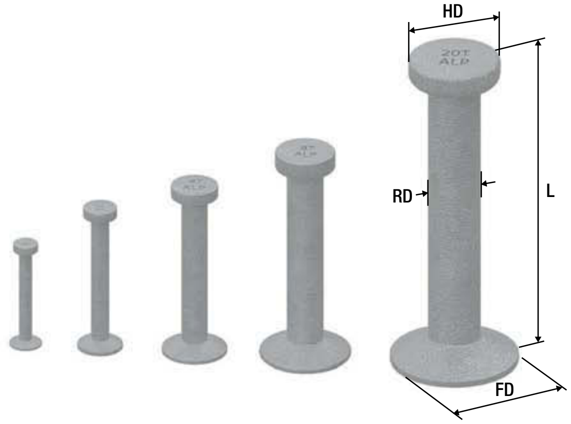
ALP® LIFTING PIN ANCHORS

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

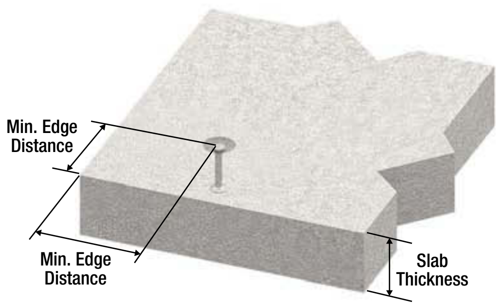
Foot Marking

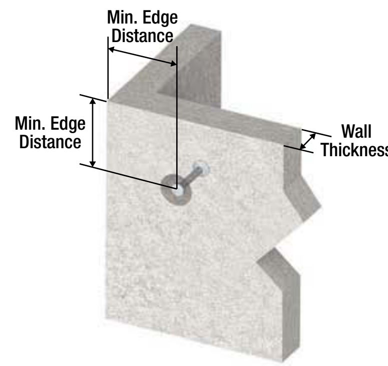
DIMENSIONS AND CAPACITIES

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”	1T ALP	8,000	0.11	300	15,000
LPA1T258G	1T	2-5/8”	3/4”	3/8”	1”	1T ALP	8,000	0.14	300	15,000
LPA1T338G	1T	3-3/8”	3/4”	3/8”	1”	1T ALP	8,000	0.16	200	5,000
LPA1T434G	1T	4-3/4”	3/4”	3/8”	1”	1T ALP	8,000	0.22	100	5,000
LPA2T234G	2T	2-3/4”	1”	9/16”	1-3/8”	2T ALP	16,000	0.31	100	5,000
LPA2T338G	2T	3-3/8”	1”	9/16”	1-3/8”	2T ALP	16,000	0.35	100	5,500
LPA2T434G	2T	4-3/4”	1”	9/16”	1-3/8”	2T ALP	16,000	0.43	100	5,000
LPA2T512G	2T	5-1/2”	1”	9/16”	1-3/8”	2T ALP	16,000	0.48	50	4,500
LPA2T634G	2T	6-3/4”	1”	9/16”	1-3/8”	2T ALP	16,000	0.57	100	4,000
LPA2T11G	2T	11”	1”	9/16”	1-3/8”	2T ALP	16,000	0.85	30	1,500
LPA4T212G	4T	2-1/2”	1-7/16”	3/4”	2”	4T ALP	32,000	0.67	50	3,000
LPA4T3G	4T	3”	1-7/16”	3/4”	2”	4T ALP	32,000	0.74	50	3,000
LPA4T312G	4T	3-1/2”	1-7/16”	3/4”	2”	4T ALP	32,000	0.77	50	2,500
LPA4T334G	4T	3-3/4”	1-7/16”	3/4”	2”	4T ALP	32,000	0.82	50	2,500
LPA4T414G	4T	4-1/4”	1-7/16”	3/4”	2”	4T ALP	32,000	0.89	50	2,500
LPA4T434G	4T	4-3/4”	1-7/16”	3/4”	2”	4T ALP	32,000	0.94	25	2,500
LPA4T512G	4T	5-1/2”	1-7/16”	3/4”	2”	4T ALP	32,000	1.05	50	2,000
LPA4T718G	4T	7-1/8”	1-7/16”	3/4”	2”	4T ALP	32,000	1.25	25	1,600
LPA4T912G	4T	9-1/2”	1-7/16”	3/4”	2”	4T ALP	32,000	1.60	20	1,500
LPA8T434G	8T	4-3/4”	1-13/16”	1-1/8”	2-3/4”	8T ALP	64,000	1.96	20	1,000
LPA8T6G	8T	6”	1-13/16”	1-1/8”	2-3/4”	8T ALP	64,000	2.31	20	1,000
LPA8T634G	8T	6-3/4”	1-13/16”	1-1/8”	2-3/4”	8T ALP	64,000	2.48	20	1,000
LPA8T834G	8T	8-3/4”	1-13/16”	1-1/8”	2-3/4”	8T ALP	64,000	3.06	15	750
LPA8T10G	8T	10”	1-13/16”	1-1/8”	2-3/4”	8T ALP	64,000	3.33	10	500
LPA8T1338G	8T	13-3/8”	1-13/16”	1-1/8”	2-3/4”	8T ALP	64,000	4.26	N/A	450
LPA8T2634G	8T	26-3/4”	1-13/16”	1-1/8”	2-3/4”	8T ALP	64,000	7.83	N/A	270
LPA16T778G	16T	7-7/8”	2-3/4”	1-9/16”	3-7/8”	16T ALP	128,000	6.59	N/A	300
LPA20T10G	20T	10”	2-3/4”	1-9/16”	3-7/8”	20T ALP	160,000	7.82	N/A	200
LPA20T16G	20T	16”	2-3/4”	1-9/16”	3-7/8”	20T ALP	160,000	11.00	N/A	200
LPA20T1934G	20T	19-3/4”	2-3/4”	1-9/16”	3-7/8”	20T ALP	160,000	13.35	N/A	160

ALP SUPPLY®

ALP® LIFTING PIN ANCHORS CAPACITY IN CONCRETE



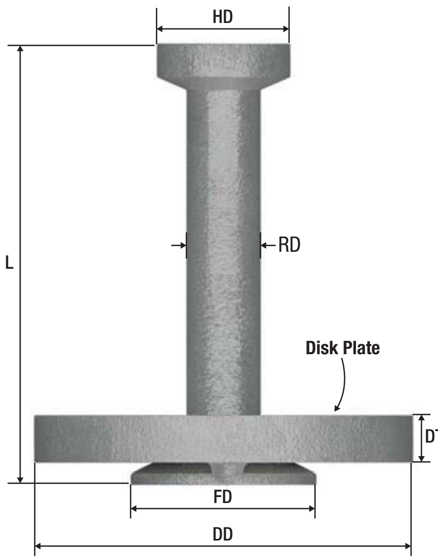


Part #	Ton	L	Capacity in Concrete, 4:1 SWL				Min. Edge Distances	
			1500 PSI (lbs)	2500 PSI (lbs)	3500 PSI (lbs)	5000 PSI (lbs)	Tension	Shear
LPA1T238G	1T	2-3/8”	1,045	1,350	1,600	1,910	8”	12”
LPA1T258G	1T	2-5/8”	1,160	1,500	1,770	2,000	8”	12”
LPA1T338G	1T	3-3/8”	1,900	2,000	2,000	2,000	8”	12”
LPA1T434G	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

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

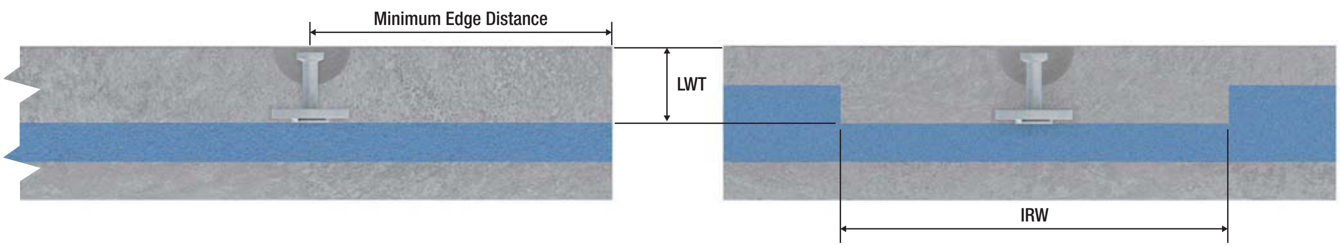
CAPACITIES

			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

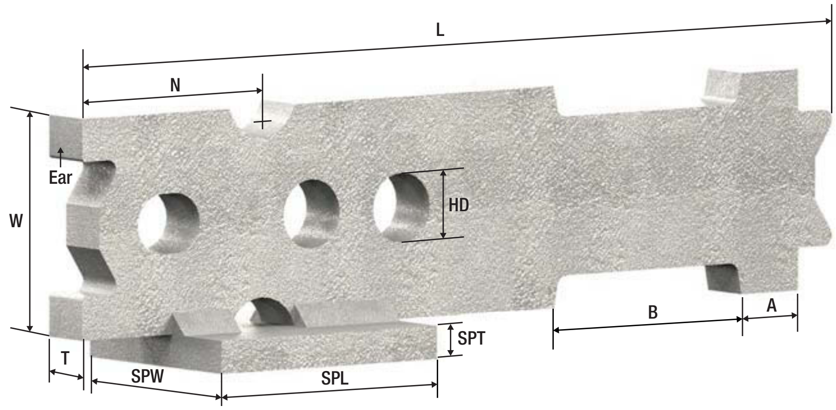


QUIKLIFT® TECH ERECTION ANCHOR WITH SHEAR PLATE

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.

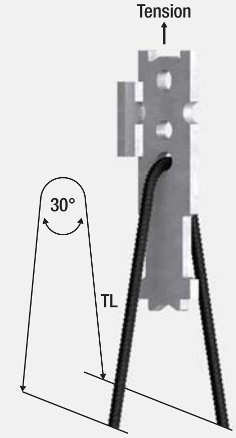


DIMENSIONS

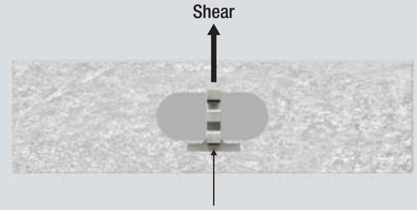
Part #	Ton	Ring Clutch System	W	L	T	HD	A	B	N	SPW	SPL	SPT	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate
QL527SPG	2T	2T-3T (QL001)	2”	8-11/16”	3/8”	5/8”	5/8”	2-5/8”	1-13/16”	2-1/2”	3”	1/4”	16,000	2.05	1,000
QL548SPG	4T	4T-6T (QL002)	2-1/2”	10-7/16”	5/8”	3/4”	3/4”	2-5/8”	2-1/2”	2-1/2”	3”	3/8”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

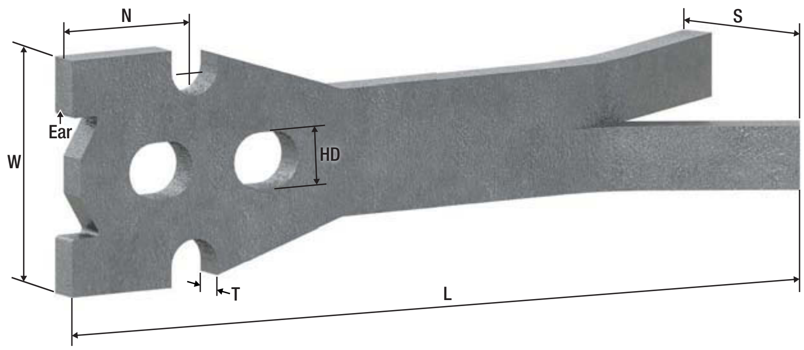


Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

*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® 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

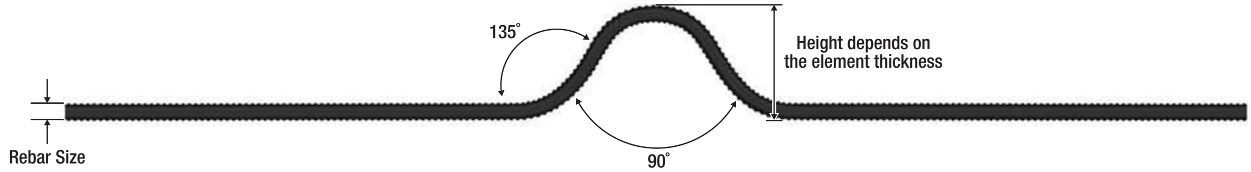
CAPACITIES

			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

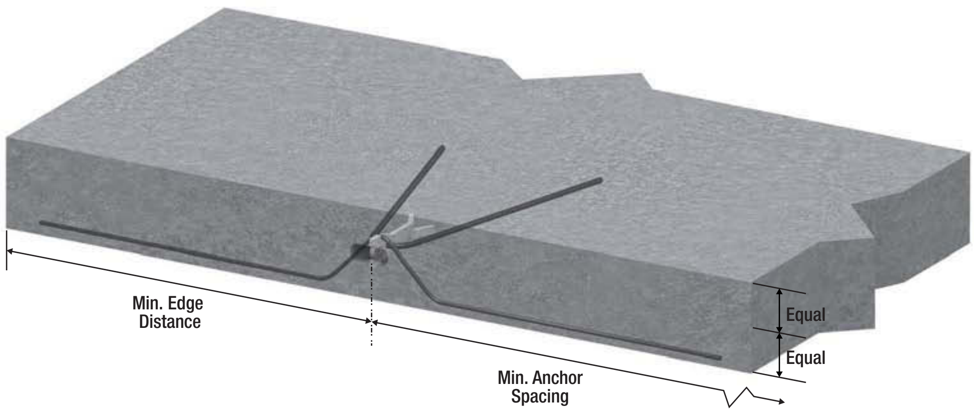
* A shear safety factor of 2.66:1 can be used at the discretion of the engineer for one-time lifts.

