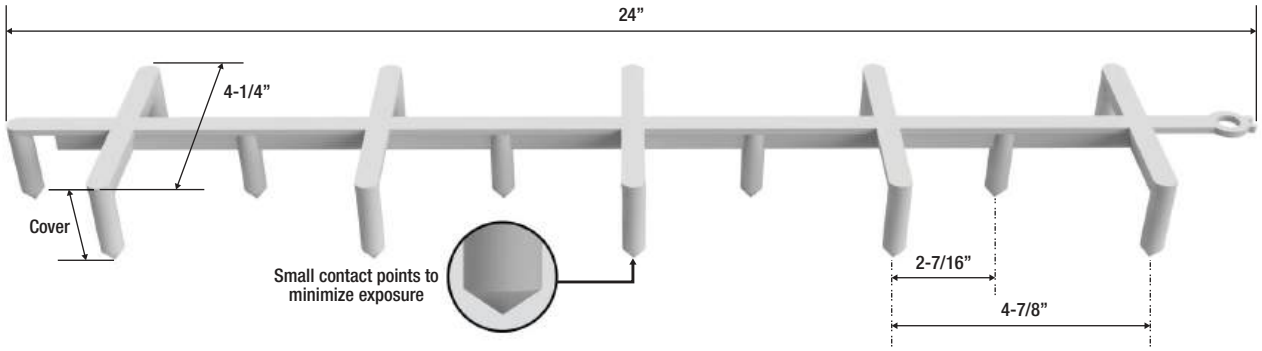


Flexible slab bolster design can be looped into a “tear drop” shape for enhanced stability.

Part #	Cover/Size	Color	Feet /Ctn
PWSBL1	1”	Light Gray	420’
PWSBL112	1-1/2”	Light Gray	360’
PWSBL2	2”	Light Gray	260’
PWSBL212	2-1/2”	Light Gray	216’
PWSBL3	3”	Light Gray	180’

HEAVY DUTY PLASTIC SLAB BOLSTER

Heavy Duty Slab Bolster is a high-strength version of the Standard Slab Bolster designed for more demanding applications.



Part #	Cover/Size	Color	Feet /Ctn
PWSBH112	1-1/2”	Light Gray	220’
PWSBH2	2”	Light Gray	180’
PWSBH212	2-1/2”	Light Gray	160’
PWSBH3	3”	Light Gray	130’
PWSBH314	3-1/4”	Light Gray	110’

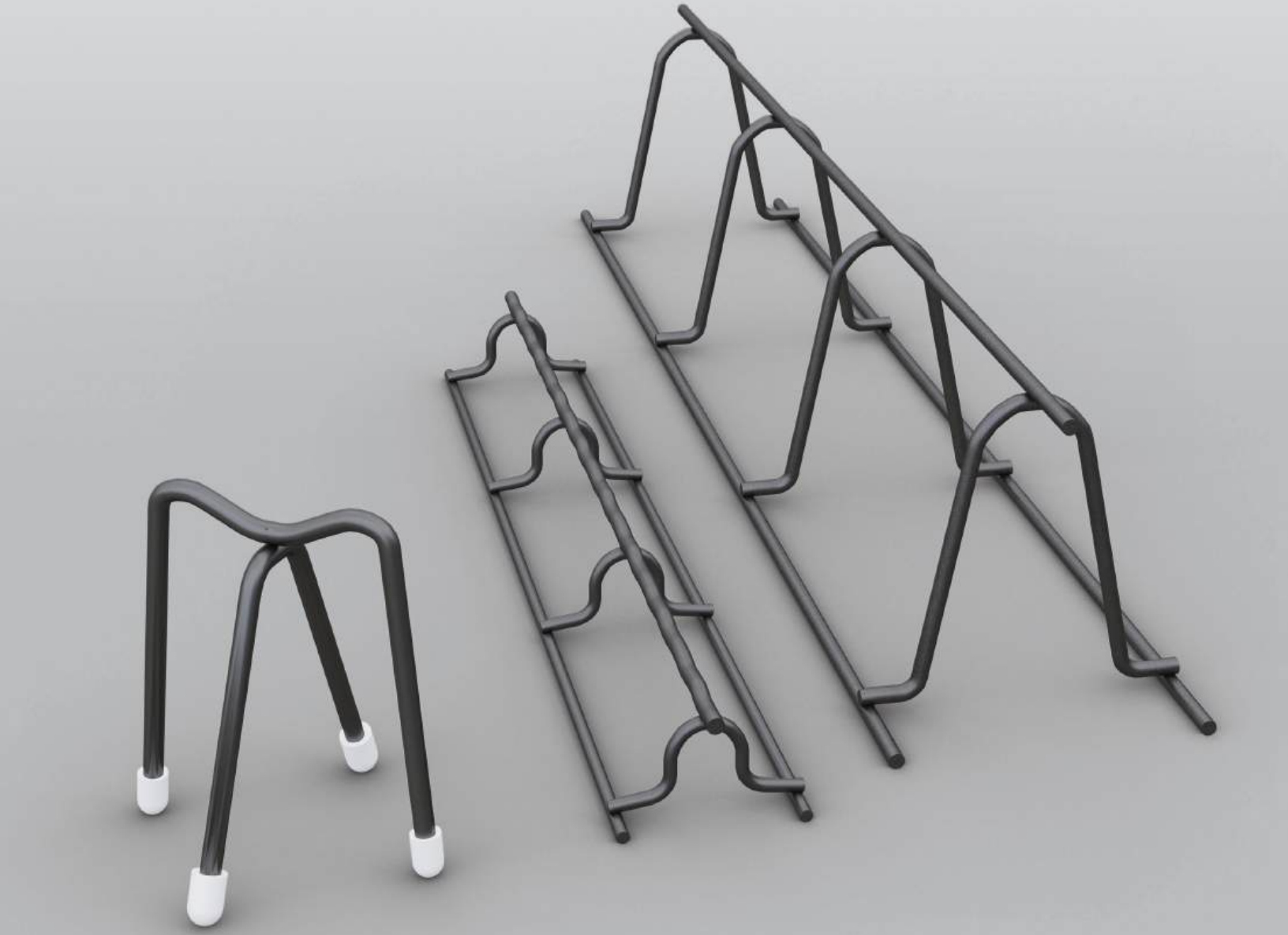
NOTES

DID YOU KNOW?

ALP Supply has 7 distribution locations across the continental US in order to reliably deliver the products you need, when you need them. Shipping out of:

1. Fairless Hills, PA
2. Atlanta, GA
3. Plant City, FL
4. Minneapolis, MN
5. Fort Worth, TX
6. Sparks, NV
7. Columbus, OH

METAL BAR SUPPORTS



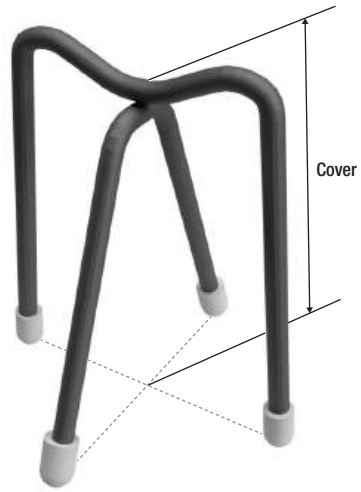
PLASTIC-TIPPED METAL SLAB BOLSTER - SBT

Plastic-Tipped Slab Bolster is used to support the lower mesh or rebar reinforcement from the form.

Part #	Cover/Size	Standard Finish	Length
BSSBT1	1”	Plain	5’
BSSBT112	1-1/2”	Plain	5’
BSSBT2	2”	Plain	5’

Note: Sizes shown are most common sizes. Other sizes available upon request.

PLASTIC-TIPPED METAL HIGH CHAIR - HCT



Individual High Chair is used to support upper and lower rebar or mesh reinforcement.

Part #	Cover/Size	Standard Finish
BSDHCT2	2”	Plain
BSDHCT3	3”	Plain
BSDHCT4	4”	Plain
BSDHCT5	5”	Plain
BSDHCT6	6”	Plain
BSDHCT8	8”	Plain

Note: Sizes shown are most common sizes. Other sizes available upon request.

METAL SLAB BOLSTER UPPER - SBU

Slab Bolster Upper provides support for upper layer of reinforcing steel.

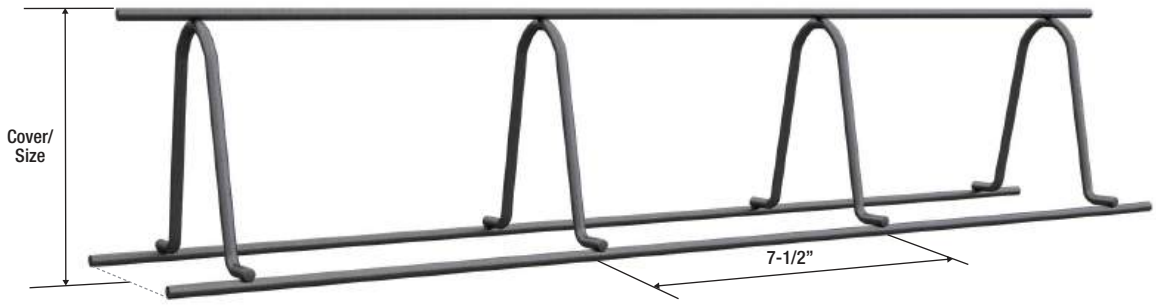
Part #	Cover/Size	Standard Finish*	Length
BSSBU1	1”	Plain	5’
BSSBU138	1-3/8”	Plain	5’
BSSBU112	1-1/2”	Plain	5’
BSSBU2	2”	Plain	5’
BSSBU212	2-1/2”	Plain	5’
BSSBU3	3”	Plain	5’
BSSBU312	3-1/2”	Plain	5’
BSSBU4	4”	Plain	5’

Note: Sizes shown are most common sizes. Other sizes available upon request.

* Also available in pre-galvanized wire and epoxy-coated.

METAL CONTINUOUS HIGH CHAIR UPPER - CHCU

Continuous High Chair Upper provides support for upper layer of reinforcing steel.



Part #	Cover/Size	Standard Finish*	Length
BSCHCU412	4-1/2”	Plain	5’
BSCHCU5	5”	Plain	5’
BSCHCU512	5-1/2”	Plain	5’
BSCHCU6	6”	Plain	5’
BSCHCU7	7”	Plain	5’
BSCHCU8	8”	Plain	5’
BSCHCU9	9”	Plain	5’

Note: Sizes shown are most common sizes. Other sizes available upon request.

* Also available in pre-galvanized wire and epoxy-coated.

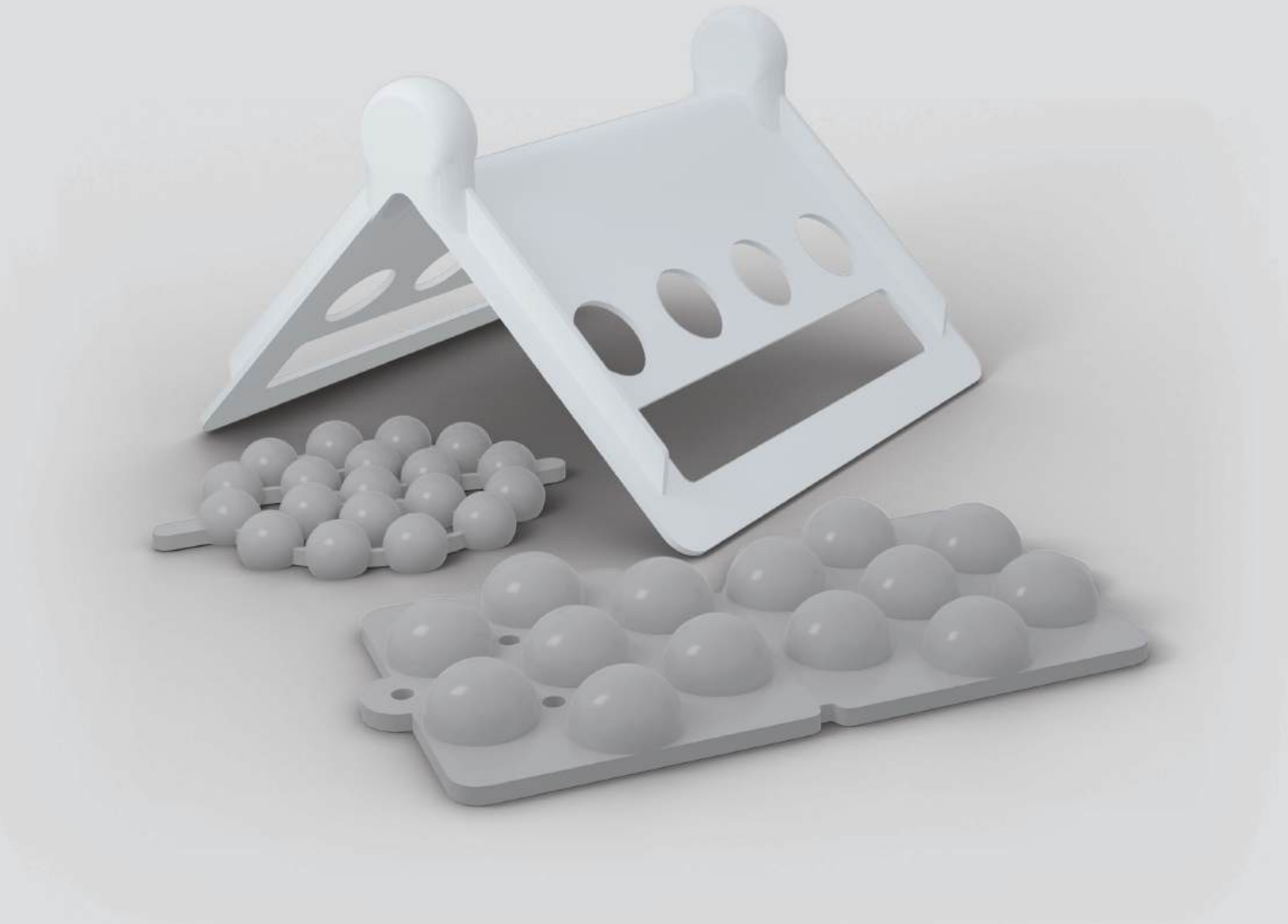
NOTES

DID YOU KNOW?

Most of our products along with technical information can be found and ordered online.

Visit **alpsupply.com**.

CONCRETE PROTECTION



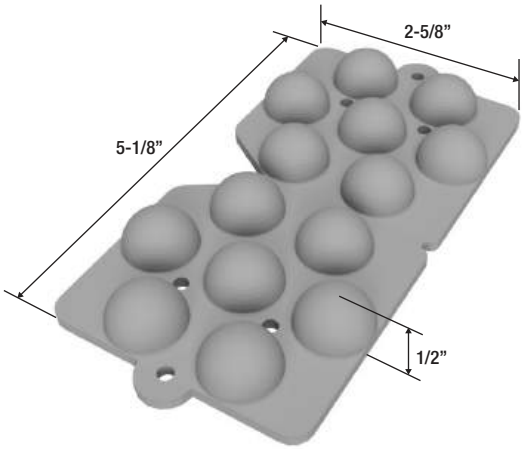
CHAIN GUARDS

Chain Guards protect your precast product from chain damage during shipping. Placed on the edges of the panel, Chain Guards serve not only as barriers from chain damage, but also prevent the concrete edge from cutting through the straps or slings.

Part #	Size	Qty/Ctn
RCCG414	4-1/4”	100

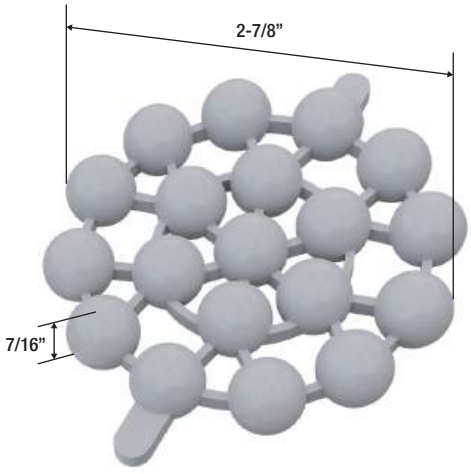
PANEL PADS

Panel Pads are used to protect finished precast concrete products during storage and shipping. Standard Panel Pads are manufactured with a nailer tab to attach panel pads to wooden blocks. Inexpensive and reusable, Panel Pads won’t rust or stain concrete. Made of HDPE.



STANDARD PANEL PADS

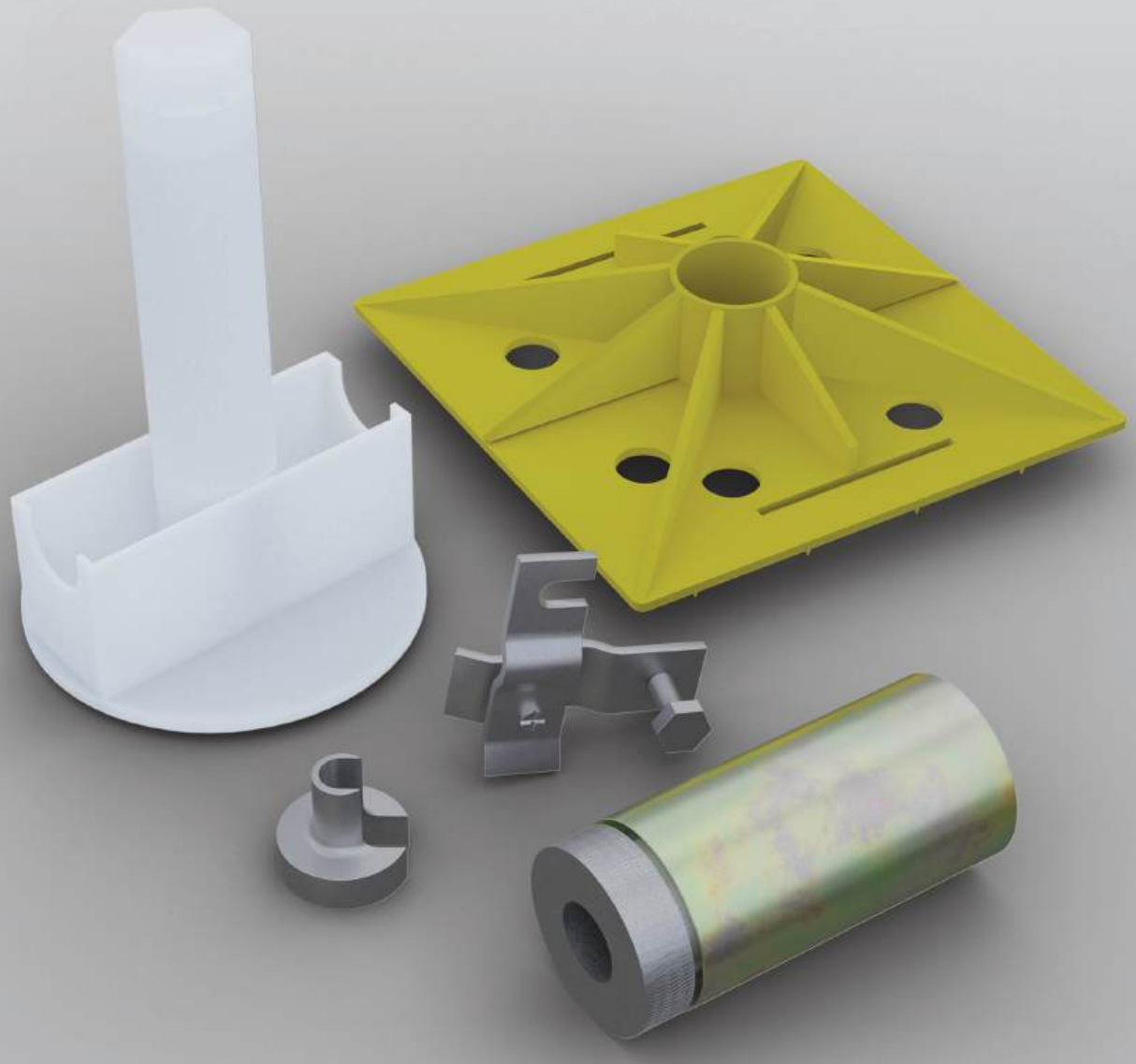
Part #	Description	Qty/Ctn
PWAPP	Standard	350



ROUND PANEL PADS

Part #	Description	Qty/Ctn
PWPP	Round	900

PRESTRESSING



REUSABLE STRAND CHUCKS

Note: Chucks and components from different manufacturers must not be interchanged.

Normally used at the stressing end of a bed. Bayonet cap design decreases the likelihood of damage to cap during tensioning.

- Chuck Assembly includes Jaw Assembly, Retaining Ring, Body, Cap and Spring
- Easy opening, cleaning and inspection
- Replacement parts available

All prestressing operations should have a documented process for daily cleaning and inspection of prestressing chucks and equipment that is performed by a trained and qualified person.

			Components				
Chuck Assembly	Chuck Assembly Weight (lbs)	Strand Size	Jaw Assembly	Retaining Ring	Body	Cap	Spring
GT202602	1.0	5 mm	GT202501	GT202521	GT202561	GT202571	GT202531
GT202612	1.0	1/4”	GT202502	GT202521	GT202561	GT202571	GT202531
GT202622	1.0	5/16”	GT202503	GT202521	GT202561	GT202571	GT202531
GT202632	2.0	3/8”	GT202504	GT202522	GT202562	GT202572	GT202532
GT202642	2.0	7/16”	GT202505	GT202522	GT202562	GT202572	GT202532
GT202652	2.0	1/2”	GT202506	GT202522	GT202562	GT202572	GT202532
GT202662	2.6	9/16”	GT202511	GT202523	GT202563	GT202573	GT202533
GT202672	2.6	0.6”	GT202512	GT202523	GT202563	GT202573	GT202533

REUSABLE ANCHOR CHUCKS - OPEN CHUCKS

Note: Chucks and components from different manufacturers must not be interchanged.

For 1-Time Use Chucks and Anchors see Post-Tension section of ALP® Catalog.

Often used on the non-stressing end of a bed, these chucks are very economical with few components.

- Anchor Chuck Assembly includes Jaw Assembly, Retaining Ring and Body
- Open chuck design
- Simple and easy to use
- Most economical

All prestressing operations should have a documented process for daily cleaning and inspection of prestressing chucks and equipment that is performed by a trained and qualified person.

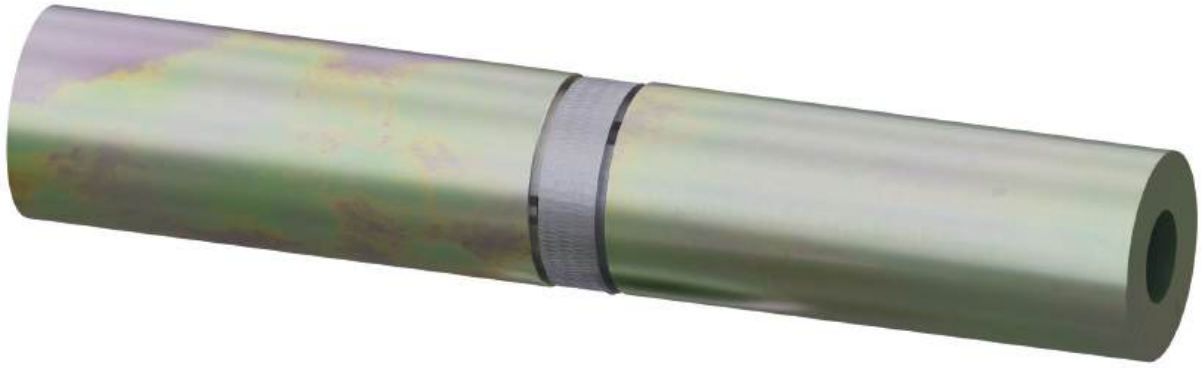
		Components		
Anchor Chuck Assembly	Strand Size	Jaw Assembly	Retaining Ring	Body
GT202601	5mm	GT202501	GT202521	GT202551
GT202611	1/4”	GT202502	GT202521	GT202551
GT202621	5/16”	GT202503	GT202521	GT202551
GT202631	3/8”	GT202504	GT202522	GT202552
GT202641	7/16”	GT202505	GT202522	GT202552
GT202651	1/2”	GT202506	GT202522	GT202552
GT202661	9/16”	GT202511	GT202523	GT202553
GT202671	0.6”	GT202512	GT202523	GT202553

REUSABLE SPLICE CHUCKS

Two lengths of strand can be connected while maintaining the strength of a continuous length.

- Chuck Assembly includes Jaw Assembly, Coupling, Body, Back Plate and Spring
- Safely connects two strand sections

All prestressing operations should have a documented process for daily cleaning and inspection of prestressing chucks and equipment



			Components				
Chuck Assembly	Chuck Assembly Weight (lbs)	Strand Size	Jaw Assembly	Coupling	Body	Back Plate	Spring
GT202633	4.0	3/8”	GT202504	GT202572P	GT202582	GT202562P	GT202532
GT202643	4.0	7/16”	GT202505	GT202572P	GT202582	GT202562P	GT202532
GT202653	4.0	1/2”	GT202506	GT202572P	GT202582	GT202562P	GT202532
GT202663	6.0	9/16”	GT202511	GT202573P	GT202583	GT202543	GT202533
GT202673	6.0	0.6”	GT202512	GT202573P	GT202583	GT202543	GT202533

JAW REMOVAL TOOL

Part #	Strand Size
GTH007993	5 mm, 1/4”, 5/16” Strand
GTH007992	3/8”, 7/16”, 1/2” Strand
GTH007991	9/16”, 0.6” Strand

SLIDING HAMMER

Part #	Strand Size
GTH007994	For use with all sizes

CHUCK MAINTENANCE

All prestressing operations should have a documented process for daily cleaning and inspection of prestressing chucks and equipment that is performed by a trained and qualified person.

GREASE APPLICATION SYSTEM

Part #	Description
GTH008617	A complete lubrication fixture, including lube cartridge and grease cone

ANTI-SEIZE LUBRICANT CARTRIDGE

Part #	Cartridges/Ctn
GTH007338	12

GREASE CONE

Part #	Description
GTH008596	F1B Grease Cone (5 mm, 1/4", 5/16" Strand)
GTH008597	F2B Grease Cone (3/8", 7/16", 1/2" Strand)
GTH008598	F3B Grease Cone (9/16", 0.6" Strand)

BODY BRUSHES

Part #	Strand Size
GTH007366	1/4", 5/16" Body Brush
GTH007367	3/8", 7/16", 1/2" Body Brush
GTH007368	9/16", 0.6" Body Brush

JAW BRUSHES

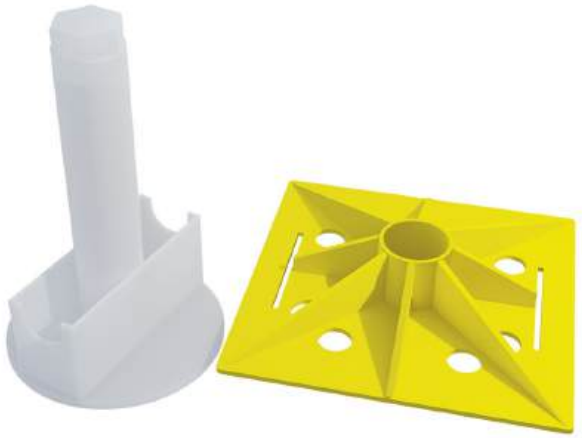
Part #	Strand Size
GTH007369	1/4", 5/16" Jaw Brush
GTH007370	3/8" Jaw Brush
GTH007371	7/16" Jaw Brush
GTH007372	1/2" Jaw Brush
GTH007373	9/16", 0.6" Jaw Brush

DEBONDING SHEATHING

Debonding Sheathing (or split sheathing) is used to prevent a bond from developing between the concrete and the prestressing strand, when specified. Typically used for 1/2" and 1/2" special strand.

Part #	Length	Description	Qty/Bag
CSDSS	10'	Split Sheathing	1,000

VOID DRAINS



Void Drain **Void Drain Shoe**

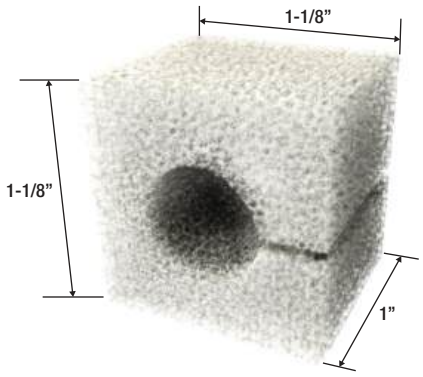
Simple to install and open, the Void Drain is constructed for draining water and venting gas from a void cavity in prestressed girders as well as large slabs. The drip lip will prevent water from staining the bottom of the concrete. Available in heights of 4" to 6-1/2" (in 1/2" increments).

Part #	Height	Qty/Ctn
CPVD4	4"	150
CPVD412	4-1/2"	150
CPVD5	5"	150
CPVD512	5-1/2"	150
CPVD6	6"	125
CPVD612	6-1/2"	125

Part #	Description	Qty/Ctn
CPVDS	Void Drain Shoe	165

FOAM RECESS PLUGS

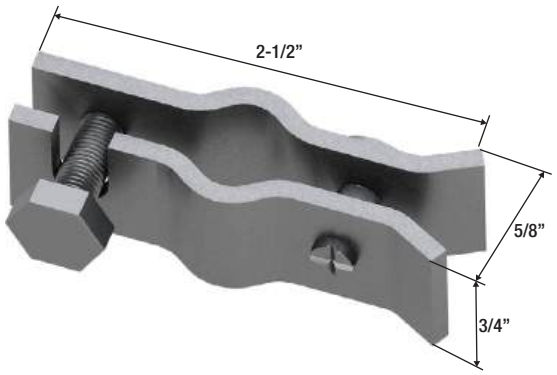
The Foam Recess Plug is used as a void former around 1/2" strand to create a pocket around the strand so the strand can be recessed in the concrete. After the strand is recessed, the void is commonly patched with a cementitious or an epoxy-based material to prevent moisture from migrating into the concrete.