- **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

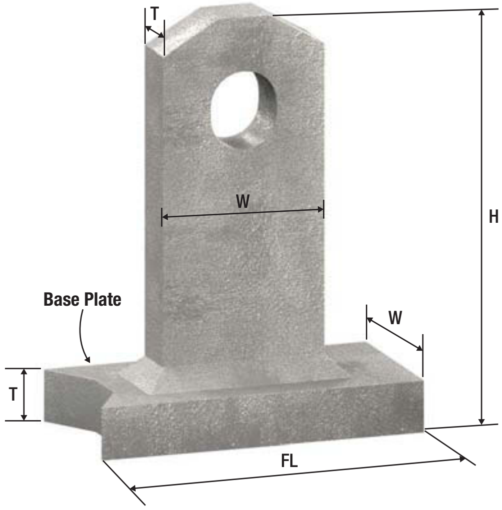


Ton	Rebar Size (Grade 60)	Rebar Length (Before Bending)
12.5T	#8	60"
17T	#8	72"
22T	#8	72"

* 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.



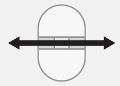
QUIKLIFT® PLATE ANCHORS



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

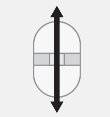
2T

4T

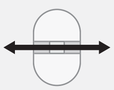
8T

QUIKLIFT® DISK ANCHOR™

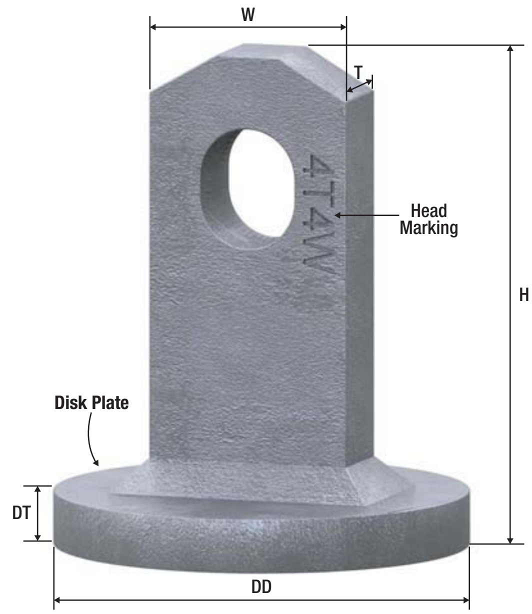
The ALP QuikLift Disk Anchor System is the first system designed specifically for lifting insulated wall panels from the top wythe of concrete and does not require any additional reinforcing bars. Disk Anchor heights are optimized to fit specific wythe heights, with anchor heights that factor in the 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"

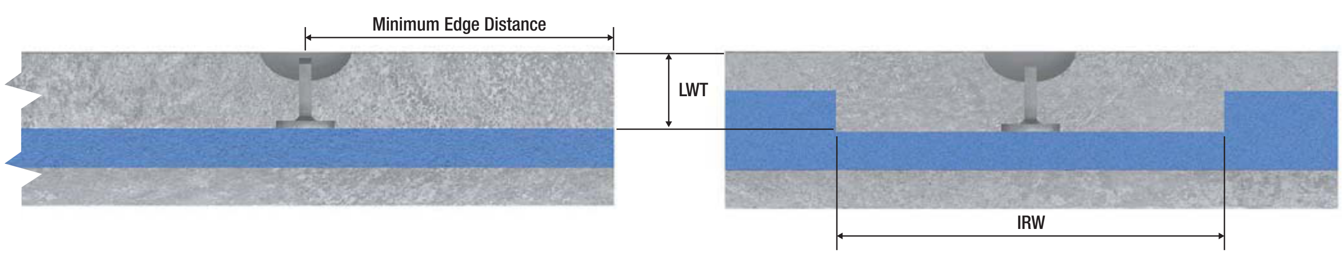
Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

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

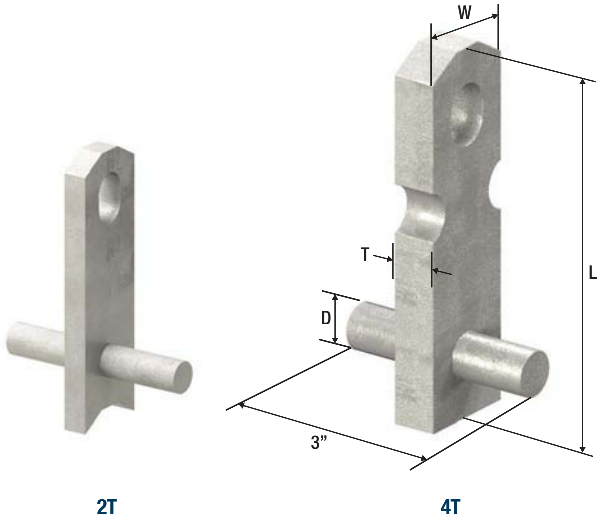
*Lifting Wythe Thickness based upon anchor sitting directly on top of insulation. For non-insulated applications, 1" cover required below the bottom of the anchor.

**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

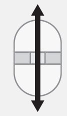


QUIKLIFT® T-BAR ANCHORS

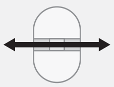


The QuikLift T-Bar Anchor is designed to maximize tension capacities by using a solid steel bar, placed horizontally through the bottom of the anchor. The compact design comes in a variety of lengths and may be “wet-set”, further improving the versatility and the ease of use. A 3/8” minimum coverage 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.

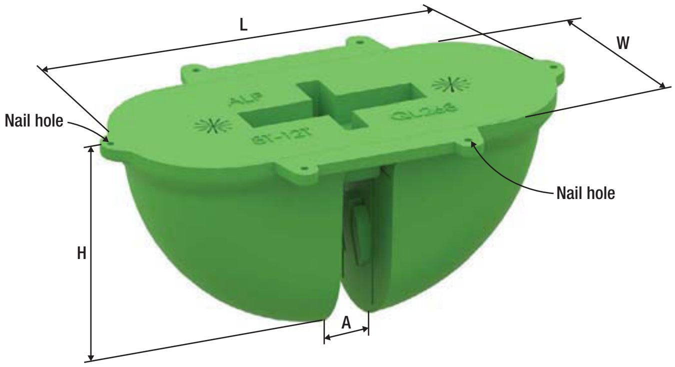
DIMENSIONS AND CAPACITIES

Part #	Ton	Ring Clutch System	W	L	T	D	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate	Min. Panel Thickness	Min. Edge Distance	Capacity in Concrete, 4:1 SWL	
												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® DISPOSABLE RECESS MEMBERS

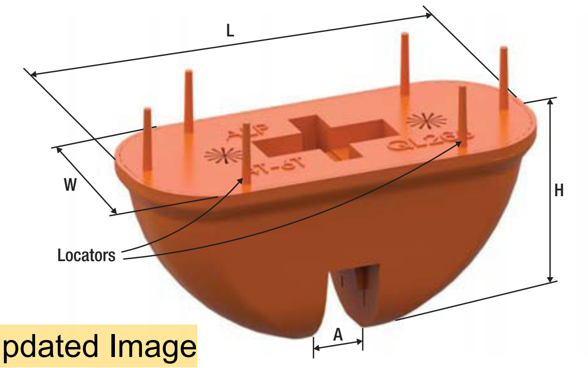


Erection Style

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



Updated Image

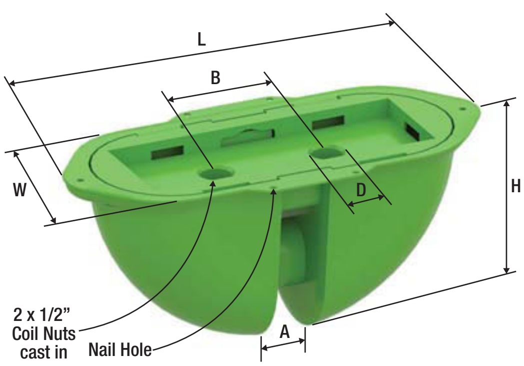
Slab Style

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



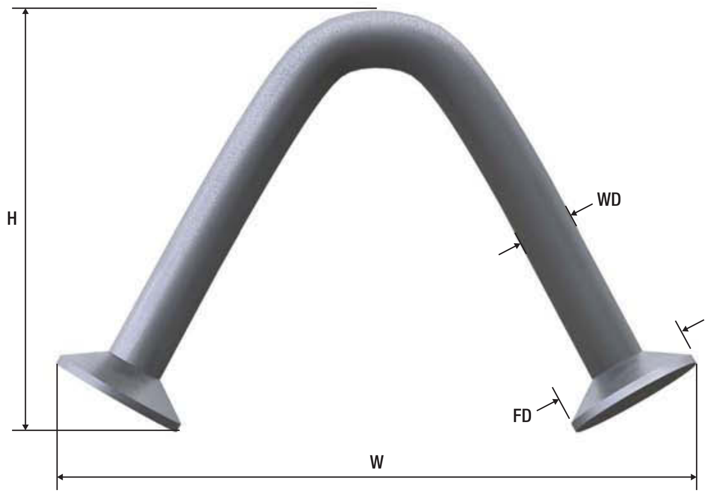
The QuikLift Plastic Recess Members are an economical option for recessing and locating standard QuikLift Anchors. This disposable recess member is a critical part of the casting process, creating a perfect recess for the Ring Clutch. The Plastic Recess Member can be nailed to a wood form or secured 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 D	Holding Rod Part #	Weight (lbs)	Qty/Ctn	Qty/Pallet
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

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 #

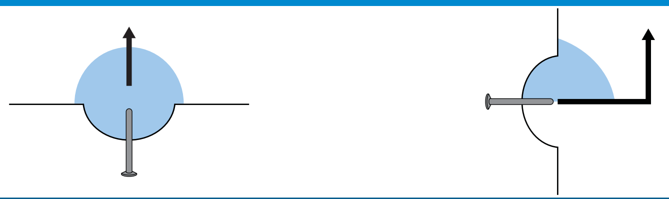
LUA54C

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

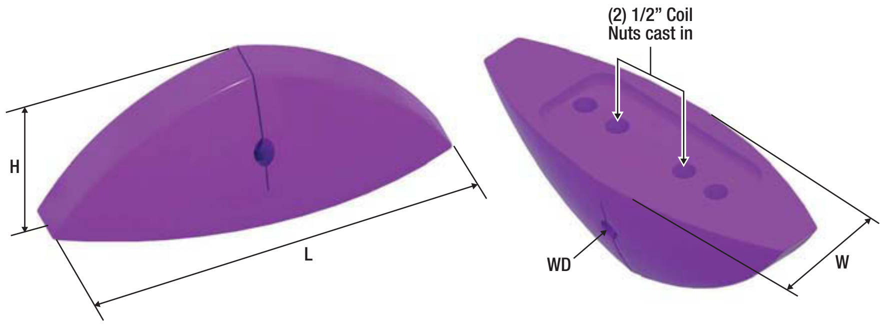
Part #	Slab Min. Thickness	Edge Distance	4:1 SWL at 90° Tension (lbs)	4:1 SWL at 90° Shear (lbs)
LUA44G	4"	9"	3,200	5,800
LUA54G	5"	10"	3,860	7,710
LUA64G	6"	12"	4,460	9,460
LUA56G	5"	10"	4,560	8,430
LUA66G	6"	12"	7,320	15,780
LUA86G	8"	16"	10,830	18,850

- 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™ RECESS MEMBERS

Urethane Recess Member

- Flexible material
- Reusable
- High durability



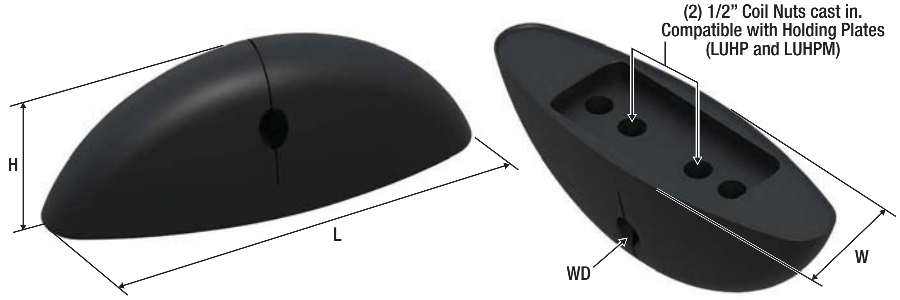
DIMENSIONS

Part #	WD	Color	L	H	W	Weight (lbs)
TKURM149	14mm	Purple	9”	3-1/2”	3”	1.80
TKURM449	.444”	Purple	9”	3-1/2”	3”	1.86
TKURM679	.671” / 18mm	Purple	9”	3-1/2”	3”	1.76

- 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



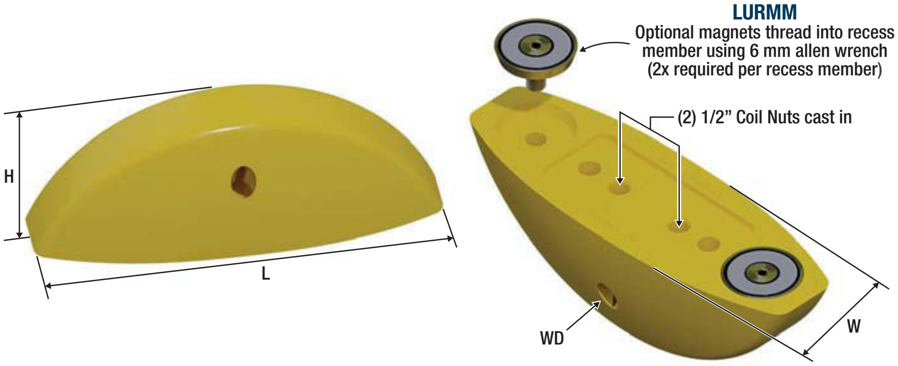
DIMENSIONS

Part #	WD	Color	L	H	W	Weight (lbs)	Qty/Ctn
LURM444	.444”	Black	9-3/4”	3-1/2”	3”	2.11	10
LURM671	.671” / 18mm	Black	9-3/4”	3-1/2”	3”	1.96	10

- 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

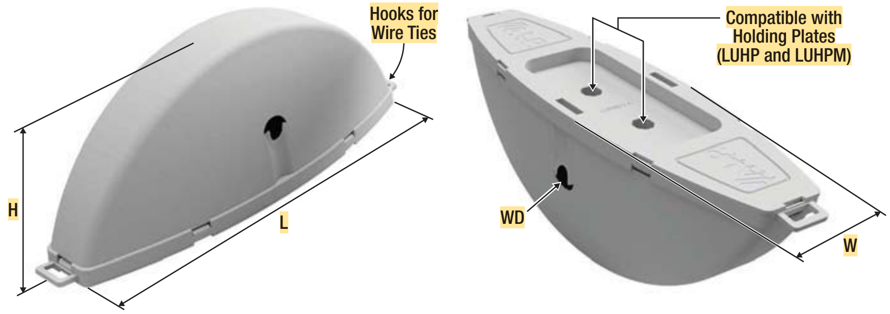
Part #	WD	Color	L	H	W	Weight (lbs)	Qty/Ctn
LURM1044	.444”	Blue	10-9/16”	3-9/16”	3-1/2”	3.28	15
LURM1067	.671”	Yellow	10-9/16”	3-9/16”	3-1/2”	3.37	15
LURM1014	14mm	Orange	10-9/16”	3-9/16”	3-1/2”	3.33	15
LURM1018	18mm	Black	10-9/16”	3-9/16”	3-1/2”	2.74	15

- 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



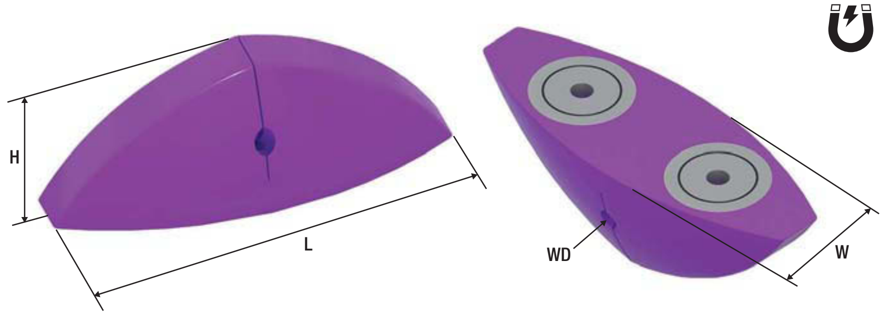
DIMENSIONS

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

ALP® UTILITY LIFT™ MAGNETIC RECESS MEMBERS

Urethane Magnetic Recess Member

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



DIMENSIONS - 1-PIECE

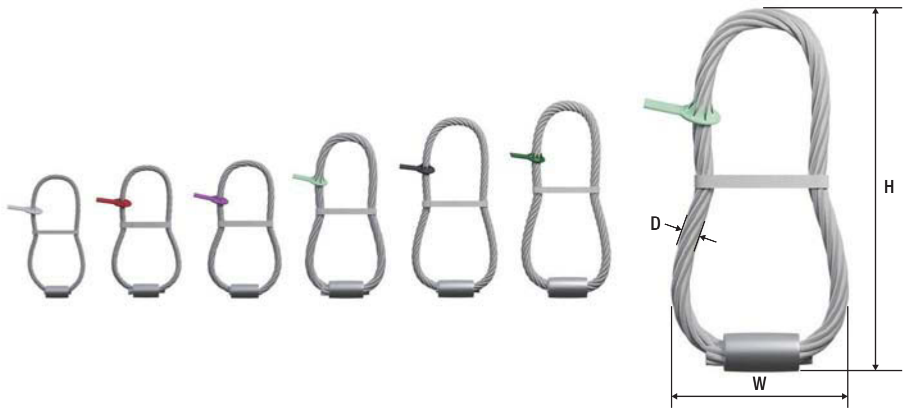
Part #	WD	Color	L	H	W	Weight (lbs)
TKURM149M	14mm	Purple	9"	3-1/2"	3"	3.50
TKURM449M	.444"	Purple	9"	3-1/2"	3"	3.38
TKURM679M	.671" / 18mm	Purple	9"	3-1/2"	3"	3.28

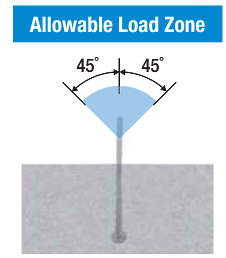
Caution: Vibration and placement of the concrete can cause the Magnetic Recess to move. It is recommended that the anchor is secured to the reinforcement before concrete placement.

- 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® 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.

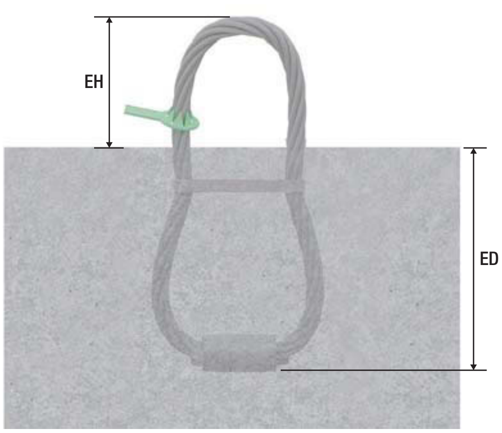




DIMENSIONS AND CAPACITIES

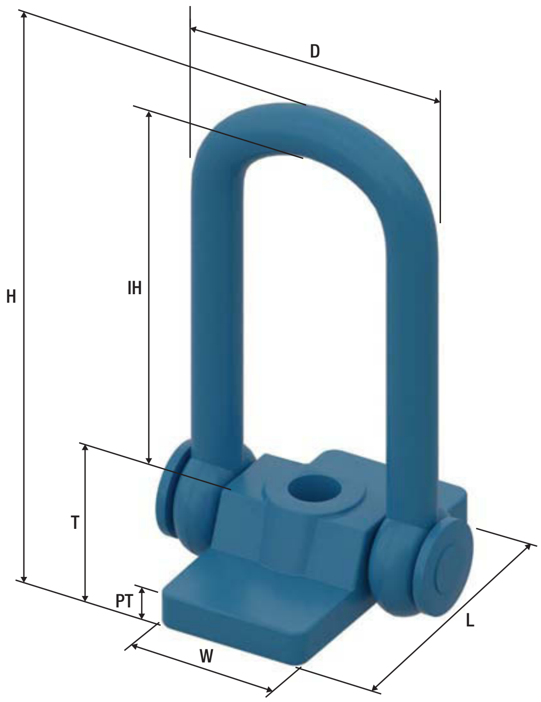
Part #	Color Code Tag	D	W	H	EH - Exposed Height (1/3 of Height)	ED - Embedded Depth (2/3 of Height)	Ultimate Mechanical in Tension (lbs)	Weight (lbs)	Qty/Crate	Tension Capacity 4:1 SWL (lbs)	
										2,500 PSI	4,000 PSI
LLW	White	1/4”	3-15/16”	8-1/4”	2-3/4”	5-1/2”	8,000	0.19	7,000	2,000	2,000
LLR	Red	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

- **Pre-galvanized wire provides limited corrosion resistance. Corrosion will reduce Lift Loop capacity.**
- Tension capacities are based on non-reinforced concrete.
- Tension capabilities may vary depending on edge distance, concrete strength and embedment depth.
- Above capacities are based upon mechanical testing 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



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

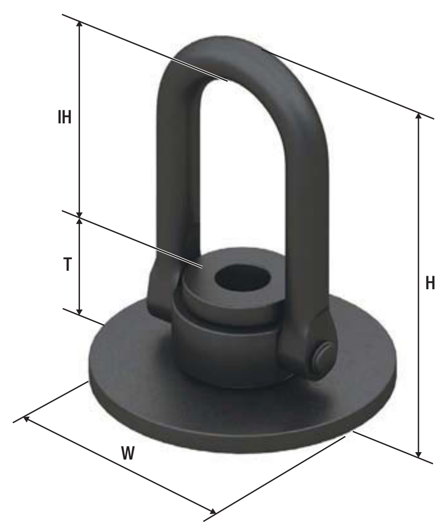
CL-26 DOUBLE SWIVEL LIFT PLATE

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.