Part #	Qty/Ctn
AGFRP1	10,000

QUIK CLAMP™ - STRAND CLAMP

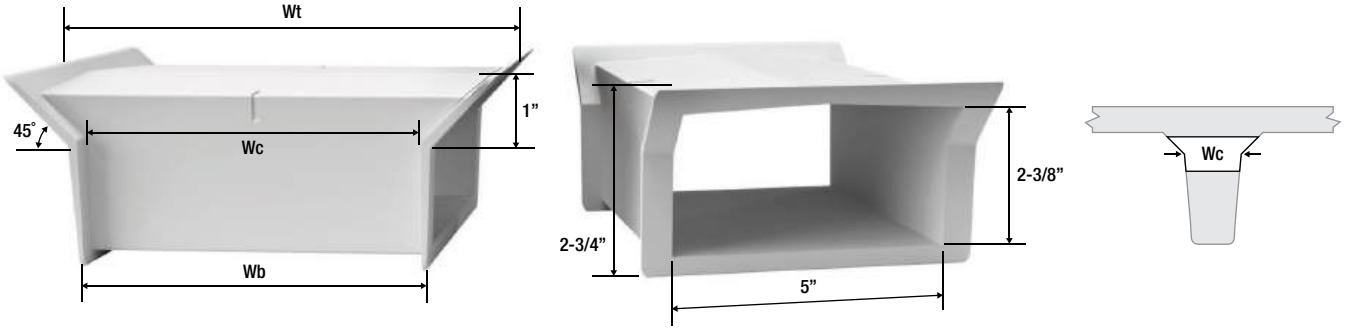
Quik Clamp strand clamps are designed to help secure bulkheads or blockouts to 1/2" prestressed strand without damaging the strand. Strand clamps are installed using the finger tabs to slide the clamp closed, then the clamp bolt is tightened using a 13 mm socket attached to a ratchet or an impact gun.



Part #	Description	Weight (lbs)	Qty/Bag
QC12V3	Quik Clamp for 1/2" strand	0.19	150

DOUBLE TEE STEM BLOCKOUTS

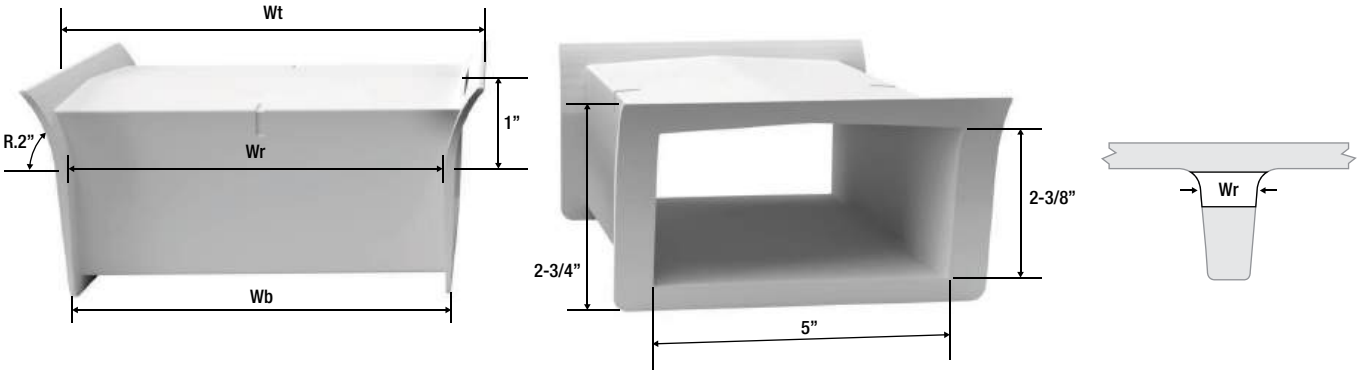
Double Tee Stem Blockouts are cast into precast double tees to create openings in the stems so that conduit and plumbing can be run through the stems.



CHAMFER

Part #	Wc	Wt	Wb	Qty/Skid
CVSBC534	5-3/4"	8-3/8"	5-5/8"	640
CVSBC6	6"	8-5/8"	5-7/8"	640
CVSBC614	6-1/4"	8-13/16"	6-1/16"	640
CVSBC678	6-7/8"	9-1/2"	6-3/4"	640
CVSBC738	7-3/8"	10"	7-1/4"	500
CVSBC758	7-5/8"	10-5/16"	7-7/16"	500
CVSBC778	7-7/8"	10-1/2"	7-5/8"	500
CVSBC858	8-5/8"	11-5/16"	8-7/16"	400
CVSBC958	9-5/8"	12-5/16"	9-7/16"	400

Other Sizes available. Call for more information.



RADIUS

Part #	Wr	Wt	Wb	Qty/Skid
CVSBR534	5-3/4"	7-1/8"	5-9/16"	640
CVSBR6	6"	7-1/2"	5-13/16"	640
CVSBR614	6-1/4"	7-1/2"	6-1/16"	640
CVSBR678	6-7/8"	8-1/8"	6-3/4"	640
CVSBR718	7-1/8"	8-3/8"	7"	500
CVSBR738	7-3/8"	8-5/8"	7-1/4"	500
CVSBR758	7-5/8"	8-7/8"	7-1/2"	500
CVSBR778	7-7/8"	9-1/8"	7-13/16"	500
CVSBR858	8-5/8"	9-7/8"	8-1/2"	400
CVSBR958	9-5/8"	10-7/8"	9-7/16"	400

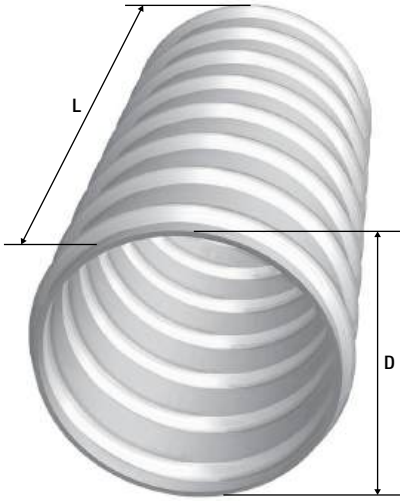
Other Sizes available. Call for more information.

POST-TENSIONING

POST-TENSION STRAND

Post-Tension Strand is manufactured as a grease-coated 7-wire strand with a plastic sheathing on the outside. Post-Tension Strand is available in 1/2" and 0.60" diameters in both Commercial and Domestic Post-Tension Strand. 1/2" Post-Tension Strand in stock, in full-pack quantities (approx. 6,000 ft / pack). 1/2" and 0.60" also available cut-to length. **Call for further information.**

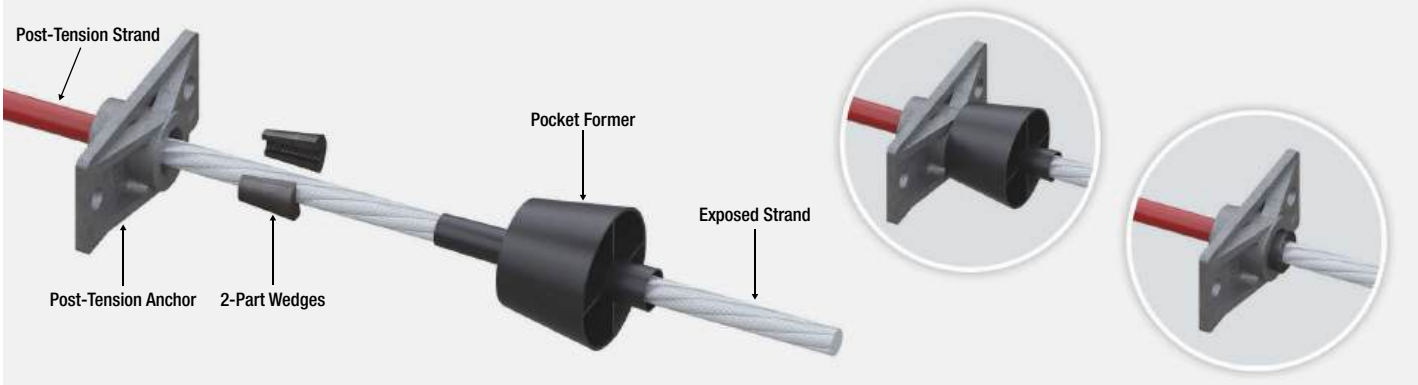
METAL POST-TENSION DUCTS



Metal Post-Tension Duct can be used to house strand, post-tension strand, rebar, dowel pins, or other connection devices in concrete. Available in 10' or 20' lengths. Call for further information.

Part #	D	L
ETPT112	1-1/2"	When ordering, specify 10' or 20'
ETPT134	1-3/4"	
ETPT2	2"	
ETPT234	2-3/4"	
ETPT238	2-3/8"	
ETPT258	2-5/8"	
ETPT3	3"	
ETPT312	3-1/2"	
ETPT338	3-3/8"	
ETPT4	4"	
ETPT412	4-1/2"	

POST-TENSION COMPONENTS



POST-TENSION ANCHOR

Part #	Strand Size
GT201751	1/4”, 3/8”, 7/16”, 1/2”, 1/2” Special
GT201201	1/2” Jumbo, 0.6”, 0.6” Special

2-PART WEDGE

Part #	Strand Size
GT201115	1/2”, 1/2” Special
GT201602	0.6”, 0.6” Special

POCKET FORMER

Part #	Strand Size	Weight (oz.)
GT204751	1/2”	1.0
GT204201	0.6”	2.1

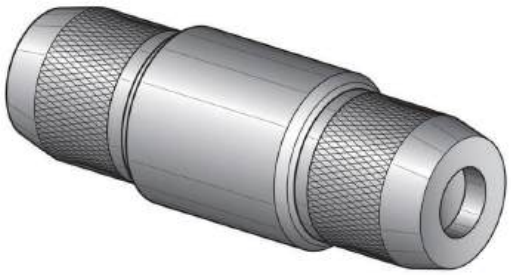
HAND WEDGE SETTER TOOL

Part #	Weight (lbs)
GT230596	2.45

SINGLE-USE CHUCKS - OPEN END

Chuck Assembly	Chuck Assembly Weight (lbs)	Strand Size	Description	Components	
				Wedge	Body
GT201191J	1.0	1/4”	Chuck and 2-part wedge without ring	GT201180	GTH008204
GTH008185	2.0	3/8”	Chuck and 2-part wedge without ring	GT201176	GTH008204
GT201192J	2.0	7/16”	Chuck and 2-part wedge without ring	GT201173	GTH008204
GT201191Z	2.0	1/2”	Chuck and 2-part wedge without ring	GT201102	GTH008204
GT201191Z R3	2.0	1/2”	Chuck and 3-part wedge with ring	GT201103	GTH008204
GT20121Z	2.1	0.6”	Chuck and 2-part wedge without ring	GT201202	GT201420
GT20121ZR3	2.1	0.6”	Chuck and 3-part wedge with ring	GT201203	GT201420

SINGLE-USE SPLICE CHUCKS



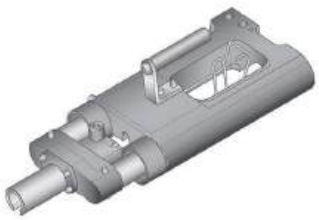
Chuck Assembly	Strand Size	Chuck Assembly Weight (lbs)
GT201506	1/2”	3.5
GT201606	0.6”	3.5

POST TENSION STRESSING JACKS - PTJ SERIES

The PTJ Series Stressing Jacks meet the most rigorous job demands. With a proven design that has become an industry standard, these versatile and powerful heavy duty jacks are available in a range of capacities and configurations.

- PTJ5S or PTJ5P 20 ton for stressing up to .5” strand
- PTJ6S or PTJ6P 30 ton for stressing up to .6” strand
- Component style for easy parts replacement
- PTJ5S and PTJ6S with spring-loaded wedge seating
- PTJ5P and PTJ6P with hydraulic power wedge seating

POST TENSION STRESSING JACKS - DA SERIES



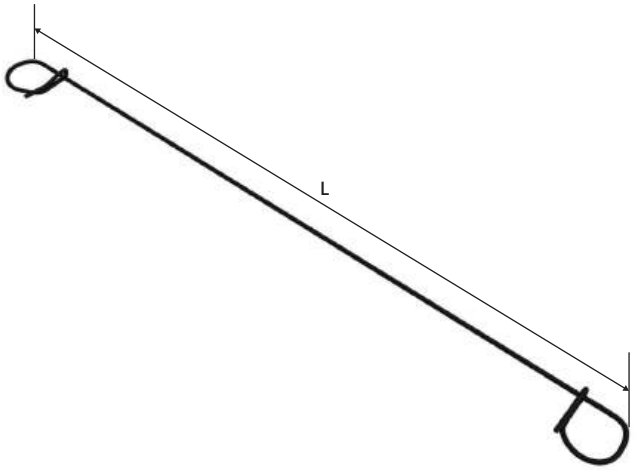
The 5DA1 and 6DA1 Series Jacks are manufactured from a single piece of hardened steel to exacting specifications. The result is a durable, lightweight, and compact stressing jack. These attributes make the 5DA1 and 6DA1 the jacks of choice for elevated construction projects.

- Fast, double-acting jacks with power-seating
- 5DA1 - 20 ton, stresses up to .5” strand
- 6DA1 - 30 ton, stresses up to .6” strand
- Other gripper sizes and nose lengths are in stock
- Sold as complete hydraulic systems or as individual components

WIRE TIES
AND REINFORCING TOUCH UP

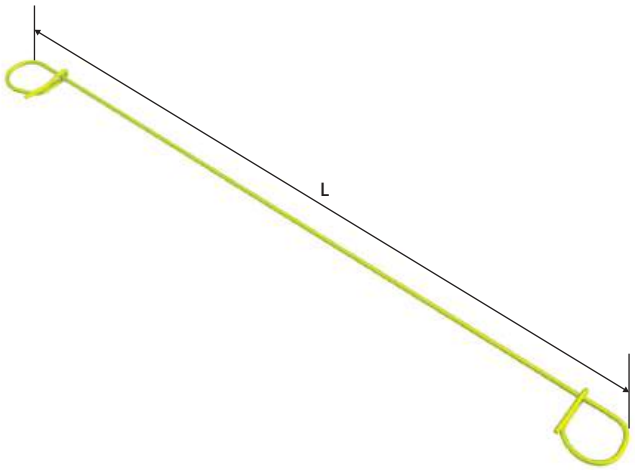
DOUBLE LOOP WIRE TIES

Easy to twist and hard to break, Double Loop Wire Ties are made of dead-soft annealed wire. In addition to bar tying, Wire Ties have a variety of uses such as bagging and bundling. Available finishes are PVC, Black and Galvanized. **Standard wire size is 16 gauge.**



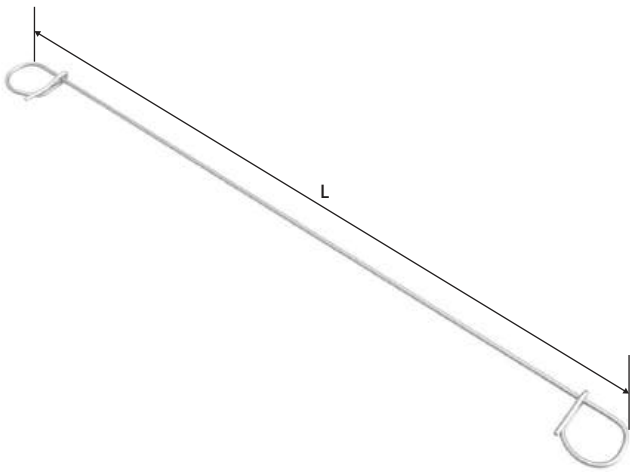
BLACK

Part #	L	Qty/Bag
FWT04B	4”	5,000
FWT05B	5”	5,000
FWT06B	6”	5,000
FWT07B	7”	5,000
FWT08B	8”	5,000
FWT09B	9”	5,000
FWT10B	10”	5,000
FWT12B	12”	5,000
FWT14B	14”	2,500
FWT18B	18”	2,500
FWT20B	20”	2,500
FWT24B	24”	2,500



PVC/EPOXY

Part #	L	Qty/Bag
FWT05P	5”	5,000
FWT06P	6”	5,000
FWT07P	7”	5,000
FWT08P	8”	5,000
FWT09P	9”	5,000
FWT10P	10”	5,000
FWT12P	12”	5,000



GALVANIZED

Part #	L	Qty/Bag
FWT05G	5”	5,000
FWT06G	6”	5,000
FWT07G	7”	5,000
FWT08G	8”	5,000
FWT09G	9”	5,000
FWT10G	10”	5,000
FWT12G	12”	5,000
FWT18G	18”	2,500
FWT24G	24”	2,500

Note: Some sizes available in domestic wire.