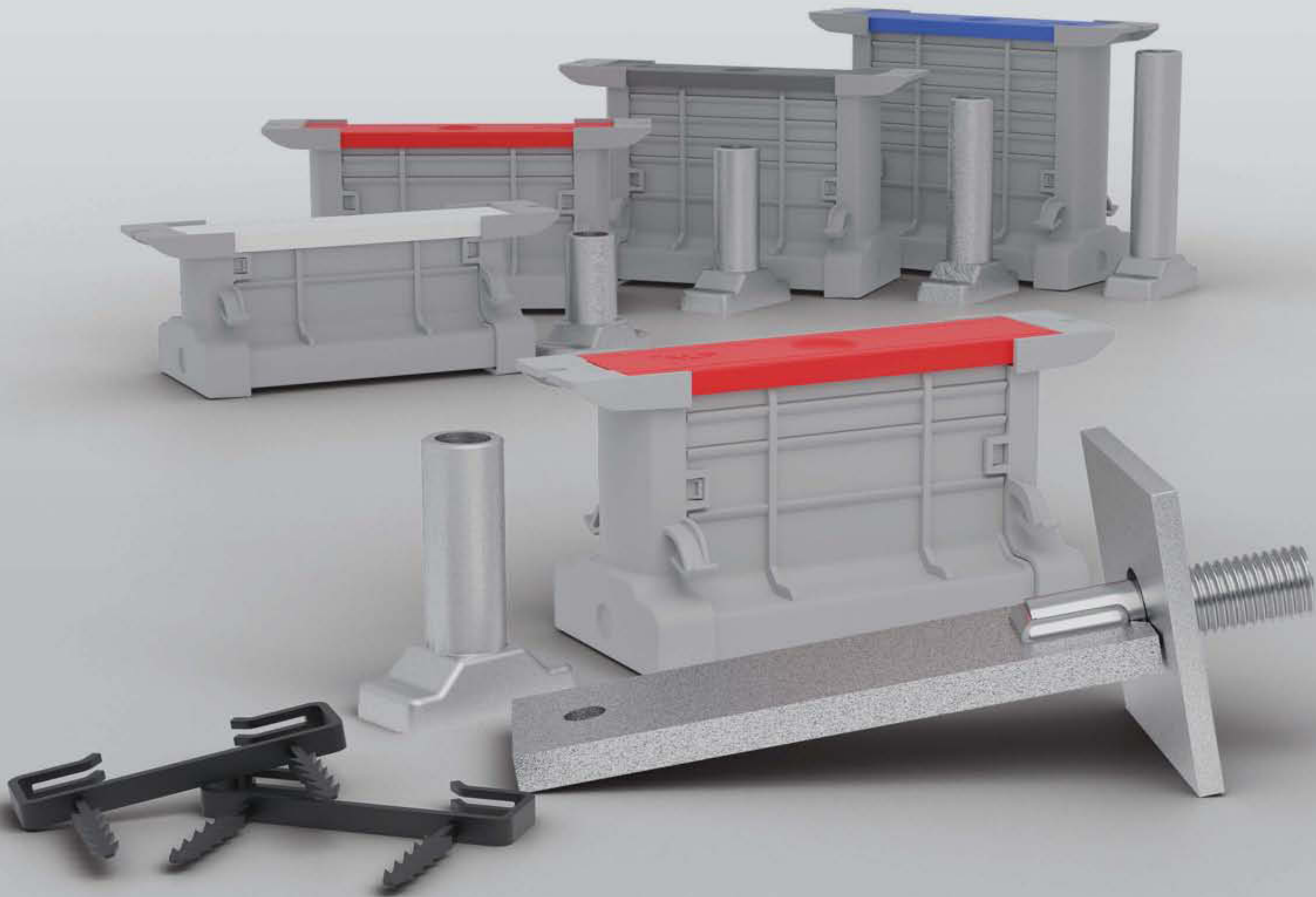
DIMENSIONS AND CAPACITIES

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.*



TECH SLOT® INSERTS



PATENTED

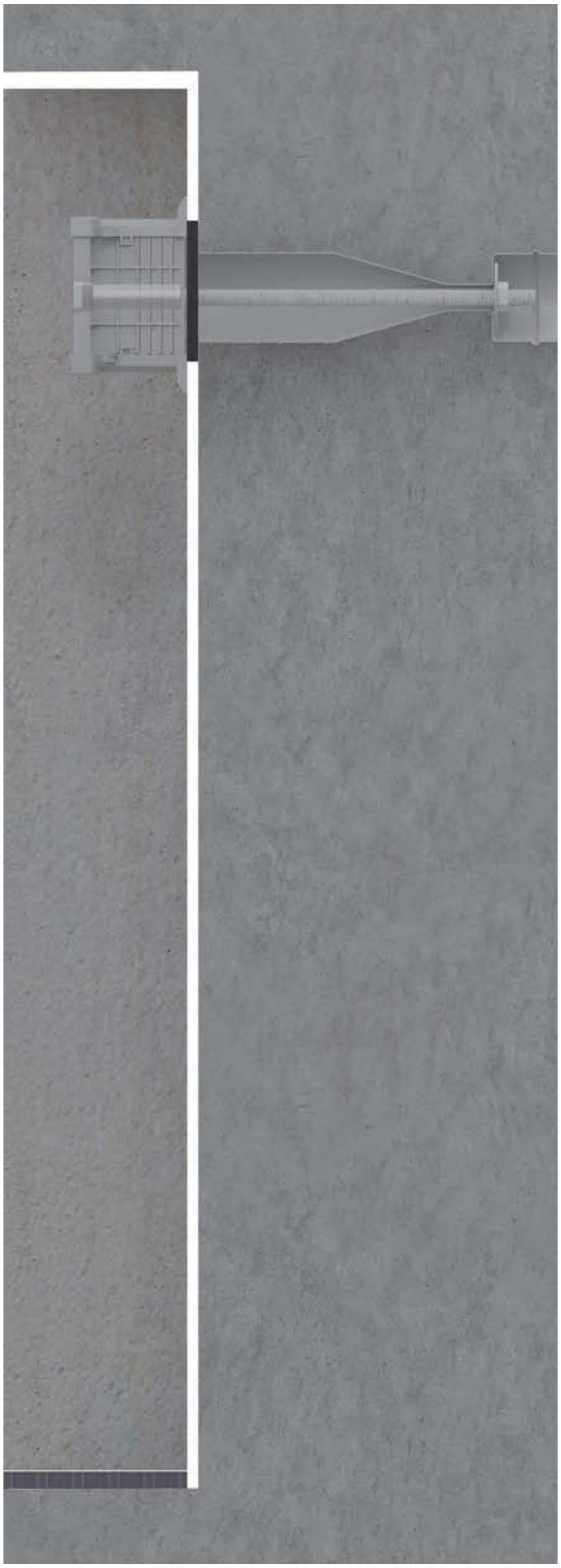
US Patent No: US 10,024,051 B2
Canada Patent No: CA 3,003,657

ALP® TECH SLOT® INSERTS TENSION APPLICATIONS

Panel to Steel Column Connection

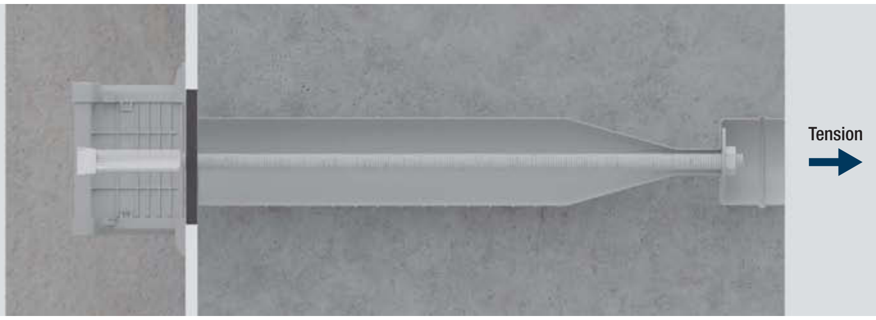
Panel to Floor Connection

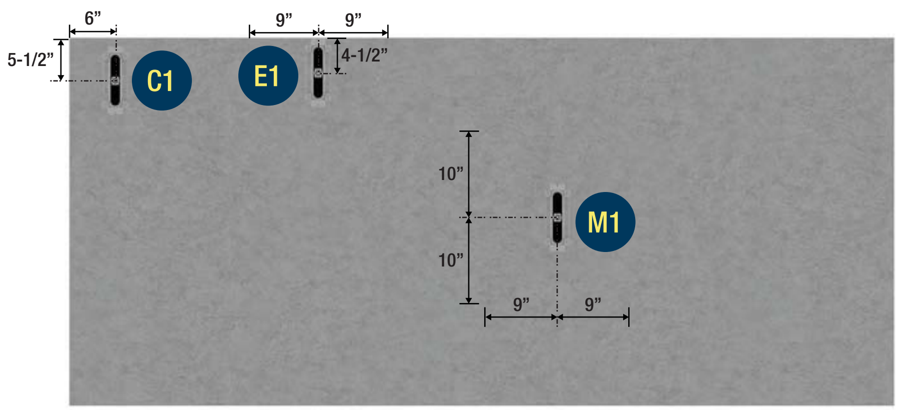
Updated Image



Spandrel to Concrete Column Connection

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

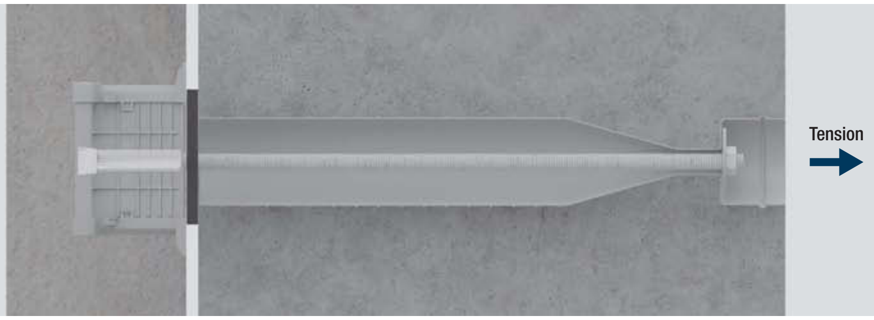
*Refer to Reinforcement Detail page for more information

- 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

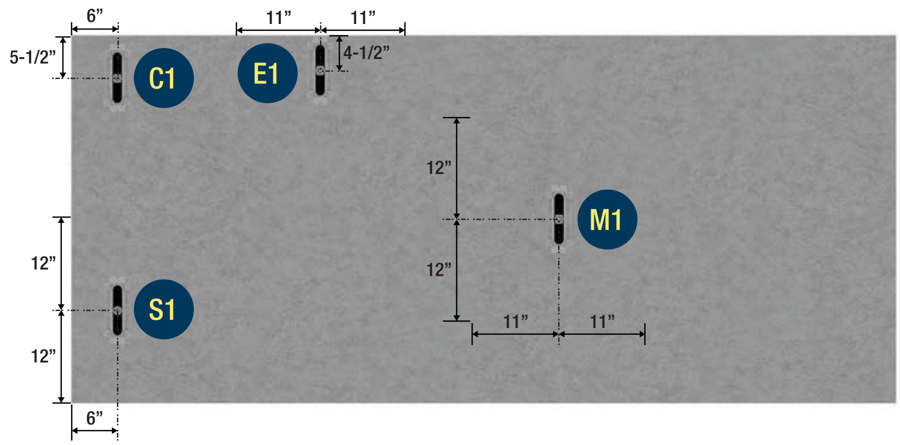
**Minimum edge distances should be adjusted to provide required concrete coverage

- 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

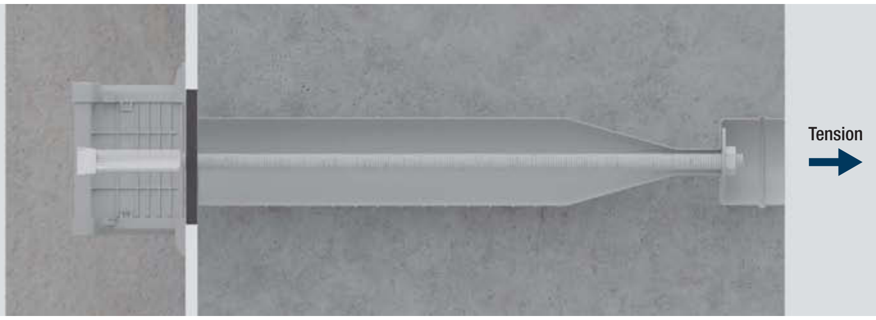
*Refer to Reinforcement Detail page for more information

- 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

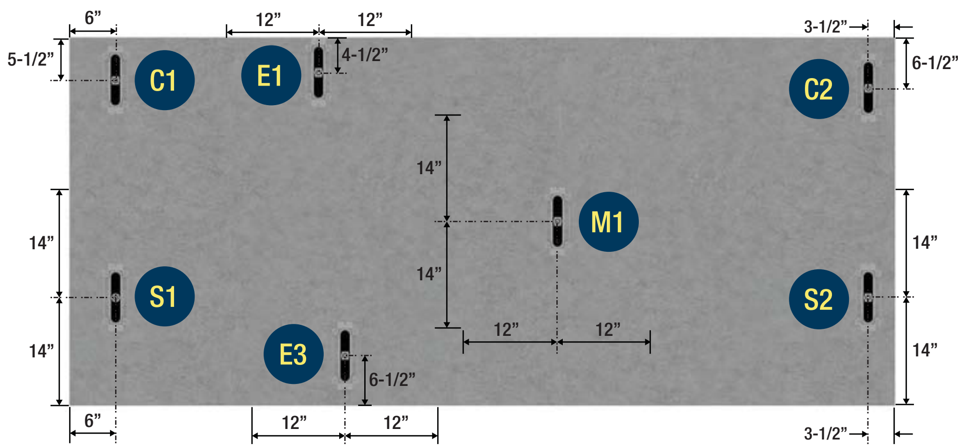
**Minimum edge distances should be adjusted to provide required concrete coverage

- 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



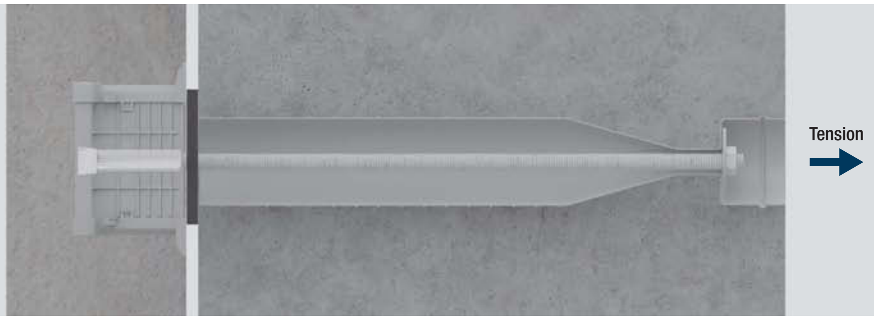
CAPACITIES - TSI65 - 5” HEIGHT

		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

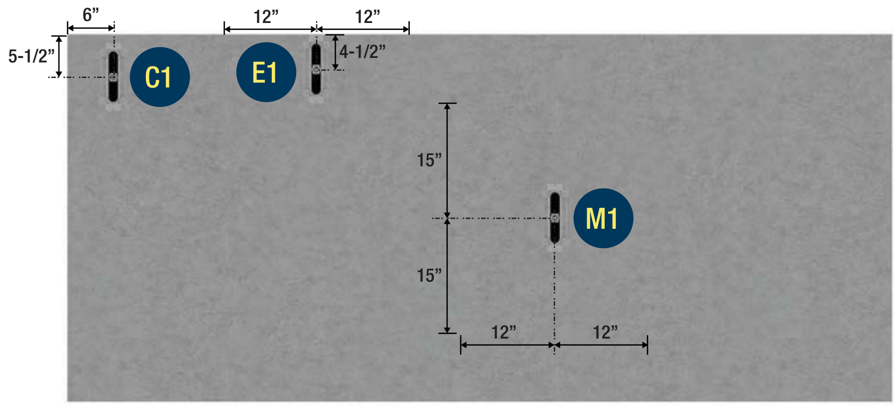
*Refer to Reinforcement Detail page for more information

- 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

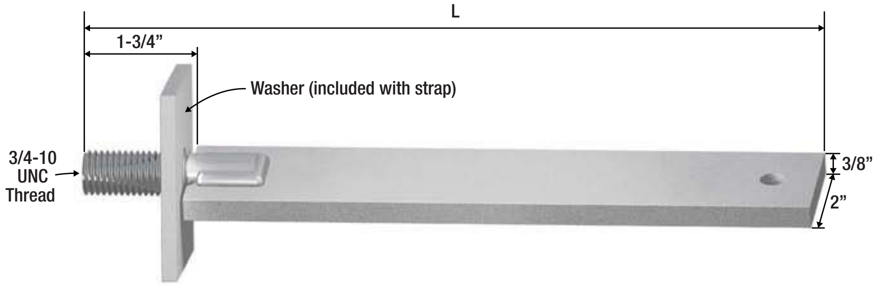
		5,000 psi			6,000 psi			Max Capacity					
Insert Location	Required Reinforcement*	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	psi	Ultimate Avg. (lbs)	Ultimate Min. (lbs)	Std. Dev. (lbs)	# of Tests	Failure Mode
M1	None	29,510	27,492	1,852	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

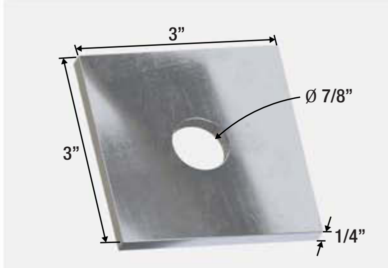
*Refer to Reinforcement Detail page for more information

- 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

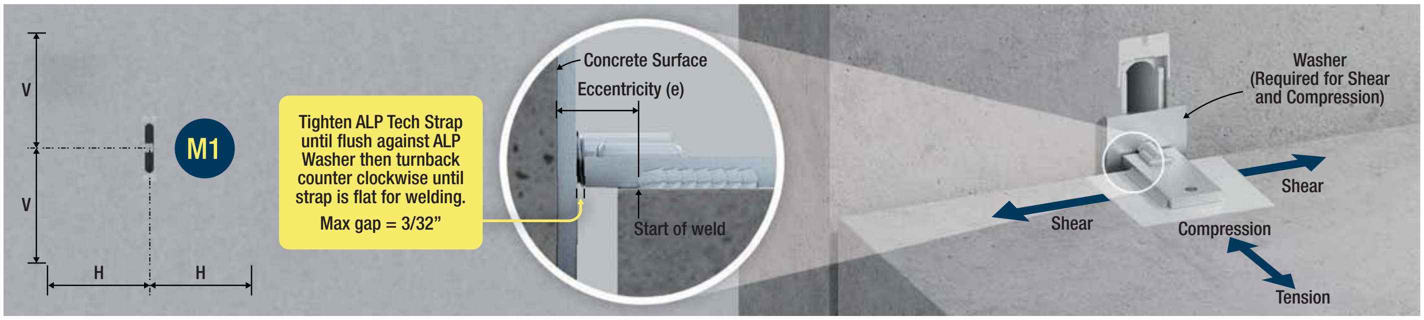
DIMENSIONS

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)



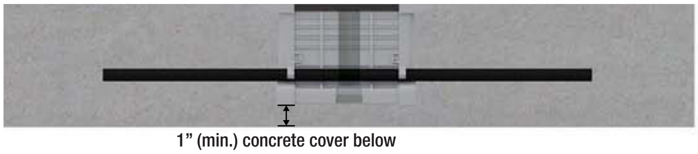
SHEAR CAPACITIES - M1 LOCATION

Updated Image

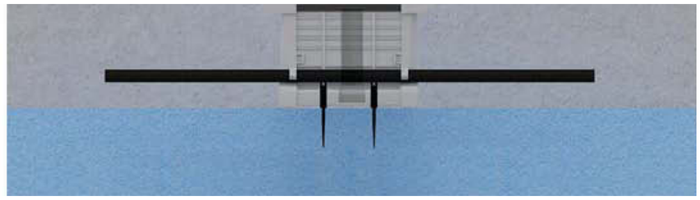
		Max Mechanical Capacity			Capacity in Concrete (5,000 psi)				
Insert	Loading (Shear) Eccentricity	Ultimate Average (lbs)	Standard Dev. (lbs)	# of Tests	Ultimate Average (lbs)	Standard Dev. (lbs)	# of Tests	Edge Distances H	Edge Distances V
TSI63	1" e	21,488	3,085	5	14,034	N/A	1	11-1/2"	11-1/2"
	3" e	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.

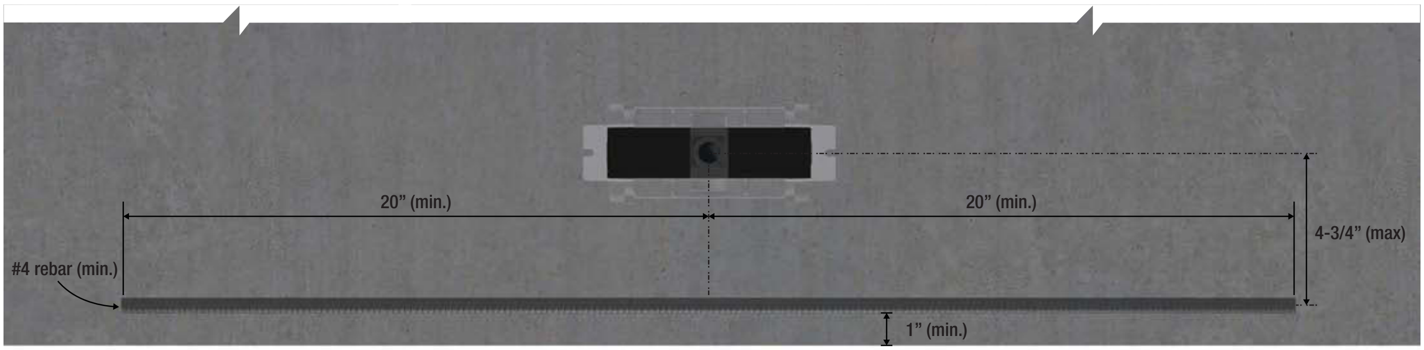
ALP® TECH SLOT® INSERTS - REINFORCEMENT DETAILS



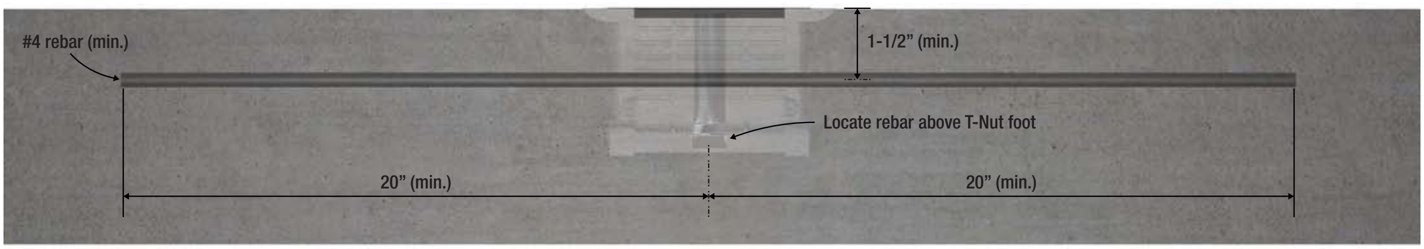
M1 (2) #5 x 24” Rebar



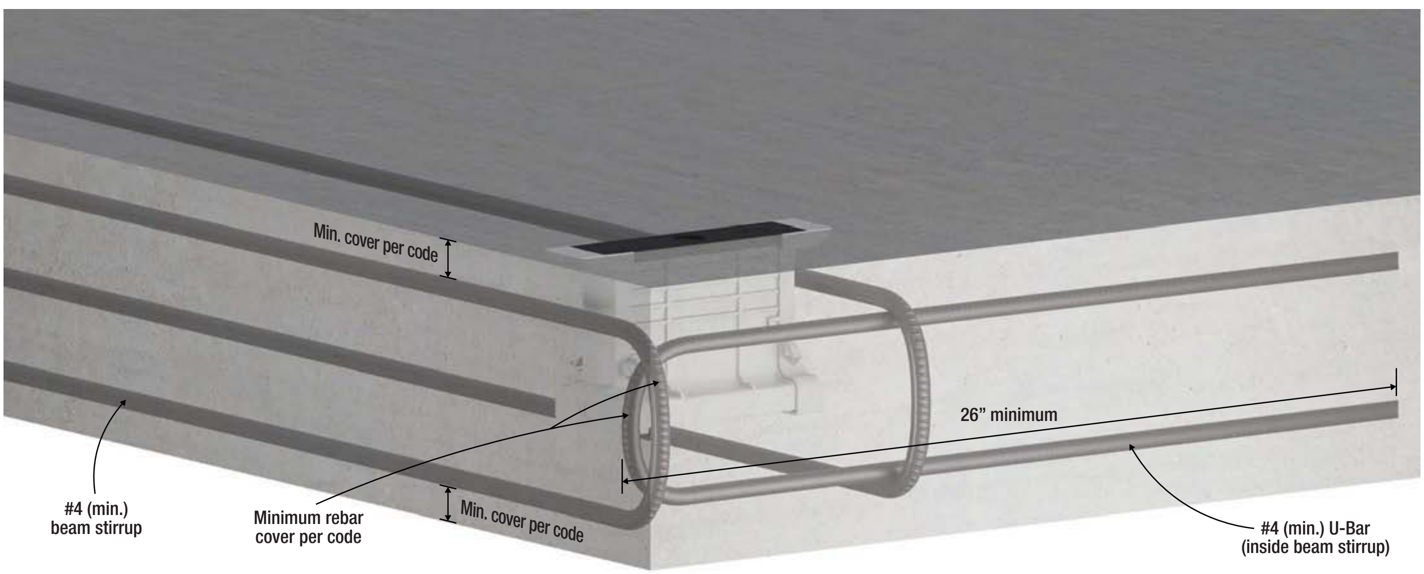
M1 (2) #5 x 24” Rebar on Insulation



S1 Trim Bar Detail (Plan View)