TIE WIRE

Tie Wire rolls are made of dead-soft annealed wire. In addition to bar tying, Tie Wire has a variety of uses such as bagging and bundling. Available finishes are PVC, Black and Galvanized.

PVC (YELLOW)

Part #	Gauge	Packaging
FWTTWP	16 Gauge	(20) 3 lb. Rolls/Carton

BLACK

Part #	Gauge	Packaging
FWTTW	16 Gauge	(20) 3-1/2 lb. Rolls/Carton

WIRE TIE HAND TOOLS

STANDARD WIRE TIE HAND TOOL

Part #	Description
WTHT	Manual Twist

BLITZ WIRE TIE HAND TOOL, RED PLASTIC HANDLE

Part #	Description
WTHTBLZ	Automatic Pull-Type Twisting

REBAR EPOXY SPRAY

Rebar Epoxy Spray is an epoxy coating, packaged in a 16 oz. spray can and is used to coat and protect rebar. Meets ASTM D3963 specifications and has great resistance to corrosion, chemicals, gasoline and abrasion. It sprays on green and dries to touch within 15 mins.

Part #	Description	Can Size	Quantity per Case
AVRGEC	Rebar Epoxy Coating	12 oz.	12

ZRC COLD GALVANIZING COMPOUND

This unique organic zinc galvanizing compound comes in a premixed, clog-free aerosol spray cans and is used for regalvanizing damaged hot-dip galvanized and zinc metalized products, or repairing weldments. ZRC is excellent for long-term protection of structural steel, cast iron and aluminum surfaces.

Part #	Description	Packaging	Quantity per Case
ZR10000	ZRC Cold Galvanizing Spray	12 oz. can	24

NOTES

DID YOU KNOW?

ALP Supply has 7 distribution locations across the continental US in order to reliably deliver the products you need, when you need them. Shipping out of:

1. Fairless Hills, PA
2. Atlanta, GA
3. Plant City, FL
4. Minneapolis, MN
5. Fort Worth, TX
6. Sparks, NV
7. Columbus, OH

NYCON®

INTRODUCTION TO CONCRETE FIBER REINFORCEMENT

Fiber Reinforced Concrete (FRC) is a specialized form of concrete, enhanced with fibrous materials to bolster its structural integrity. Renowned for its superior flexural and tensile strength, toughness, and diminished susceptibility to cracking and shrinkage, FRC surpasses traditional concrete in performance. It incorporates a variety of fibers - steel, glass, synthetic, and natural - each lending distinct advantages to the concrete mix.

FRC's applications are diverse, including precast concrete, roadways, industrial floors, load-bearing structures, and architectural features. Its robustness and durability make it ideal for environments that demand extra resilience.

The fibers in FRC can be macro or micro synthetic, each serving different purposes.

Macro Synthetic Fibers

Macro Synthetic Fibers, typically polypropylene, are used in quantities usually ranging from 3 to 15 lb./yd^3. These larger fibers enhance the concrete's structural strength, ductility, and endurance. The specific dosage depends on the project type and the fibers' characteristics, such as length, tensile strength, and elasticity. Higher dosages might be necessary for projects requiring increased impact resistance or load-bearing capacity.

Micro Synthetic Fibers

Micro Synthetic Fibers, like polypropylene and nylon, are smaller and primarily aim to mitigate shrinkage and cracking during concrete's early curing stages. Their typical dosage ranges from 0.1 to 0.3% by volume, equivalent to 0.75 to 3 lb./yd^3.

Determining the optimal fiber dosage is crucial and should be guided by the manufacturer's recommendations and trial mixes. This ensures the concrete retains its workability, desired properties, and even fiber distribution.

In terms of standards and requirements, FRC adheres to guidelines from the American Society for Testing and Materials (ASTM) and the American Concrete Institute (ACI):

- **ASTM C1116/C1116M** outlines specifications for synthetic fibers in FRC and shotcrete.
- **ACI Committee 544** offers design and construction guidance for FRC, with comprehensive reports on different fiber types and their effects on concrete.
- **ASTM C1609/C1609M** describes testing methods for assessing the flexural performance of FRC using a third-point loading test, crucial for evaluating load-bearing capacity and ductility.
- **ACI 318**, a general code for structural concrete, includes provisions relevant to FRC, especially regarding design and construction standards.

Adherence to these evolving standards ensures the safety, durability, and performance of FRC in specific projects.

FIBER SELECTION

The chart below was developed to assist you in selecting the right fiber for your application.




	XL-100	XL-200	Procon-F	Procon-M
Secondary Reinforcement	✓	✓	-	-
Temperature Shrinkage Reinforcement	✓	✓	-	-
Plastic Shrinkage Crack Control	✓	-	✓	✓
Improves Tensile Strength	✓	-	✓	✓
Reduced Spalling During Fire	-	-	-	✓

FIBER REINFORCEMENT IN USE




MACRO TWIST

XL-100 is a virgin synthetic Macro monofilament fiber. Designed to be used in concrete to control cracks. XL-100 acts as a cost-effective alternative for secondary reinforcement. XL-100 offers a high fiber count per lb., which can help reduce cracking in low-strength precast concrete during stripping and handling.

Recommended Dosage

Typical dosage for XL-100 falls in the range of 3 to 15 lb./yd^3. Total lb/yd^3 of fiber can be higher depending on the intended application. **Contact ALP technical support or your regional sales manager for specific dosage recommendations based on your requirements.**

Applications

- Precast
- Shotcrete
- Cast-in-place Slabs

Part #	Packaging	# Bags/Ctn	# Ctn/Pallet	Fiber Weight/Pallet (lbs)
RFMT212B	2-1/2 lb bag	12	20	600
RFMT3B	3 lb bag	10	20	600
RFMT5B	5 lb bag	6	20	600

PHYSICAL ATTRIBUTES

Material	Fiber Type	Fiber Length	Melting Point	Color	Specific Gravity	Alkali Resistance	Fiber Count per lb
Polypropylene	Macro Monofilament	1.5" (38 mm)	320° F (160° C)	White	0.92	Excellent	~67,000

Compliance/Tests

- ASTM C1116/C1116M
- ASTM C1609/C1609M
- ASTM D7508/D7508M

Storage and Shelf Life

ALP Fiber products can be stored in a dry warehouse up to 3 years in the original packaging. Must be protected from rain and moisture.

Mixing

XL-100 fiber is packaged in pre-measured degradable "toss-in" paper beater bags and can be added directly to the mixing system during or after the batching of the ingredients and mixed for a minimum of three minutes at high speed. Additional mixing does not adversely affect the distribution or overall performance of Macro Twist. A water reducer or super-plasticizer is recommended in concrete products where improved workability and finish are desired.

XL-200

XL-200 is a virgin synthetic large macro monofilament fiber that offers superior performance as an alternative to traditional reinforcement. The embossed surface provides embedment strength in concrete, translating to increased load-carrying capabilities.

Recommended Dosage

Typical dosage for XL-200 falls in the range of 3 to 15 lb./yd^3. Total lb/yd^3 of fiber can be higher depending on the intended application. **Contact ALP technical support or your regional sales manager for specific dosage recommendations based on your requirements.**

Applications

- Precast
- Shotcrete
- Cast-in-place Slabs

Part #	Packaging	# Bags/Ctn	# Ctn/Pallet	Fiber Weight/Pallet (lbs)
RFMP212B	2-1/2 lb bag	9	42	945
RFMP5B	5 lb bag	6	42	1,260

PHYSICAL ATTRIBUTES

Material	Fiber Type	Fiber Length	Melting Point	Color	Specific Gravity	Alkali Resistance	Fiber Count per lb
Polypropylene	Embossed Macro Monofilament	1.9" (48mm)	320° F (160° C)	Natural	0.92	Excellent	~15,000

Compliance/Tests

- ASTM C1116/C1116M
- ASTM C1609/C1609M
- ASTM D7508/D7508M

Storage and Shelf Life

ALP Fiber products can be stored in a dry warehouse up to 3 years in the original packaging. Must be protected from rain and moisture.

Mixing

XL-200 are packaged in pre-measured degradable "toss-in" paper beater bags or water-soluble bags and can be added directly to the mixing system during or after the batching of the ingredients and mixed at high speed for a minimum of three minutes. Additional mixing does not adversely affect the distribution or overall performance of XL-200 Fibers. A water reducer or super-plasticizer is recommended in concrete products where improved workability and finish are desired.

PROCON-F

Procon-F fibers are designed to distribute quickly through the concrete matrix. Our fibrillated product will optimize the mechanical bond between the mortar and the fiber. Procon-F is used in concrete products for the purpose of controlling plastic shrinkage and mix segregation.

Recommended Dosage

Typical dosage for Procon-F falls in the range of 0.75 to 3 lb./yd^3. Total lb/yd^3 of fiber can be higher depending on the intended application. **Contact ALP technical support or your regional sales manager for specific dosage recommendations based on your requirements.**

Applications

- Precast
- Shotcrete
- Cast-in-place Slabs

Part #	Packaging	# Bags/Ctn	# Ctn/Pallet	Fiber Weight/Pallet (lbs)
RFFP112B	1-1/2 lb bag	20	20	600

PHYSICAL ATTRIBUTES

Material	Fiber Type	Fiber Length	Melting Point	Color	Specific Gravity	Alkali Resistance	Fiber Count per lb
Polypropylene	Fibrillated	0.75" (19mm)	320° F (160° C)	Natural	0.92	Excellent	~32,000

Compliance

- ASTM C1116/C1116M
- ASTM D7508/D7508M

Storage and Shelf Life

ALP Fiber products can be stored in a dry warehouse up to 3 years in the original packaging. Must be protected from rain and moisture.

Mixing

Procon-F are packaged in pre-measured degradable "toss-in" paper beater bags or water-soluble bags and can be added directly to the mixing system after the batching of the ingredients and mixed at high speed for a minimum of three minutes. A water reducer or super-plasticizer is recommended in concrete products where improved workability and finish are desired.

PROCON-M

Procon-M are fine (8d), monofilament polypropylene fibers for use in concrete, stucco and shotcrete. Procon-M is specifically designed for use in concrete products for the purpose of controlling plastic shrinkage cracking.

Recommended Dosage

Typical dosage for Procon-M falls in the range of 0.75 to 3 lb./yd^3. Total lb/yd^3 of fiber can be higher depending on the intended application. **Contact ALP technical support or your regional sales manager for specific dosage recommendations based on your specific requirements.**

Applications

- Precast
- Cast-in-place Slabs
- Concrete Overlay

Part #	Packaging	# Bags/Ctn	# Ctn/Pallet	Fiber Weight/Pallet (lbs)
RFMP1B	1 lb bag	20	54	1,404

PHYSICAL ATTRIBUTES

Material	Fiber Type	Filament Diameter	Fiber Length	Melting Point	Color	Specific Gravity	Alkali Resistance	Fiber Count per lb
Polypropylene	Monofilament	8 Denier (38 Microns)	0.75" (19mm)	320° F (160° C)	White	0.92	Excellent	~23 Million

Compliance/Tests

- ASTM C1116/C1116M
- ASTM D7508/D7508M

Storage and Shelf Life

ALP Fiber products can be stored in a dry warehouse up to 3 years in the original packaging. Must be protected from rain and moisture.

Mixing

Procon-M are packaged in pre-measured degradable "toss-in" paper beater bags or water-soluble bags and can be added directly to the mixing system during or after the batching of the ingredients and mixed at high speed for a minimum of three minutes. Additional mixing does not adversely affect the distribution or overall performance of Procon-M. A water reducer or super-plasticizer is recommended in concrete products where improved workability and finishability are desired.

NOTES

DID YOU KNOW?

Most of our products along with technical information can be found and ordered online.

Visit **alpsupply.com**.

PATCHING
AND REPAIR

BLENDCRETE

Blendcrete is a single-component, polymer-modified, cement-based concrete and masonry patching compound, requiring only the addition of water. Used for interior or exterior, above or below grade and on vertical and horizontal surfaces, to repair surfaces needing 1/2" to 2" coverage. Coverage can be extended beyond 2" with pea gravel. Available in 15 or 30 minute final set times, in several shades of gray and white. Standard packaging are 50 lb bags.

Our most popular repair product.

Dark Gray #0 | **Medium Gray #2** | **Light Gray #3**

White | **#132** | **Special Gray #117**

Actual color may vary slightly from display above

Part #	Color	Final Set Time	Packaging	Qty/Skid
PB015B	#0, Dark Gray	15 Min.	50 lb Bag	56
PB215B	#2, Medium Gray	15 Min.	50 lb Bag	56
PB315B*	#3, Light Gray	15 Min.	50 lb Bag	56
PB315D	#3, Light Gray	15 Min.	600 lb Drum	N/A
PB330B	#3, Light Gray	30 Min.	50 lb Bag	56
PB330BP	#3, Light Gray	30 Min.	50 lb Pail	36
PB360B	#3, Light Gray	60 Min.	50 lb Bag	56
PB30WB	White	30 Min.	50 lb Bag	56
PB30WBP	White	30 Min.	50 lb Pail	36
PB15S117B	#117	15 Min.	50 lb Bag	56
PB15S117P	#117	15 Min.	50 lb Pail	36
PB15S132B	#132	15 Min.	50 lb Bag	56
PB15S132P	#132	15 Min.	50 lb Pail	36

*Most popular patching material color and set time

RUBCRETE

A non-gypsum, polymer-enhanced, one-component concrete resurfacing product for filling and smoothing interior and exterior vertical concrete and masonry surfaces. Excellent for patching bugholes, Rubcrete is intended for featheredge to 1/2" coverage. Rubcrete's slow set time allows the user to mix the entire bag all at once since the material take several hours to set up. Material should be mixed using the proper amounts of water, utilizing a measuring cup, and mixed with a paddle mixer for 3-5 minutes. **See data sheets for complete application instructions.**

Part #	Color	Packaging
PBRC1C3	#3, Light Gray	25 lb Bag
PBRC1C3P	#3, Light Gray	25 lb Pail
PBRC1CW	White	25 lb Bag

INSTANT HYDRAULIC CEMENT (PLUG)

Instant Hydraulic Cement (also known as Water Plug) is a high-speed, single-component concrete repair material formulated for stopping active water leaks. This product:

- Sets in 1-3 minutes
- Can be applied underwater
- Compensates for shrinkage
- Works above and below grade
- Can be used interior or exterior on horizontal and vertical concrete

Part #	Description	Color	Typical Set Time
PBPLUG50FS	Instant Hydraulic Cement, Fast Set	Medium Gray	2 Minutes

CR - CONCRETE RESURFACER

A polymer-modified, self-curing, cement-based product used for resurfacing old concrete to make it look new again. It has high-flexural and compressive strength, as well as an excellent bond to old concrete. CR is freeze/thaw resistant and dries fast, allowing for a walkable surface within 8 hours. Standard packaging is 50 lb bags.