S1 Trim Bar Detail (Side View)

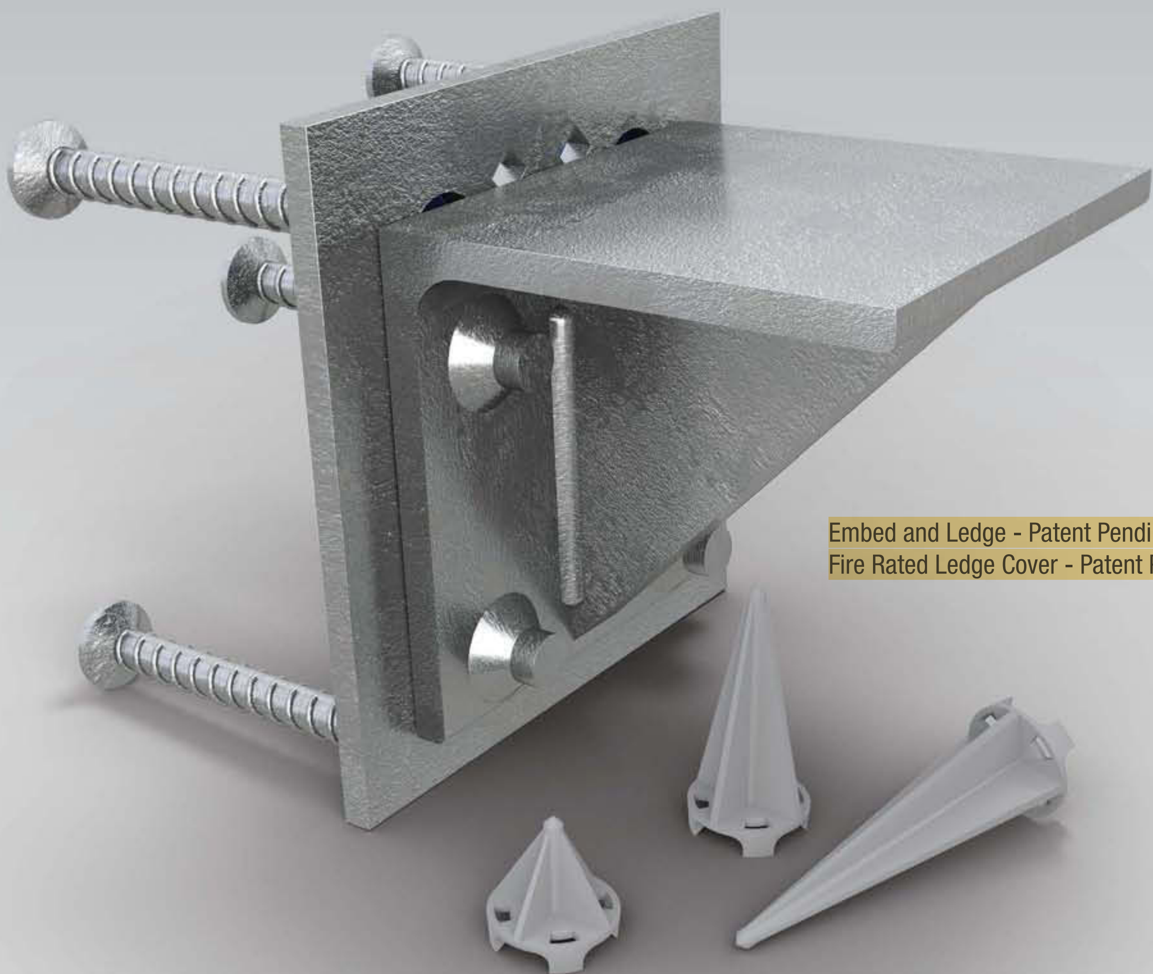


Updated Image

C1 Corner Bars Detail

ALP SUPPLY®

QUIK CORBEL® SYSTEM



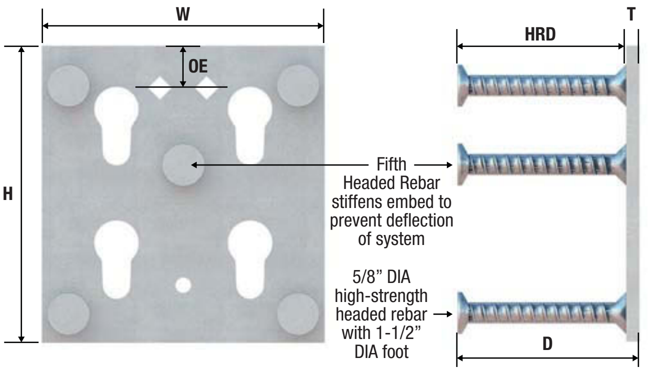
Embed and Ledge - Patent Pending
Fire Rated Ledge Cover - Patent Pending

ALP® QUIK CORBEL® SYSTEM

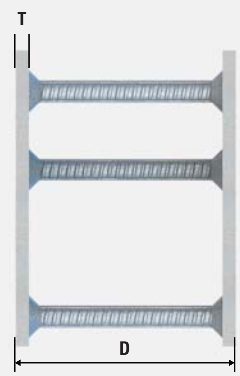
The Quik Corbel System is designed to improve efficiencies for precast elements that require a bearing ledge. The two-piece design, consisting of an embed and ledge, eliminates the need for specialty forms or secondary cast haunches. The Quik Corbel embed is cast flush to the concrete surface, and the 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

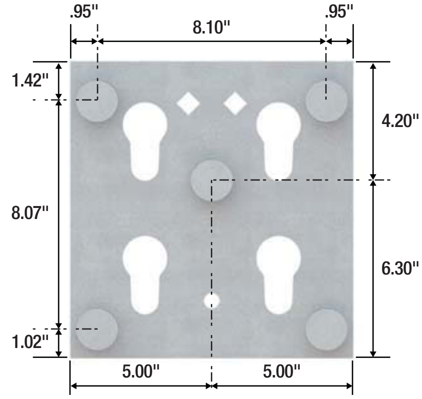
QC10E6G



QC10ED8G



QC10 Rebar Locations



Note: Plastic removed to show steel embed only.

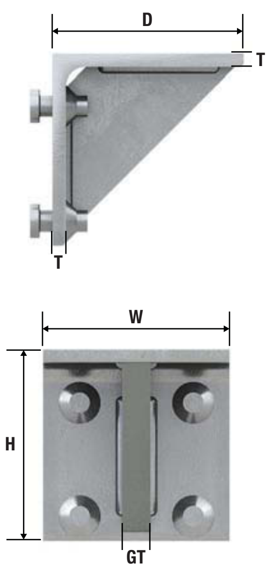
Note: Plastic removed to show steel embed only.

DIMENSIONS - QC10 EMBED

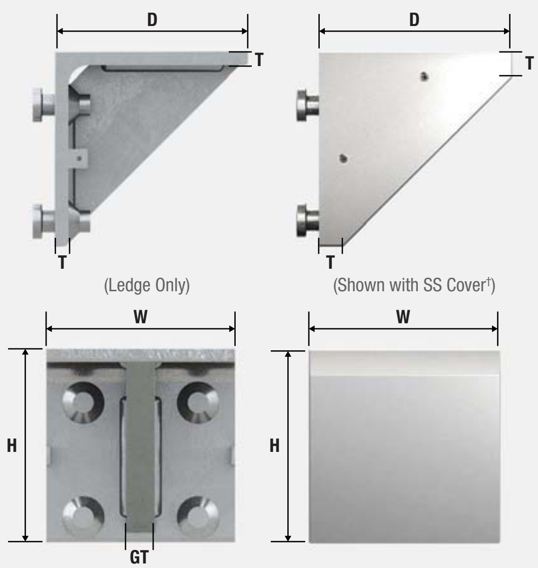
Part #	Description	Finish	W	H	T	D	HRD	OE*	Weight/Piece (lbs)	Qty/Crate
QC10E6G	QC10 Embed, 6"	HDG	10"	10-1/2"	15/32"	6-15/32"	6"	1-1/2"	15.60	108
QC10ED8G	QC10 Double Sided Embed, 8" panel	HDG	10"	10-1/2"	15/32"	8"	N/A	1-1/2"	28.30	64

**OE is to centerline of diamonds*

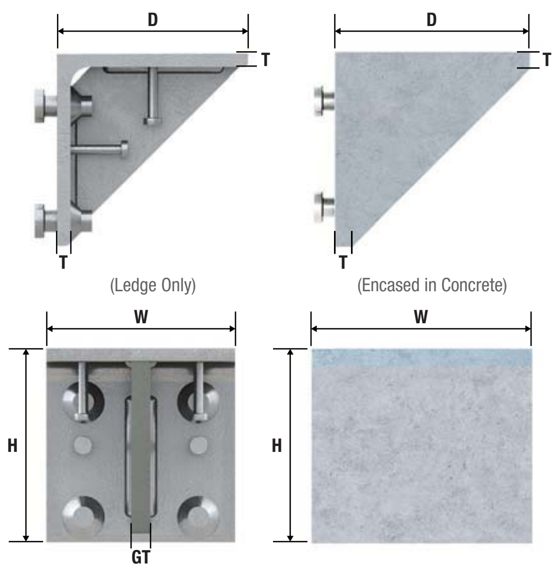
QUIK CORBEL - QC10 LEDGE



QC10L81G - 1-hour Fire Rating



QC10L82G - 2-hour Fire Rating



QC10L83G - 3-hour Fire Rating

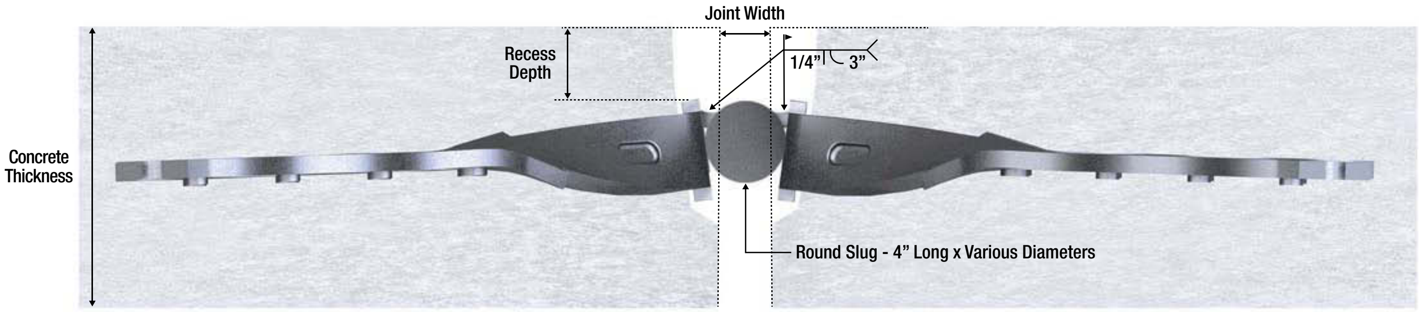
DIMENSIONS - QC10 LEDGE

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

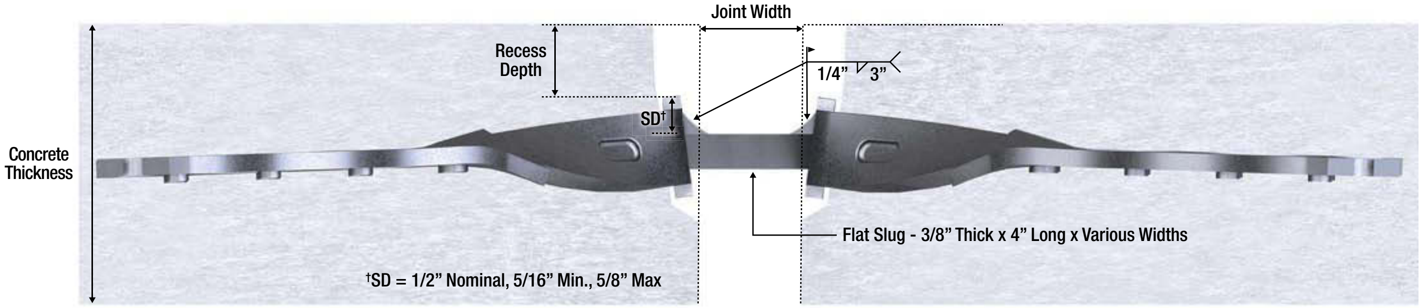
**QC10L82G is only sold pre-assembled with fire resistant insulation and stainless steel cover.*
***QC10L83G must be encased in concrete by precaster as noted in illustration, using 145 PCF, 5,000 PSI concrete to achieve 3-hour fire rating.*
†Fire rated ledge cover is patent pending.