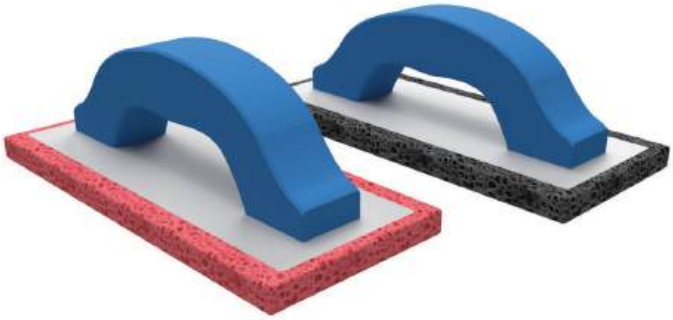
Part #	Description
PBCRFB	Concrete Resurfacer - Fine, Light Gray

MARGIN TROWELS

Margin Trowels are commonly used for patching and repair. Forged from a single piece of high grade steel, they are fitted at a right angle to a 6" hardwood handle for optimum efficiency.

Part #	Size
MT52	5" x 2"

RUBBER FLOATS



The Rubber Float has a very dense rubber sponge for use in preparing the concrete surface for troweling. It is lightweight and fitted with a smooth wood handle.

Part #	Size
MT39	Red Rubber (Coarse Cell): 9" x 4" x 5/8"
MT40	Black Rubber: 9" x 4" x 5/8"

RUB BRICKS

The Rub Brick is used for removing form marks and textured surface imperfections from concrete surfaces. Standard Rub Bricks come fitted with fluted 20-grit silicon carbide. Available with or without handle.

Part #	Size
KTCF462	6" x 2" x 2" (No Handle)
KTCF482	8" x 2" x 2" (No Handle)
MT840	6" x 3" x 1" (With Handle)

GROUT


ProSpec
High Strength Precision Grout
50 lb (22.7 kg)
ProSpec
Precast Mortar Grout
50 lb (22.7 kg)
ProSpec
C-1107 Construction Grout
50 lb (22.7 kg)
ProSpec
C-1107 Construction Grout
High strength, non-shrink, general purpose grout.

PRECAST MORTAR GROUT

A fast-setting, non-shrinking, single-component, cementitious mortar grout formulated for dry packing under precast elements. It has a high-strength, hang capability from 1/2" to 3" (13 mm to 76 mm). Precast Mortar Grout contains no chlorides or other salts detrimental to reinforcing steel, and is also freeze/thaw resistant and non-corrosive. Precast Mortar Grout can be mixed in a dry pack, mortar or plastic consistency. Precast Mortar Grout can achieve 28 day strength between 7,250 PSI and 9,500 PSI, depending on consistency.

See technical data sheets for specifications and instructions.

Part #	Bag Weight	Qty/Skid
PBNSMG	50 lbs	56

HIGH STRENGTH PRECISION GROUT

A specially formulated, ready-to-use, high-strength, flowable precision grout. It is nonporous, dense, non-shrinking and non-staining grout, that has high initial and ultimate flexural compressive strengths. High Strength Precision Grout contains no chlorides or other salts detrimental to reinforcing steel. High Strength Precision Grout can be mixed in plastic, flowable and fluid consistencies. High Strength Precision Grout can achieve 28 day strength between 9,000 PSI and 10,500 PSI, depending on consistency.

See technical data sheets for specifications and instructions.

Part #	Bag Weight	Qty/Skid
PBHSPG	50 lbs	56

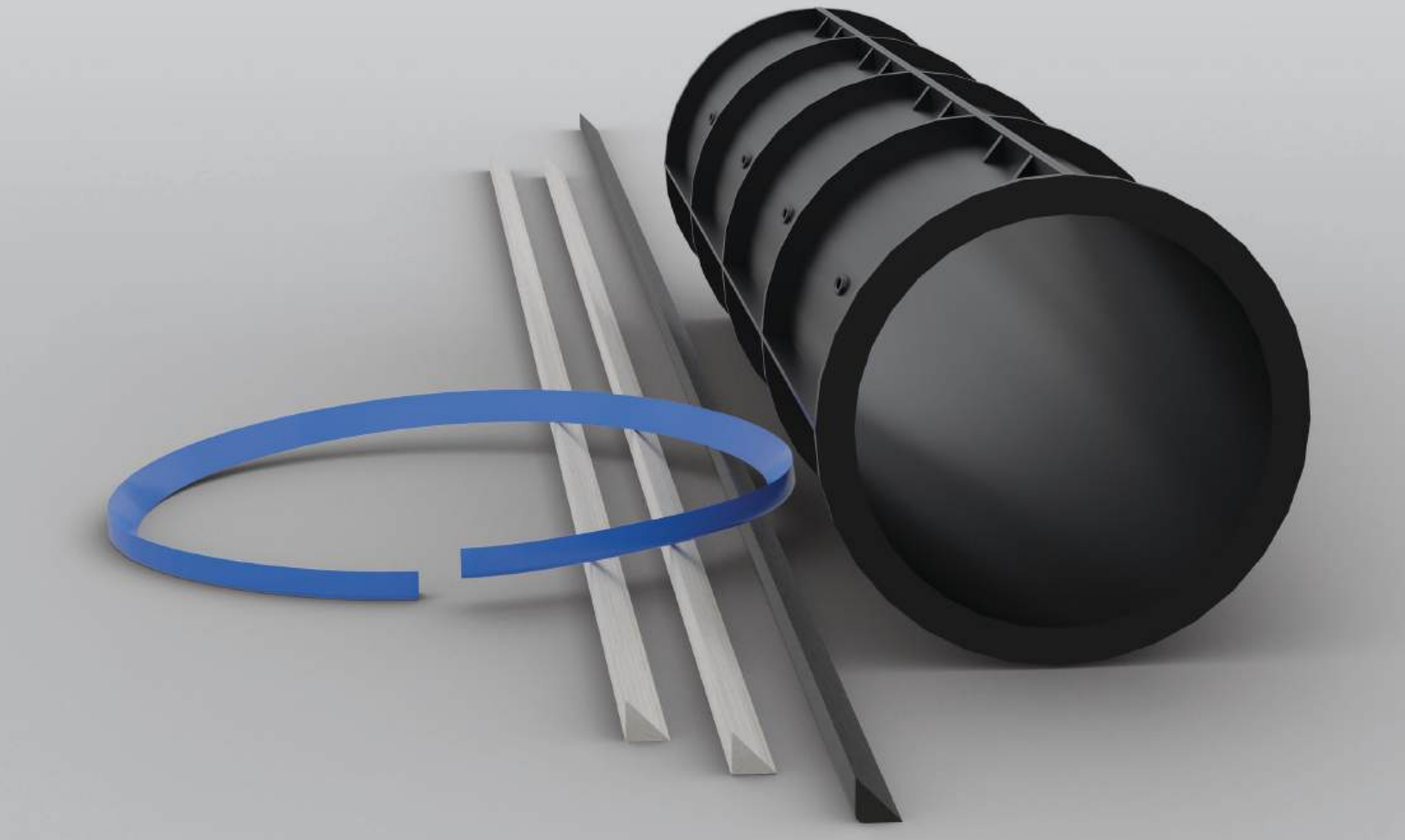
CONSTRUCTION GROUT - C-1107

A high-strength, non-metallic, cementitious structural grout. It is non-staining, non-shrinking and pumpable. Meets ASTM C-1107 and Corps of Engineers Specification CRD-C-621 grades A, B and C. Construction Grout can be mixed in fluid, flowable, plastic and dry-pack consistencies. Construction Grout can achieve 28 strengths between 8,500 PSI and 12,100 PSI, depending on consistency.

See technical data sheets for specifications and instructions.

Part #	Bag Weight	Qty/Skid
PBC1107	50 lbs	56

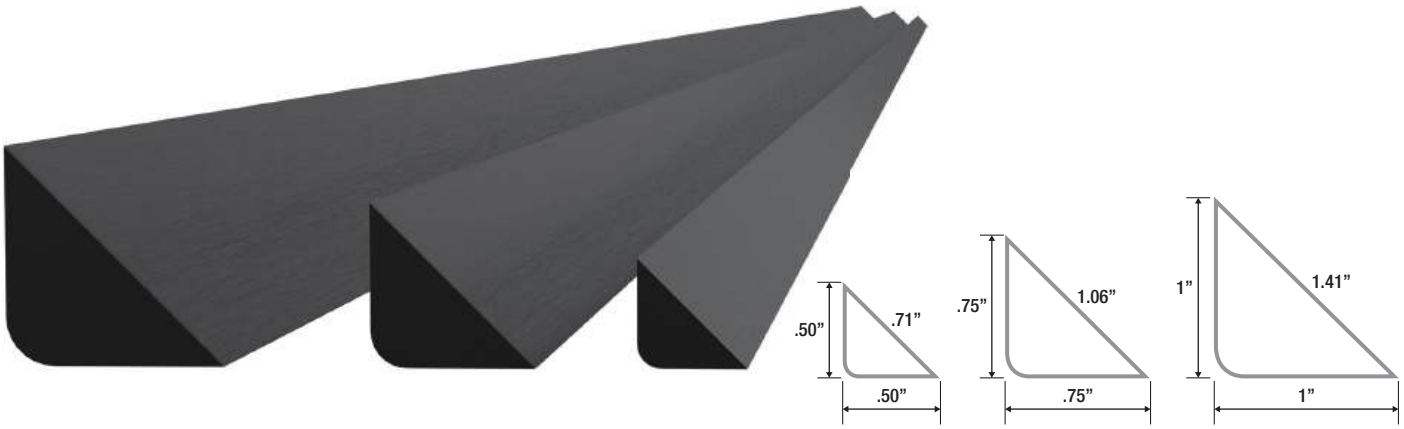
FORM ACCESSORIES



STEEL CHAMFER

Reusable and durable, Steel Chamfer is designed to create beveled edges on the corners and faces of concrete wall panels and small concrete items. Available in 10 ft lengths and in 1/2”, 3/4” and 1” (leg dimensions). 10 ft lengths must ship by common carrier.

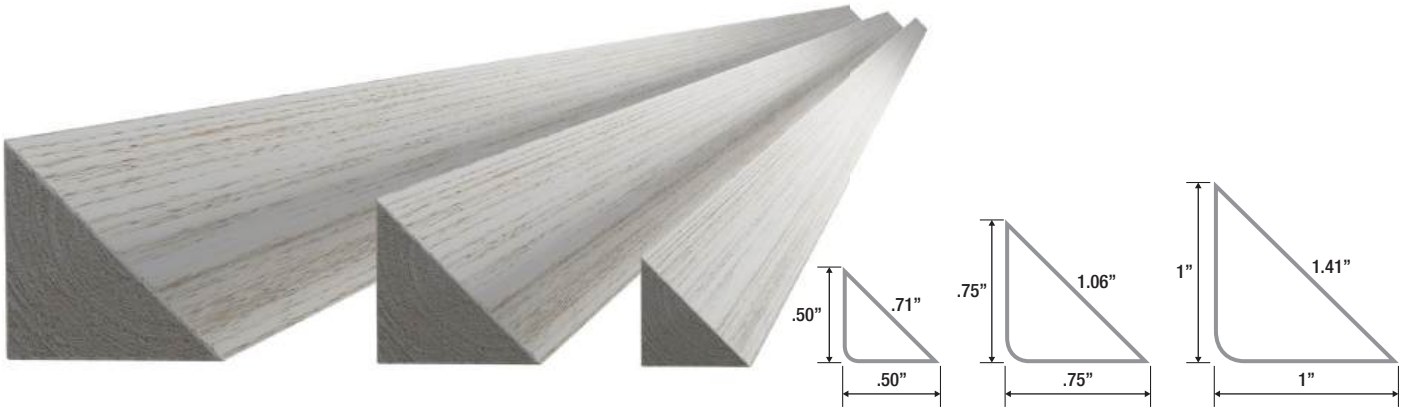
Also available cut to 5’ lengths for UPS shipments.



Part #	Height	Standard Length	Weight (lbs)
DMCS1210	1/2”	10’	4.1
DMCS3410	3/4”	10’	9.7
DMCS110	1”	10’	16.9

WOOD CHAMFER

Wood Chamfer is designed with high surface smoothness, straightness, resistance to splitting during nailing, and minimal sugaring. Available in 8 ft lengths and in 1/2”, 3/4” and 1” (leg dimensions).

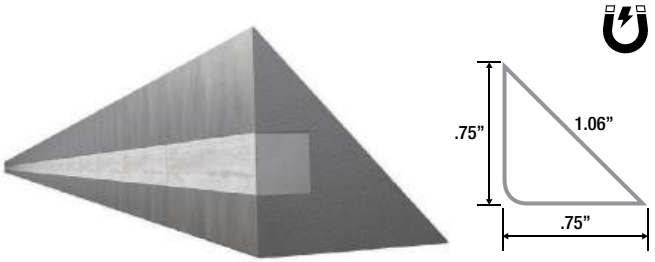


Part #	Height	Length	Qty/Bundle
WC128	1/2”	8’	800 ft.
WC348	3/4”	8’	400 ft.
WC18	1”	8’	400 ft.

MAGNETIC STEEL CHAMFER - TRADESMAN SERIES®

The All-New Tradesmen Series Magnetic Steel Chamfer is designed to create beveled edges on the corners of concrete in steel forms. This Magnetic Chamfer is electro-plated to minimize corrosion, features an enhanced circuit that increases capacity by 20% and is more cost-effective compared to the traditional design. Available in 10 ft lengths and must ship by common carrier.

Part #	Description
TKT500SCH	TS Chamfer, 1/2" X 10' Magnetic Steel
TKT750SCH	TS Chamfer, 3/4" X 10' Magnetic Steel



MAGNETIC URETHANE CHAMFER/REVEAL

Reusable, flexible Urethane Chamfer with integral magnets are designed to create beveled edges on the corners and faces of concrete wall panels and small concrete items, allowing for easy removal.

MAGNETIC URETHANE FLEXIBLE CHAMFER

Part #	Height	Length	Urethane Durometer	Description
TK500FMC60	1/2"	8'	60 Shore	For Flexible Applications
TK750FMC60	3/4"	8'	60 Shore	For Flexible Applications
TK1000FMC60	1"	8'	60 Shore	For Flexible Applications

MAGNETIC URETHANE FLEXIBLE CHAMFER

Part #	Height	Length	Urethane Durometer	Description
TK500FMC90	1/2"	8'	90 Shore	For Straight Applications
TK750FMC90	3/4"	8'	90 Shore	For Straight Applications
TK1000FMC90	1"	8'	90 Shore	For Straight Applications

MAGNETIC URETHANE FLEXIBLE REVEAL

Part #	Height	Length	Urethane Durometer	Description
TK1000FMC60R	1"	8'	60 Shore	For Flexible Applications
TK1000FMC90R	1"	8'	90 Shore	For Straight Applications

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

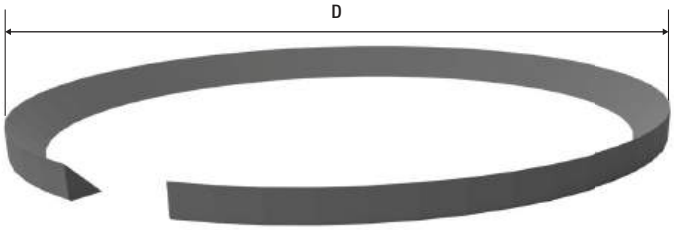
PLASTIC COLUMN FORMS

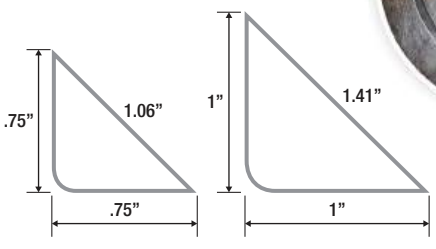
Stackable

Precast Column Forms are used for forming round columns and are commonly used for making precast light pole bases. These light weight forms can be assembled by one person and are easy to strip. Stackable and reusable, plastic column forms are cost effective, waterproof, u.v. resistant and will not rust. **Additional sizes are available. Also available in steel.**

Part #	Diameter	Height
DIPCF1296	12”	96”
DIPCF1696	16”	96”
DIPCF1896	18”	96”
DIPCF2096	20”	96”
DIPCF2496	24”	96”
DIPCF3048	30”	48”

ROLLED CHAMFER





3/4” Chamfer 1” Chamfer

Part #	Height	D
DMCS34D18	3/4”	18”
DMCS34D20	3/4”	20”
DMCS34D24	3/4”	24”
DMCS34D30	3/4”	30”
DMCS34D36	3/4”	36”
DMCS34D48	3/4”	48”
DMCS1D24	1”	24”
DMCS1D30	1”	30”
DMCS1D36	1”	36”

Other sizes also available.