STEALTH CONNECTOR WELD DETAILS

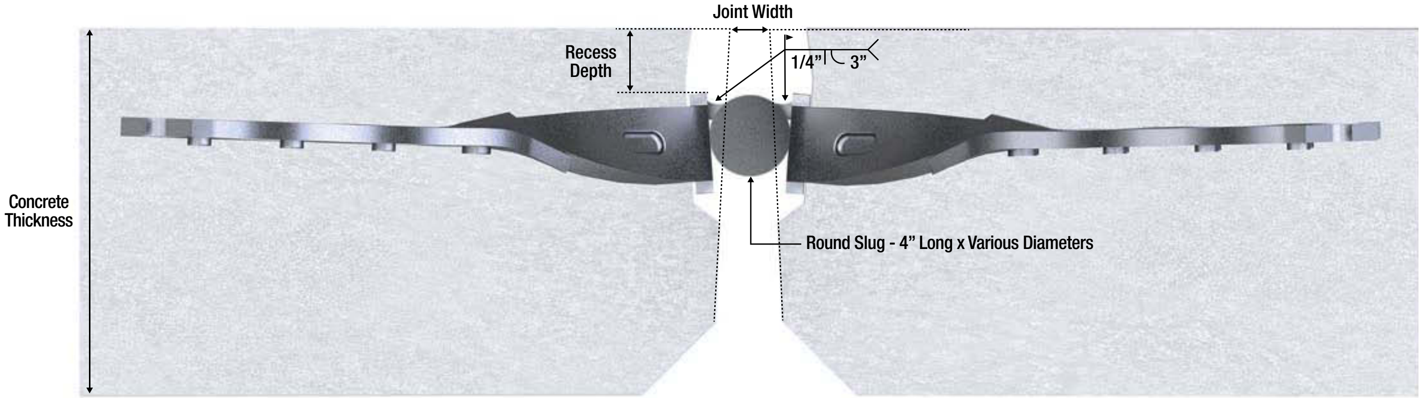
- **Minimum Required Weld = 1/4" fillet x 3" long**
- Weld slug/plate (SD) vertical location range from top of connector to top of slug/plate = 5/16" to 5/8"
- **Weld length does not need to be increased when spanning face plate holes**
- Weld slug/plate about the horizontal center of the connector face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



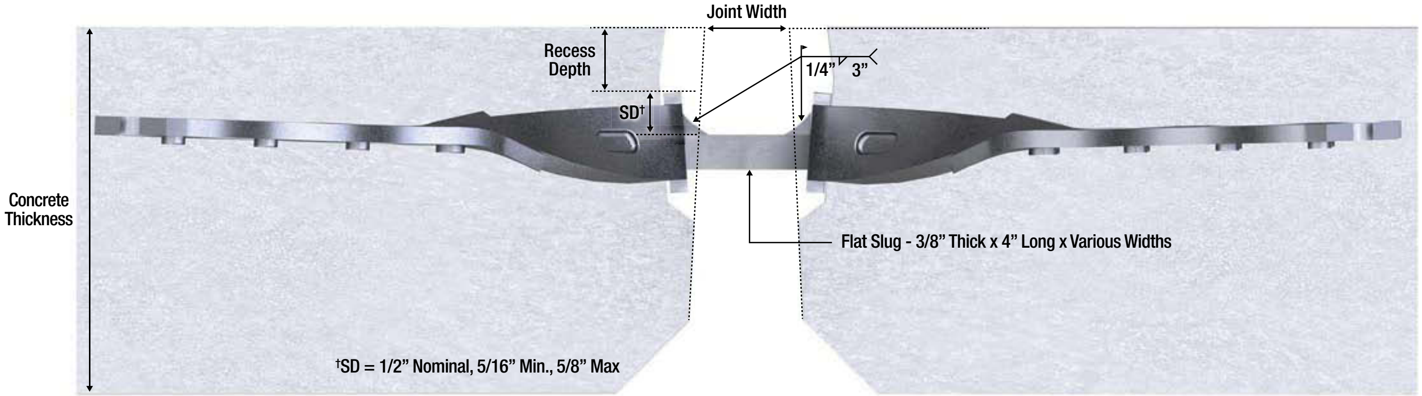
SC100 - Wall Panel Detail, Round Slug: ≤ 1" Wide Joint



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

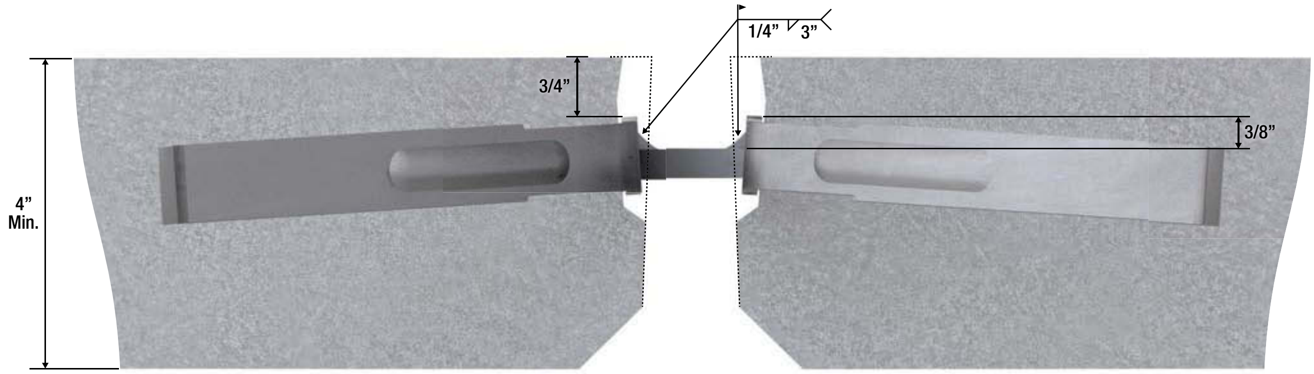


SC100 - Double Tee Detail, Round Slug: ≤ 1" Wide Joint

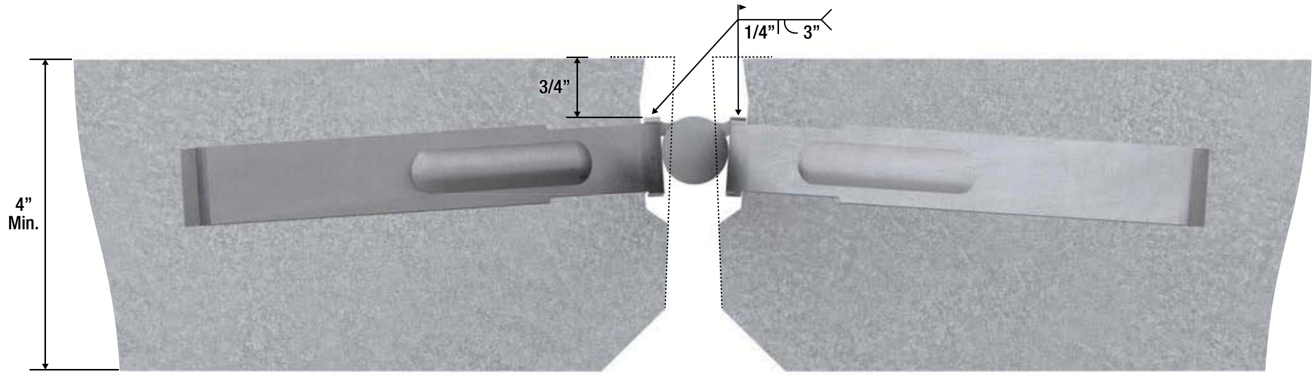


SC100 - Double Tee Detail, Flat Slug (All Joint Widths)

MC-01 CONNECTOR WELD DETAILS



Double Tee Detail, Flat Slug (All Joint Widths)

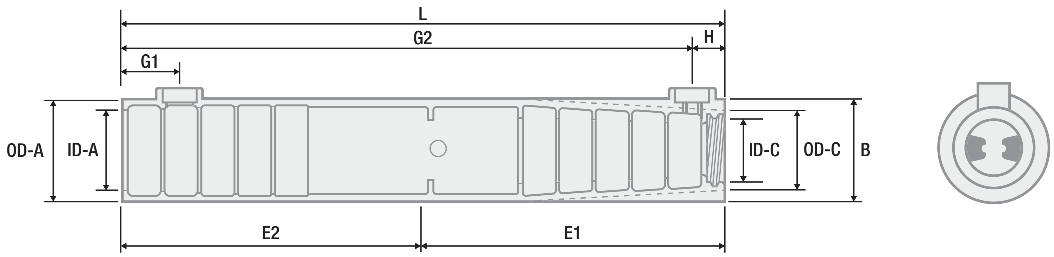


Double Tee Detail, Round Slug: ≤ 1" Wide Joint

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.**



Updated Image

DIMENSIONS

Part #	Rebar Size (Grade 60)	L	Narrow End Diameter: ID-C	Narrow End Diameter: OD-C	B - Max Diameter	Wide End Diameter: ID-A	Wide End Diameter: OD-A	Grout Port Locations: G1	Grout Port Locations: G2	Grout Port Locations: 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

Part #	Rebar Size (Grade 60)	Recommended Rebar Embedment Length: Factory Dowel - E1: Min.	Factory Dowel - E1: Max	Field Dowel - E2: Min.	Field Dowel - E2: Average	Field Dowel - E2: Max	Total Tolerances
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.

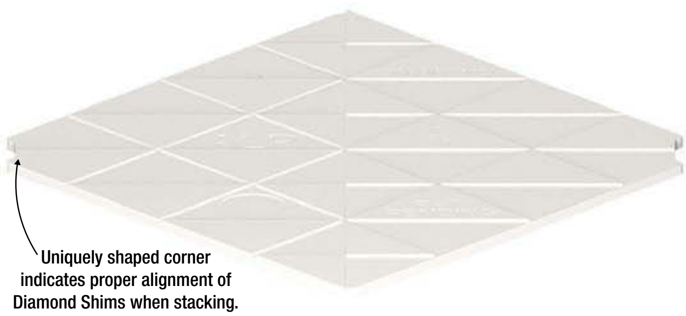
**The minimum embedment length for the bars in the sleeve must follow the requirements for the sleeve size, not the bar size. For example, for a #9 bar with #11U-X sleeve, the embedment length must be based upon 11U-X, i.e. the maximum factory dowel (E1) is 9.13”; the maximum field dowel (E2) is 9.92”.

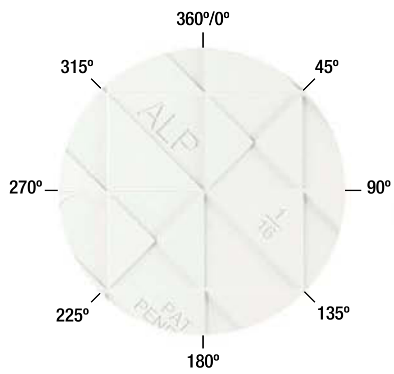
ALP® DIAMOND SHIMS®

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.**



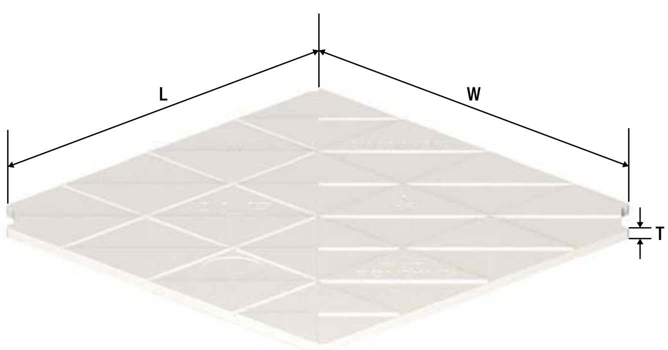


Interlocking System

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.