POWER ADHESIVES - GUNS

Standard Models
TEC-3500

Cordless Models
TEC-3508

Power Adhesives Guns are used in precast plants to temporarily adhere various items to forms, including metal, wood, plastic, EPS foam and extruded foam. The guns reduce set-up and clean-up time while improving finished product quality. Guns use CASTEC 42 adhesive, specifically designed for precast applications.

STANDARD MODEL

Model #	Part #	Voltage	Weight (lbs)
TEC-3500	CTG3500	120V	3.9

CORDLESS MODEL*

Model #	Part #	Voltage	Weight (lbs)
TEC-3508	CTG3508	18V Battery	3.4

* Battery pictured is not included.

CASTEC 42 ADHESIVE

Specially formulated for the precast industry, CASTEC 42 adhesive is a high performance, extended open-time hot melt glue that is designed for easy clean up. It is used to temporarily adhere various items to forms, including metal, wood, plastic, EPS foam and extruded foam.

Part #	Diameter	Length	Sticks/Carton	Heat Resistance
CTA42	1-3/4”	1-3/4”	176	Up to 176°

GUN STAND

Part #	Description
CTPA3096	Fits all guns listed above

MAGNETIC PVC LOCATOR

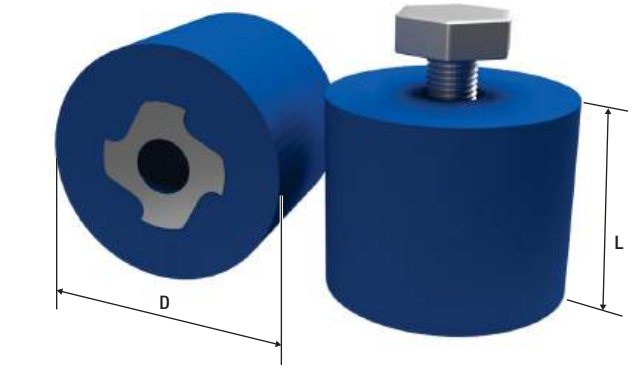
Designed for quick and efficient mounting of Schedule 40 PVC to the steel form, thus eliminating the need to drill holes in the form. PVC Pipe Magnet is constructed of urethane with a threaded hole for removal from PVC.

Part #	PVC Diameter	H
TKPVCPM112	1-1/2"	2"
TKPVCPM2	2"	2"
TKPVCPM212	2-1/2"	2"
TKPVCPM3	3"	2"
TKPVCPM4	4"	2"

- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

MAGNETIC CONDUIT LOCATOR

Designed for quick and efficient mounting of conduit to a steel form, thus eliminating the need to drill holes in the form. Available for flat forms or for the exterior jacket of a radius form. Uses 1/2" socket for tightening and removing the plug. Designed to fit the coupler end of the conduit.

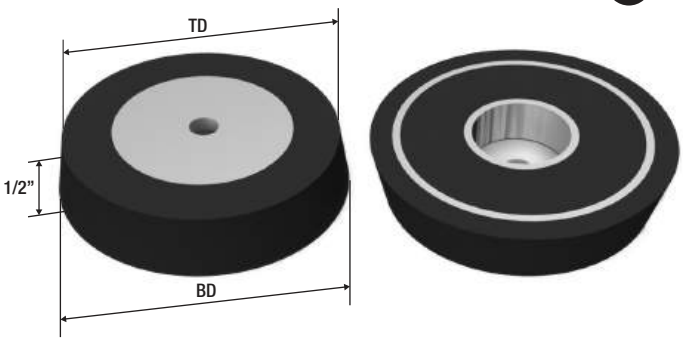


CONDUIT PLUG LOCATORS

Part #	Conduit Coupler Size	D	L
TK750UPC	3/4"	1.00"	0.76"
TK1000UPC	1"	1.30"	0.95"
TK1250UPC	1-1/4"	1.64"	1.20"
TK1500UPC	1-1/2"	1.875"	1.275"
*TK2000UPC	2"	2.35"	1.30"

*Can only be used with TKBPUP-3 Base

- 5/16" bolt included with each Conduit Plug Locator. Bolt utilizes a 1/2" socket to remove plug locator from base.
- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.



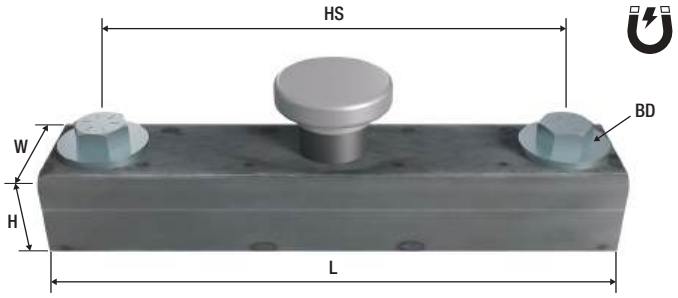
MAGNETIC BASE (FOR CONDUIT PLUG)

Part #	Bottom Shape	TD	BD
TKMBPUP	Flat	2-1/4"	2-5/8"
TKMB12RUP	Curved - 12" Radius (24" Diameter)	2-1/4"	2-5/8"
TKMB24RUP	Curved - 24" Radius (48" Diameter)	2-1/4"	2-5/8"
TKMB30RUP	Curved - 30" Radius (60" Diameter)	2-1/4"	2-5/8"
TKMBPUP-3	Flat	3"	3-1/4"
TKMB12RUP-3	Curved - 12" Radius (24" Diameter)	3"	3-1/4"

- Curved bases are used on the exterior jacket of a round form
- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

TRADESMAN SERIES™ BUTTON MAGNETS

Typically used for supporting side rails or blockouts. Push down button engages magnet to steel form, and can be removed using the Button Magnet Removal tool. Optional brackets are also available. **Call for further information.**



Part #	Description	Tension Capacity (lbs)*	L	W	H	HS	BD
TKTBM500	0.5 Ton Button Magnet	500	6-11/16”	2-7/16”	1-9/16”	5-1/8”	1/2”
TKTBM2000	1 Ton Button Magnet	2,000	11”	2-7/16”	1-5/8”	10-9/16”	1/2”
TKTBM5000	2.5 Ton Button Magnet	5,000	12-5/8”	4-3/4”	2-1/2”	10-5/8”	5/8”

*Above capacities based upon 1-1/2” thick steel, thinner steels will reduce capacities.

BUTTON MAGNET REMOVAL TOOL

Part #	Description
TKTBMLT	Button Magnet Removal Tool

HOLE FORMER MAGNET

MAGNET

Part #	Description	Tension Capacity (lbs)*
TKSHFM	Steel Hole Former Magnet	500
TKHFM	Stainless Steel Top Hole Former Magnet	500

*Above capacities based upon 1-1/2” thick steel, thinner steels will reduce capacities.

- Thumb Screw sold separately.
- Petroleum based form release and coatings should not be used with urethane products, as they will degrade the urethane.
- Urethane products should not be used in temperatures exceeding 180°F.

THUMB SCREW

Part #	Description
TKWING	Thumb Screw for Hole Former Magnet - 5/16” N.C.

FISTER EXPOSE IT! FORM RETARDER

For horizontal and vertical castings, VOC compliant, long placement and vibration time. Standard 5 gallon pails.

- Coverage Rate: 300 sq. ft. per gallon
- Method of Application: Spray, brush or roller
- Drying Time: 20 minutes
- Activation Time: 45-60 min.
- Max Conc. Temperature: 150°F
- Solvent based - VOC compliant

Part #	Color	Aggregate Size
FQEIEX10	Blue	Acid etch finish or sandblast aid
FQEIEX20	Brown	>1/8"
FQEIEX30	Green	1/8"
FQEIEX40	Yellow	1/8"-1/4"
FQEIEX50	Pink	1/4"-3/8"
FQEIEX60	Grey	3/8"-1/2"
FQEIEX70	White	1/2"-5/8"
FQEIEX80	Orange	5/8"-3/4"
FQEIEX100	Violet	3/4"-1"

FISTER EXPOSE IT! SURFACE RETARDER

Apply to freshly poured concrete approximately 30-40 minutes after concrete has been placed. Cover with black plastic. Standard 5 gallon pails.

- Coverage Rate: 125-150 sq. ft. per gallon
- Method of Application: Low pressure sprayer
- Activation Time: At time of application
- Max Conc. Temperature: 110°F
- Water based

Part #	Color	Depth
FQEISRR	Red	Regular
FQEISRD	Purple	Deep

FISTER FORM SEAL

A high performance one-component moisture cure urethane that is ideally suited to coat porous wood or concrete formwork. This abrasion and chemically resistant material forms a tough waterproof film that will preserve the life of wood and concrete forms.

Part #	Size
FQFS5	5 Gallon Pail

FORM RELEASE

ALP® SURFACE-MAX® ARCHITECTURAL FORM RELEASE

ALP Supply Surface-Max Architectural is formulated with an active ingredient that reduces bugholes and eliminates concrete buildup by creating a sleek chemical barrier between the form and concrete surface. This form release is optimal for architectural precast and prestress products including wall panels, parking garages, architectural retaining walls and more.

Product Highlights

- Assures positive form release
- Minimizes surface voids
- Eliminates damaging and expensive form cleaning
- Non-staining
- Low odor and non-irritating
- Prevents sticking of concrete on pallets, mixers and other equipment

Part #	Container	Weight (lbs)
FRSMAT	330 Gallon Tote	2,380
FRSMAD	55 Gallon Drum	430
FRSMAP	5 Gallon Pail	40

ALP® SURFACE-MAX® UTILITY FORM RELEASE

ALP Supply Surface-Max Utility is a premium, non-staining, chemically active, highly refined mineral oil-based form release. This environmentally compliant release agent produces a smooth, void free concrete surface for both indoor and outdoor applications. Recommended for underground and utility precast such as structural prestress products, drainage structures, barriers, vaults and junction boxes.

Product Highlights

- Ensures easy stripping of forms
- Reduces bug holes and extends the life of most forming materials
- No cleaning between pours necessary
- Chemical release is not harmful to the form or the concrete surface
- Will not retard, etch, or soften concrete surface
- Inhibits rust formation on steel forms
- Low odor

Part #	Container	Weight (lbs)
FRSMUT	275 Gallon Tote	2,120
FRSMUD	55 Gallon Drum	430
FRSMUP	5 Gallon Pail	40

ALP® SURFACE-MAX® SEASONING AGENT

ALP Supply Surface-Max Seasoning Agent is designed to provide maximum seasoning of new pallets, new forms, and steel that has an exposed metal surface from wire brushing or sand blasting. This seasoning agent creates a metallic soap that protects the microscopic peaks and valleys in steel or aluminum to reduce bonding and adhesion. Once the metallic soap (protective barrier) is formed, the application of a reactive form release becomes more effective in reacting with the free lime on the surface of the concrete casting form to achieve quick and clean stripping.

Part #	Container	Weight (lbs)
FRSMSAP	5 Gallon Pail	45

CHAPIN SPRAYER

The Chapin model #1979 Sprayer is designed with flexible, heavy-duty core hoses that resist chemical contact and withstand crimping, cracking and leaking. These sprayers also have shut-off valves with lock-on and quick release designs. The in-tank, anti-clog filter and a wide mouth opening is ideal for easy filling and cleaning. Other sprayers with varying attributes are available.

Part #	Container
CHS1979	1979 Sprayer

CRETE-LEASE 880-VOC

Crete-Lease 880 releases any kind of form or formliner (except expanded polystyrene) from hardened concrete.

Part #	Container	Weight (lbs)
CCR880VOCT	275 Gallon Tote	2,185
CCR880VOCD	55 Gallon Drum	430
CCR880VOCP	5 Gallon Pail	40

CRETE-LEASE 880-VOC EXTRA

Crete-Lease 880-VOC-Xtra releases any kind of form or formliner from hardened concrete. Exceeds Federal, OTC State, and California (250 g/L) VOC Regulations.

Part #	Container	Weight (lbs)
CCR880VOCXT	275 Gallon Tote	2,185
CCR880VOCXD	55 Gallon Drum	430
CCR880VOCXP	5 Gallon Pail	40

CRETE-LEASE 727

Crete-Lease 727 permits easy, stain-free removal of forms, formliners, pallets, etc. from hardened concrete. **Available in 727 and 727-XTRA.**

Part #	Container	Weight (lbs)
CCR727T	275 Gallon Tote	2,185
CCR727D	55 Gallon Drum	430
CCR727P	5 Gallon Pail	40

GRIFCOTE FR-50 VOC

A proprietary blend of refined organic materials that promote clean and easy separation from all types of forms while deterring build-up and sticking.

Part #	Container	Weight (lbs)
HGFR50VOCT	330 Gallon Tote	2,483
HGFR50VOCD	55 Gallon Drum	450
HGFR50VOCP	5 Gallon Pail	40

GRIFCOTE LV-50 PLUS

A proprietary blend of vegetable oil based stock and a petroleum distillate that creates a metallic soap.

Part #	Container	Weight (lbs)
HGLV50PLUST	330 Gallon Tote	2,650
HGLV50PLUSD	55 Gallon Drum	450
HGLV50PLUSP	5 Gallon Pail	45

GRIFCOTE CC-150-VOC

A proprietary blend of organic materials designed for seasoning gray iron pallets, new steel forms and pallets and aluminum forms.

Part #	Container	Weight (lbs)
HGCC150VOCD	55 Gallon Drum	430
HGCC150VOCP	5 Gallon Pail	40

MISCELLANEOUS ACCESSORIES

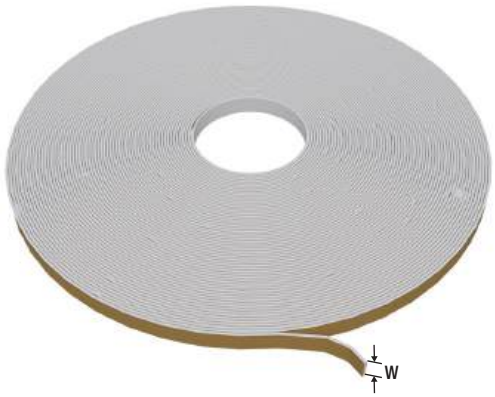
SIKAFILM®

SikaFilm retards moisture evaporation from the concrete surface and acts as a finishing aid for concrete flatwork. Available in 5 gallon pails and 55 gallon drums.

Part #	Description
SKF5	Sikafilm, 5 gallon pail
SKF55	Sikafilm, 55 gallon drum

TWIN BOND

Twin Bond Double-Sided Tape is commonly used to secure weld plates and other items to a form.



Part #	T - Thickness	W - Width	Length per Roll	Rolls/Ctn
FOATB12	1/16”	1/2”	108’	18
FOATB1	1/16”	1”	108’	12
FOATB2	1/16”	2”	108’	6

CYLINDER MOLDS AND LIDS

CYLINDER MOLD LIDS

Part #	Diameter
MACML4	4”
MACML6	6”

CYLINDER MOLDS

Part #	Size	Qty/Ctn
MACM48	4” Diameter x 8”	50
MACM612	6” Diameter x 12”	24

BACKER ROD

An extruded round, closed cell, low-density polyethylene foam material designed to be compressed into a joint to control sealant depth, create a backstop to allow proper sealant tooling, to allow wetting of the joint surfaces and to yield proper bond between the backup material and the sealant. Can also be used as a temporary joint seal.

Part #	Size	Feet/Ctn
FPBR01480	1/4”	4,000’
FPBR03842	3/8”	2,100’
FPBR01225	1/2”	2,500’
FPBR05815	5/8”	1,550’
FPBR03411	3/4”	1,100’
FPBR16	1”	600’
FPBR10144	1-1/4”	400’
FPBR1012420	1-1/2”	420’
FPBR26	2”	252’
FPBR2012156	2-1/2”	156’
FPBR3102	3”	102’

SIKAFLEX® 1A - SEALANT

Sikaflex 1A polyurethane elastic sealant/adhesive is a high performance, moisture-curing, single-component, elastomeric sealant designed for all types of small joints, where maximum depth of sealant will not exceed 1/2”. Sikaflex 1A is also suitable for vertical and horizontal joints, and cures to a tough, durable, flexible consistency with exceptional cut-and-tear resistance.

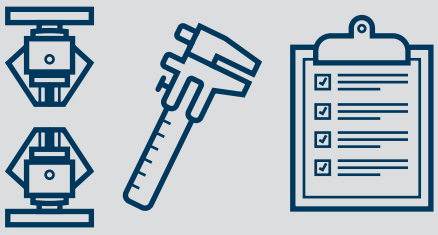
Part #	Description	Color	Qty/Ctn
SKC1A103L	Sikaflex 1A,10.3 oz. cartridge	Limestone	24

NOTES

DID YOU KNOW?

At ALP Supply, safety is our number one priority. Our Quality Control Team rigorously tests ALP brand products throughout the manufacturing process.

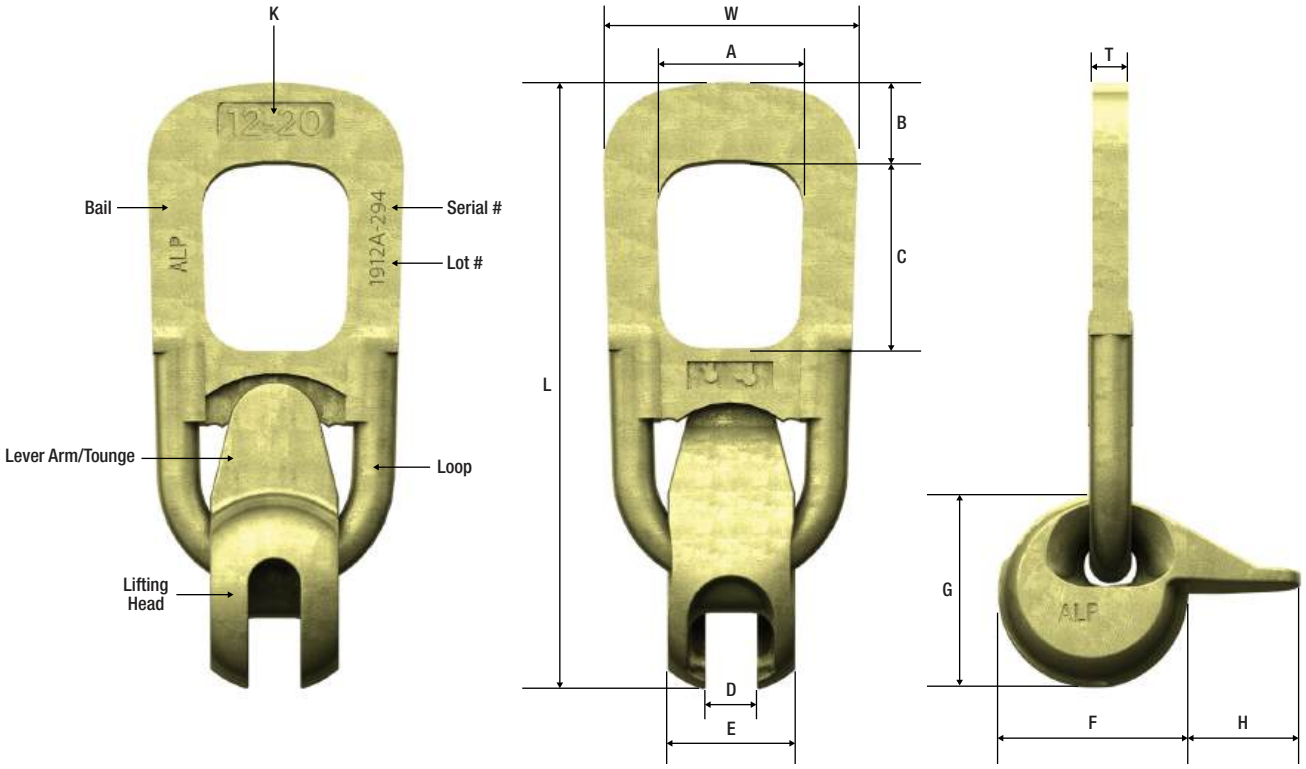
Learn more at **alpsupply.com**.



TECHNICAL RESOURCES

ALP® LIFTING EYE

ALP Lifting Eyes are reusable lifting hardware for the ALP Lifting Pin System. The reusable nature of the Lifting Eyes often subjects them to wear and tear and periodic impact loading. Lifespan of product is determined by the conditions in which they are used. Periodic inspection required to ensure the safety of all users of this hardware. The information provided in the following pages provides an outline for conducting and documenting periodic inspections.



Front View **Back View** **Side View**

Users must determine an inspection program based on frequency of use. The Lifting Eye Hardware may be exposed to mishandling, overloading, wear and any other factors that may contribute to adverse effects in Lifting Eye's allowable load ratings. Thus, it is pertinent that the Lifting Eye is inspected by a designated person on a regular basis to evaluate it's general condition and degree of wear. Reference ASME B30.20-2018: Section 20-1.3.

- ALP Lifting Eyes must be inspected immediately after returned from jobsite.
- Additional general inspections should be conducted periodically, depending on the frequency of use.
- Lifting Eyes that don't meet the below inspection criteria should be immediately discontinued from use and destroyed. Inspection documents should be filed for the life of the Lift Eye.

ALP® LIFTING EYE – CHART LE-1 – NOMINAL DIMENSIONS

Part #	K - Load Range (Tons)	L	W	T	A	B	C	D	E	F	G	H	Ultimate Capacity in Tension (lbs)	Weight (lbs)
LPLE1T	1T-1.3T	7-23/64"	2-61/64"	15/32"	1-51/64"	53/64"	2-3/4"	29/64"	1-19/64"	2-1/8"	2-7/64"	1-5/64"	13,000	2.07
LPLE2T	1.5T-2.5T	9-1/64""	3-15/32"	19/32"	2-15/64"	31/32"	3-21/64"	39/64"	1-39/64"	2-9/16"	2-33/64"	1-29/64"	25,000	3.35
LPLE4T	3T-5T	10-15/16"	4-5/8"	43/64"	2-43/64"	1-27/64"	3-15/32"	27/32"	2-1/4"	3-25/64"	3-25/64"	2-1/64"	50,000	7.70
LPLE8T	6T-10T	15-25/64"	6-9/32"	1-1/16"	3-3/16"	2"	4-13/32"	1-9/64"	2-57/64"	4-29/64"	4-29/64"	2-27/64"	100,000	21.85
LPLE20T	12T-20T	20"	7-19/32"	1-3/8"	4-31/64"	2-23/32"	6-1/32"	1-21/32"	4-7/16"	5-29/32"	5-21/32"	3-3/64"	200,000	44.93

Rated Load Range (K) has a 5:1 safety factor.

Date	Part #	Lot # - Serial # (xxxxx-xxx)

Inspecting Lifting Eyes

Step 1: Prepare Lifting Eye for Inspection

Prior to inspection, the Lift Eye should be cleaned to ensure any cracks or damage can be seen by the inspector.

Step 2: Visual Inspection of Bail

Visually inspect the bail for any splitting, cracking, deformation, bending, applied heat or damage to the welding. If the Lifting Eye fails any of these criteria, it must be removed from service.

Step 3: Measure the Bail and Bail Loop

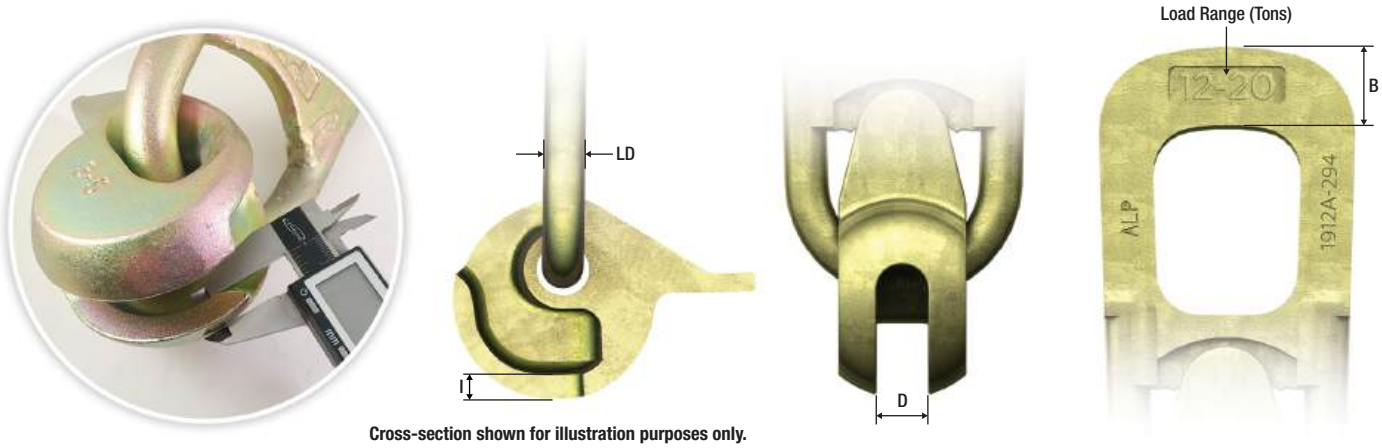
Dimensions B and LD found in Chart LE-2 are indicated below. These measurements must meet minimum requirements for the Lift Eye to pass inspection.

Step 4: Visual Inspection of Lifting Head

Visually inspect the lifting head for any splitting, cracking, deformation, applied heat or damage. If the Lifting Eye fails any of these criteria, it must be removed from service.

Step 5: Measure the Lifting Head

Dimensions D and I found in Chart LE-2 are indicated below. These measurements must meet min/max requirements for the Lift Eye to pass inspection.



Cross-section shown for illustration purposes only.

ALP® LIFTING EYE LIFTING HEAD, BAIL AND BAIL LOOP – CHART LE-2 – CRITICAL DIMENSIONS CHECK

Part #	Description	Load Range (Tons)	B (Min.)	D (Max.)	I (Min.)	LD (Min.)
LPLE1T	1T Lift Eye	1T-1.3T	0.55”	0.51”	0.22”	0.41”
LPLE2T	2T Lift Eye	1.5T-2.5T	0.69”	0.71”	0.24”	0.49”
LPLE4T	4T Lift Eye	3T-5T	1.10”	0.97”	0.31”	0.73”
LPLE8T	8T Lift Eye	6T-10T	1.42”	1.28”	0.50”	1.03”
LPLE20T	20T Lift Eye	12T-20T	2.21”	1.87”	0.79”	1.29”

All critical dimensions are unique to ALP engineered and manufactured components, which have been verified through testing.

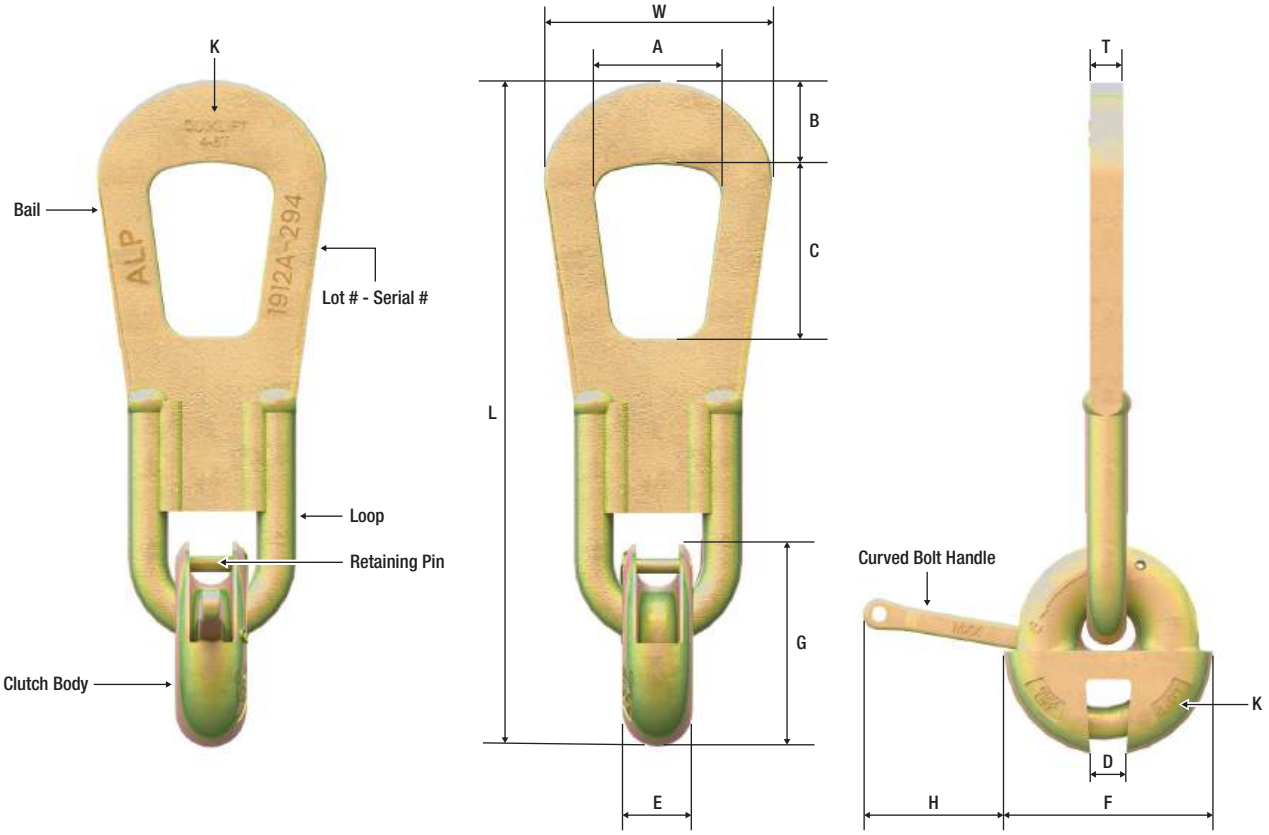
Inspection report, to be completed by the precast manufacturer or erection company					
Critical Dimensions (Chart LE-2)				Other Damage	Pass/Fail?
B	D	I	LD		

Inspected by	

When removing a lift eye from service, the correct procedure in destroying the hardware is to cut/torch through the lifting bail to declare as unusable.