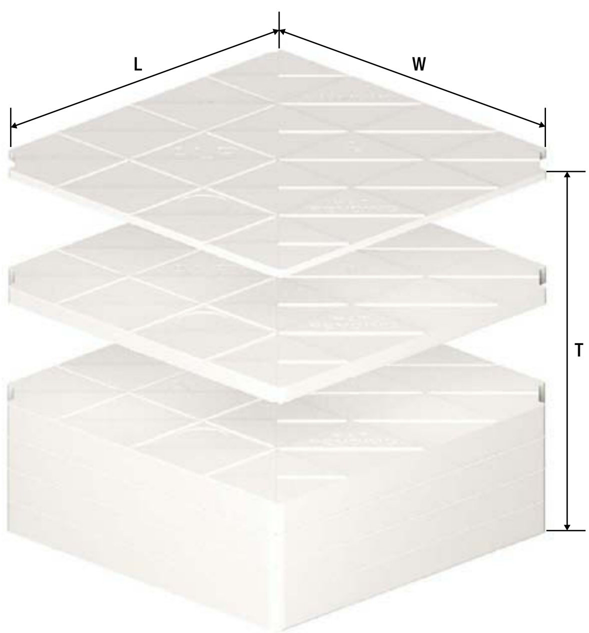


DIMENSIONS - INDIVIDUAL SHIMS

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

ALP SUPPLY

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

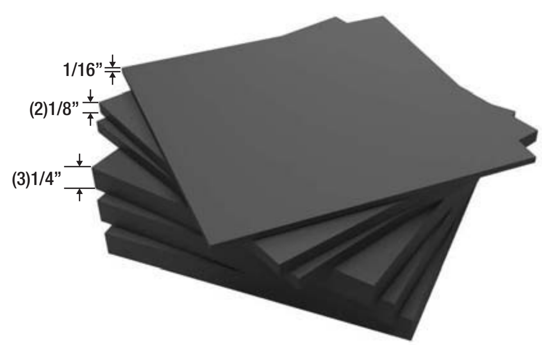
DIMENSIONS - 6” X 6” SHIMS

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

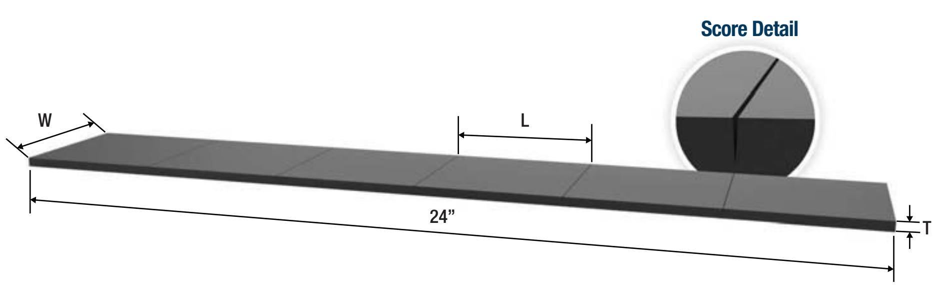
KOROLATH® SHIM PACKS

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”



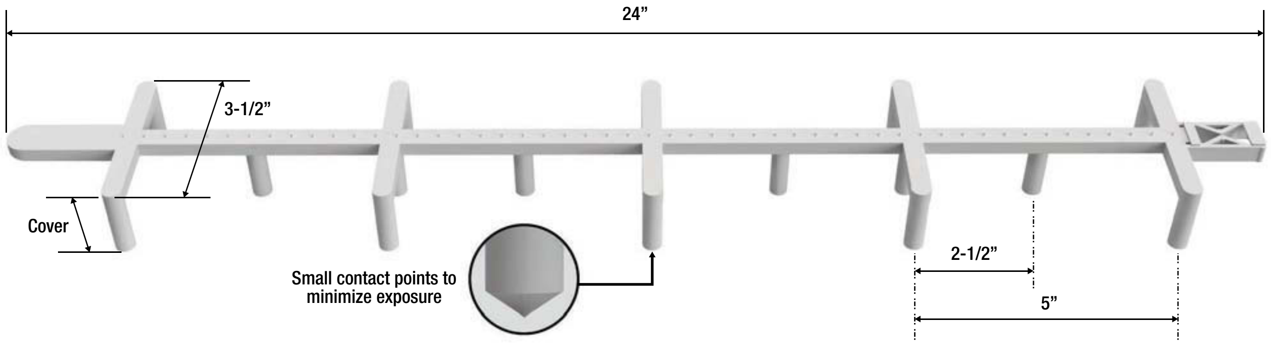
KOROLATH® SHIM STRIPS



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.

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*

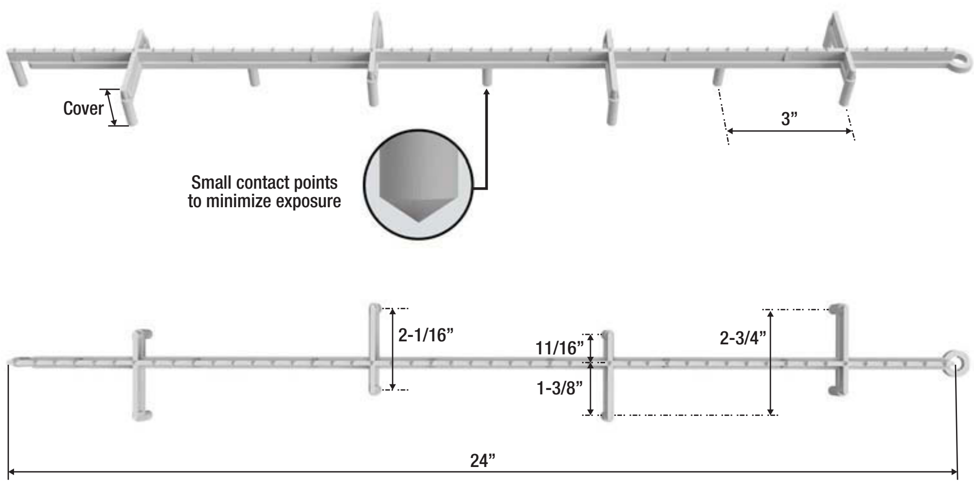
All plastic construction keeps rust from forming on the surface of the concrete. Snaps onto Standard Slab Bolster to convert it into an Upper Slab Bolster. Standard length is 24”.

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**

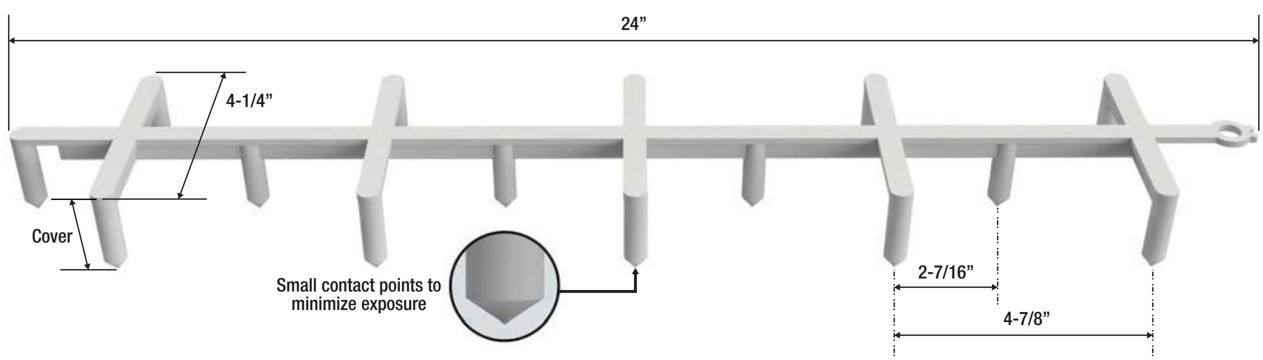


Flexible slab bolster design can be looped into a "tear drop" shape for enhanced stability.

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

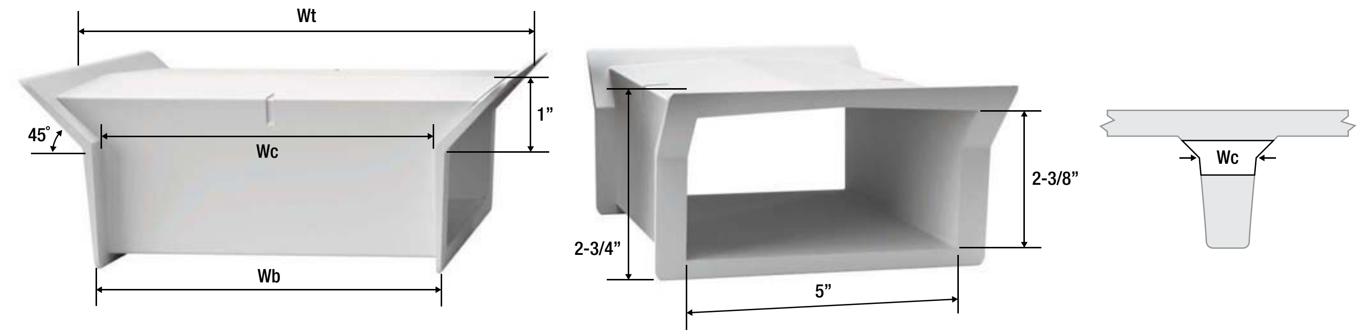
Heavy Duty Slab Bolster is a high-strength version of the Standard Slab Bolster designed for more demanding applications.



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'

DOUBLE TEE STEM BLOCKOUTS

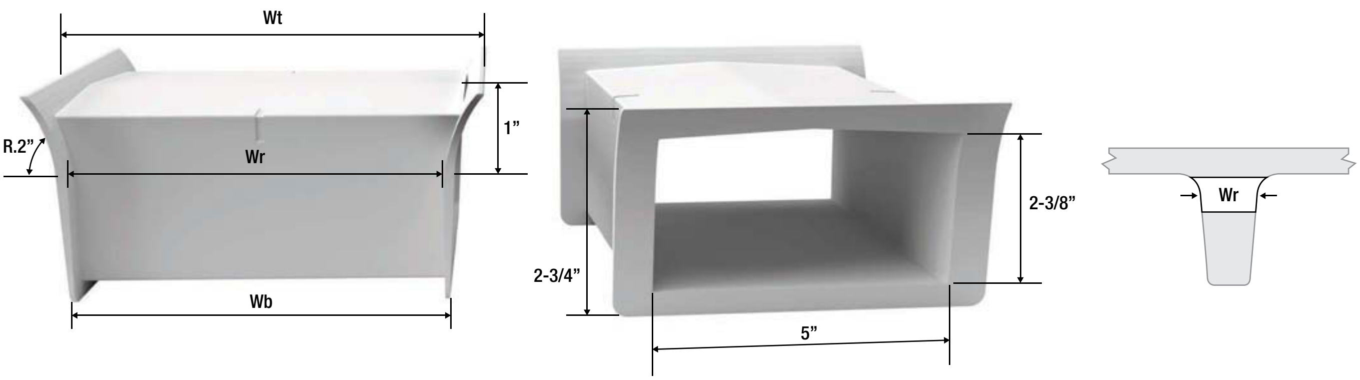
Double Tee Stem Blockouts are cast into precast double tees to create openings in the stems so that conduit and plumbing can be run through the stems.



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

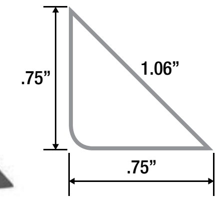
Part #	Wr	Wt	Wb	Qty/Skid
CVSBR534	5-3/4”	7-1/8”	5-9/16”	640
CVSBR6	6”	7-1/2”	5-13/16”	640
CVSBR614	6-1/4”	7-1/2”	6-1/16”	640
CVSBR678	6-7/8”	8-1/8”	6-3/4”	640
CVSBR718	7-1/8”	8-3/8”	7”	500
CVSBR738	7-3/8”	8-5/8”	7-1/4”	500
CVSBR758	7-5/8”	8-7/8”	7-1/2”	500
CVSBR778	7-7/8”	9-1/8”	7-13/16”	500
CVSBR858	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.

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



Updated Image

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.

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