ALP® QUIKLIFT® RING CLUTCH

ALP Ring Clutches are reusable lifting hardware for the ALP QuikLift System. The reusable nature of the Ring Clutches often subjects them to wear and tear and periodic impact loading. Lifespan of product is determined by the conditions in which they are used. Periodic inspection required to ensure the safety of all users of this hardware. The information provided in the following pages provides an outline for conducting and documenting periodic inspections.



Front View **Back View** **Side View**

Users must determine an inspection program based on frequency of use. The ALP QuikLift Ring Clutch may be exposed to mishandling, overloading, wear and any other factors that may contribute to adverse effects in a Ring Clutch's allowable load ratings. Thus, it is pertinent that the Ring Clutch is inspected by a designated person on a regular basis to evaluate it's general condition and degree of wear. Reference ASME B30.20-2018: Section 20-1.3.

- ALP QuikLift Ring Clutches must be inspected immediately after returned from jobsite.
- Additional general inspections should be conducted periodically, depending on the frequency of use.
- ALP QuikLift Ring Clutches that don't meet the below inspection criteria should be immediately discontinued from use and destroyed. Inspection documents should be filed for the life of the Ring Clutch.

ALP® QUIKLIFT® RING CLUTCH – CHART RC1 – NOMINAL DIMENSIONS

Part #	K - Load Range (Tons)	L	W	T	A	B	C	D	E	F	G	H	Ultimate Capacity in Tension (lbs)	Weight (lbs)
QL001	2-3T	10-23/64"	3-3/8"	15/32"	2-13/64"	1-3/16"	2-23/32"	33/64"	1-3/64"	3-9/64"	3-1/32"	2-33/64"	30,000	3.57
QL002	4-6T	13-7/64"	4-29/64"	5/8"	2-17/32"	1-39/64"	3-27/64"	11/16"	1-27/64"	4-3/32"	4-7/64"	3-1/32"	60,000	7.94
QL003	8-12T	16-21/32"	5-33/64"	63/64"	3-9/64"	1-13/16"	4-41/64"	29/32"	1-59/64"	5-29/32"	5-43/64"	3-15/32"	120,000	20.63
QL004	12.5-22T	24-9/64"	8-5/32"	1-3/8"	4-27/32"	2-41/64"	6-3/8"	1-5/16"	2-27/32"	8-15/32"	8-3/32"	3-39/64"	220,000	59.77

Rated load has a 5:1 safety factor.

Date	Part #	Lot # - Serial # (xxxxx-xxx)

Inspecting Ring Clutches

Step 1: Prepare Ring Clutch for Inspection

Prior to inspection, the Ring Clutch should be cleaned to ensure any cracks or damage can be seen by the inspector.

Step 2: Visual Inspection of Bail

Visually inspect the bail for any splitting, cracking, deformation, bending, applied heat or damage to the welding. If the Ring Clutch fails any of these criteria, it must be removed from service.

Step 3: Visual Inspection of Retaining Pin

Visually inspect retaining pin for any noticeable damage or bending deformation.

Step 4: Visual Inspection of Clutch Body

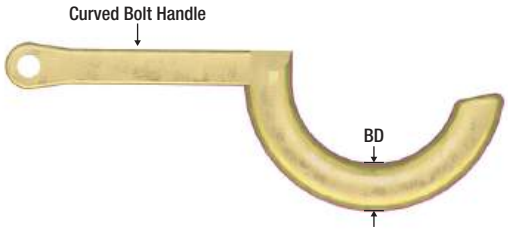
Visually inspect the clutch body for any splitting, cracking, deformation, applied heat or damage. If the clutch body fails any of this criteria it must be removed from service.

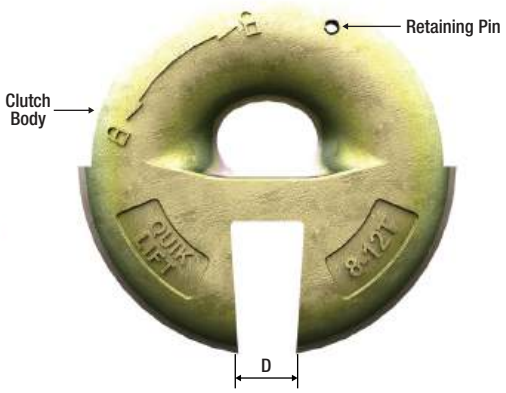
Step 5: Measure the Clutch Body

Dimension D found in Chart RC2 below. This measurement must meet dimension requirements for the Ring Clutch to pass inspection. Inspect retaining pin for damage, verify this item is secure and functional, preventing the curved handle from being removed or falling out of position.

Step 6: Measure the Curved Bolt Handle and Bail Loop

Dimensions LD and BD found in Chart RC2 below. These measurements must meet dimension requirements for the Ring Clutch to pass inspection. Inspect curved handle and bail loop for any damage.





ALP® QUIKLIFT® RING CLUTCH BODY – CHART RC2 – CRITICAL DIMENSIONS CHECK

Part #	Description	Load Range (Tons)	B (Min.)	D (Max.)	BD (Min.)	LD (Min.)
QL001	2T-3T Ring Clutch	2T-3T	0.886”	0.591”	0.472”	0.531”
QL002	4T-6T Ring Clutch	4T-6T	1.220”	0.787”	0.622”	0.728”
QL003*	8T-12T Ring Clutch	8T-12T	1.457”	0.984”	0.866”	1.00”
QL004	12.5-22T Ring Clutch	12.5-22T	2.126”	1.417”	1.201”	1.496”

*Manufactured prior to 01/01/2019 have a load range of 8-11T.

All critical dimensions are unique to ALP engineered and manufactured components, which have been verified through testing.

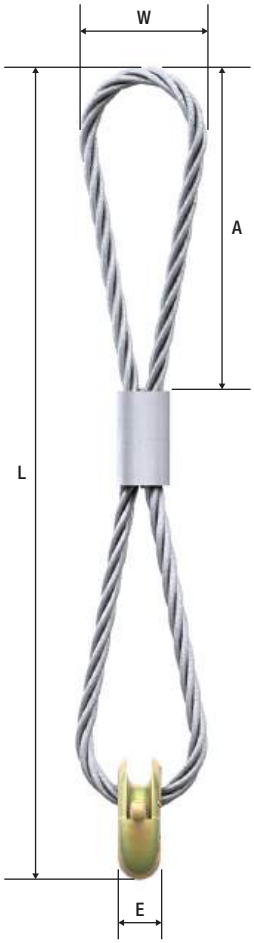
Inspection report, to be completed by the precast manufacturer or erection company						
Verify all measurements in Chart RC1 (Yes/No)	Critical Dimensions (Chart RC2)				Other Damage	Pass/Fail?
	B	D	BD	LD		

Inspected by	

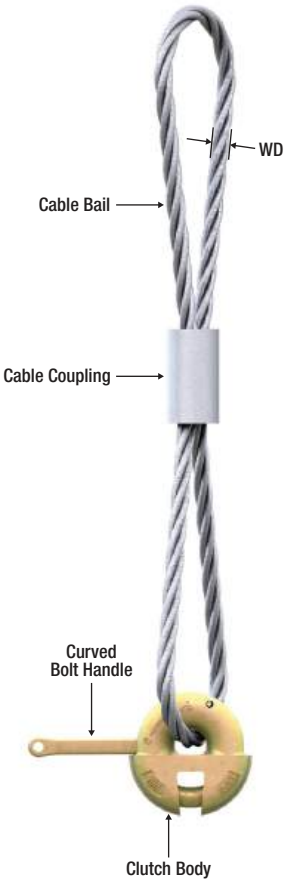
When removing a ring clutch from service, the correct procedure in destroying the hardware is to cut/torch through the lifting bail to declare as unusable.

ALP® QUIKLIFT® CABLE RING CLUTCH

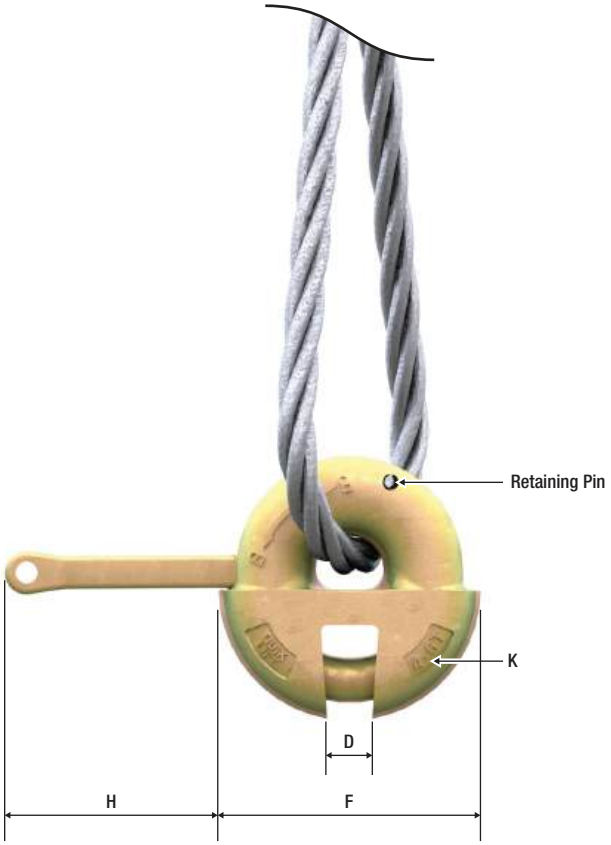
ALP Cable Ring Clutches are reusable lifting hardware for the ALP QuikLift System. The reusable nature of the Cable Ring Clutches often subjects them to wear and tear and periodic impact loading. Lifespan of product is determined by the conditions in which they are used. Periodic inspection is required to ensure the safety of all users of this hardware. The information provided in the following pages provides an outline for conducting and documenting periodic inspections.



Back View



Side View



Close-up View

Users must determine an inspection program based on frequency of use. The ALP QuikLift Cable Ring Clutch may be exposed to mishandling, overloading, wear and any other factors that may contribute to adverse effects in Cable Ring Clutches allowable load ratings. Thus, it is pertinent that the cable ring clutch is inspected by a designated person on a regular basis to evaluate it's general condition and degree of wear. Reference ASME B30.20-2018: Section 20-1.3.

- ALP QuikLift Cable Ring Clutches must be inspected immediately after returned from jobsite.
- Additional general inspections should be conducted periodically, depending on the frequency of use.
- ALP QuikLift Cable Ring Clutches that don't meet the below inspection criteria should be immediately discontinued from use and destroyed. Inspection documents should be filed for the life of the Ring Clutch.

ALP® QUIKLIFT® CABLE RING CLUTCH – CHART CRC1 – NOMINAL DIMENSIONS

Part #	K - Load Range (Tons)	L	W	A	D	E	WD	F	H	Ultimate Capacity in Tension (lbs)	Weight (lbs)
QL001CB	2-3T	23-5/8"	4-7/8"	10-1/8"	33/64"	1-3/64"	35/64"	3-9/64"	2-33/64"	30,000	3.79
QL002CB	4-6T	25-25/64"	5-5/8"	10-29/32"	11/16"	1-27/64"	45/64"	4-3/32"	3-1/32"	60,000	7.38
QL003CB	8-12T	35-13/64"	6-3/8"	14-9/16"	29/32"	1-59/64"	1-1/32"	5-29/32"	3-15/32"	120,000	21.78
QL004CB	12.5-22T	65-23/64"	8-17/64"	21-7/8"	1-5/16"	2-27/32"	1-1/4"	8-15/32"	3-39/64"	220,000	65.72

Rated load has a 5:1 safety factor.

Date	Part #	Lot # - Serial # (xxxxx-xxx)

Inspecting Cable Ring Clutches

Step 1: Prepare Cable Ring Clutch for Inspection

Prior to inspection, the Ring Clutch should be cleaned to ensure any cracks or damage can be seen by the inspector.

Step 2: Visual Inspection of Cable Bail

Visually inspect the cable for any damage, kinks, and buckling. Inspect for broken cable/wire/strand braid, cable compression deformation, cable corrosion scarring and excessive number of damaged or frayed wires. If the Ring Clutch fails any of these criteria, it must be removed from service.

Step 3: Visual Inspection of Cable Coupling

Inspect cable coupling for damage or severe wear. Check for signs of cable slippage in cable coupling. If indication of applied heat is present, unit must be removed from service.

Step 4: Visual Inspection of Clutch Body

Visually inspect the clutch body for any splitting, cracking, deformation, applied heat or damage. If the clutch body fails any of these criteria, it must be removed from service.

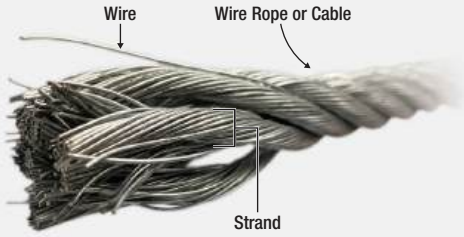
Step 5: Measure the Clutch Body

Dimension D found in Chart CRC2 below. This measurement must meet dimension requirements for the Ring Clutch to pass inspection. Inspect retaining pin for damage, verify this item is secure and functional, preventing the curved handle from being removed or falling out of position.

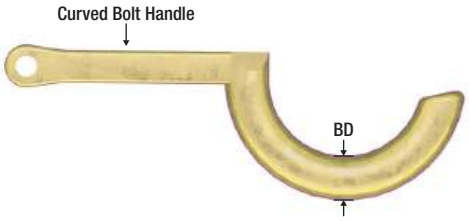
Step 6: Measure the Curved Handle

Dimension BD found in Chart CRC2 below. This measurement must meet dimension requirements for the Ring Clutch to pass inspection. Inspect curved handle for any damage.

Composition of Wire Rope or Cable Bail



Discard cable if excessive wire breakage is witnessed: (4 breaks in 3 dia. of cable length), (6 breaks in 6 dia. of cable length), (16 breaks in 30 dia. of cable length).



ALP® QUIKLIFT® RING CLUTCH BODY – CHART CRC2 – CRITICAL DIMENSIONS CHECK

Part #	Load Range (Tons)	D (Max.)	BD (Min.)
QL001CB	2T-3T	0.591”	0.472”
QL002CB	4T-6T	0.787”	0.622”
QL003CB	8T-12T	0.984”	0.866”
QL004CB	12.5T-22T	1.417”	1.201”

All critical dimensions are unique to ALP engineered and manufactured components, which have been verified through testing.

Inspection report, to be completed by the precast manufacturer or erection company			
Critical Dimensions (Chart CRC2)		Other Damage	Pass/Fail?
D	BD		

Inspected by	

When removing a cable ring clutch from service, the correct procedure in destroying the hardware is to cut/torch through the cable bail to declare as unusable.

NOTES

DID YOU KNOW?

ALP Supply has 7 distribution locations across the continental US in order to reliably deliver the products you need, when you need them. Shipping out of:

1. Fairless Hills, PA
2. Atlanta, GA
3. Plant City, FL
4. Minneapolis, MN
5. Fort Worth, TX
6. Sparks, NV
7. Columbus, OH

800.332.7090 | sales@alpsupply.com | alpsupply.com