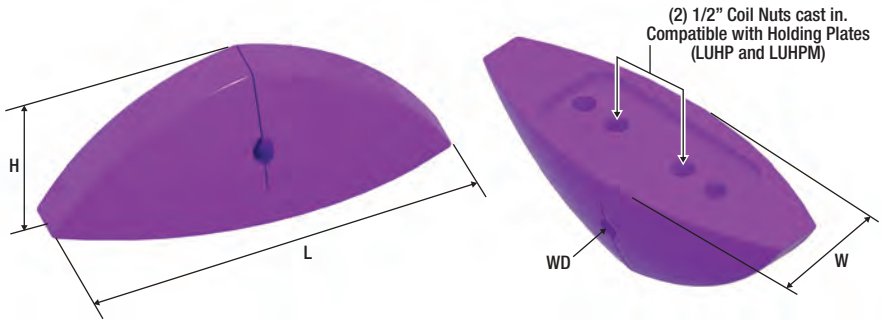
ALP® UTILITY LIFT™ RECESS MEMBERS

Urethane Recess Member

- Flexible material
- Reusable
- High durability



DIMENSIONS

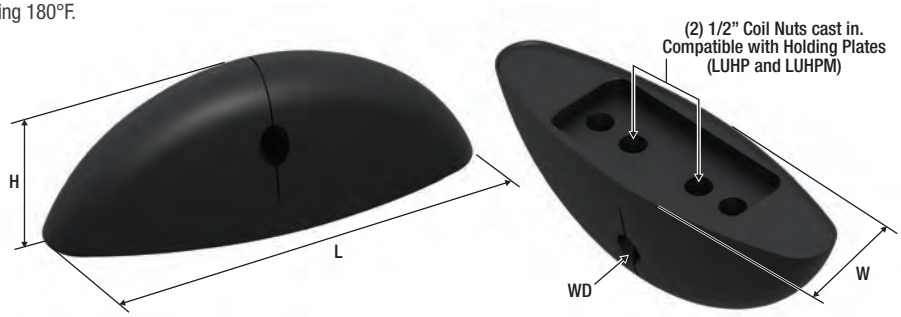
Part #	WD	Color	Max Hook Size	L	H	W	Weight (lbs)
TKURM149	14mm	Purple	I Series 3T / 5T*	9"	3-1/2"	3"	1.80
TKURM449	.444"	Purple	I Series 3T / 5T*	9"	3-1/2"	3"	1.86
TKURM679	.671" / 18mm	Purple	I Series 3T / 5T*	9"	3-1/2"	3"	1.76

*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

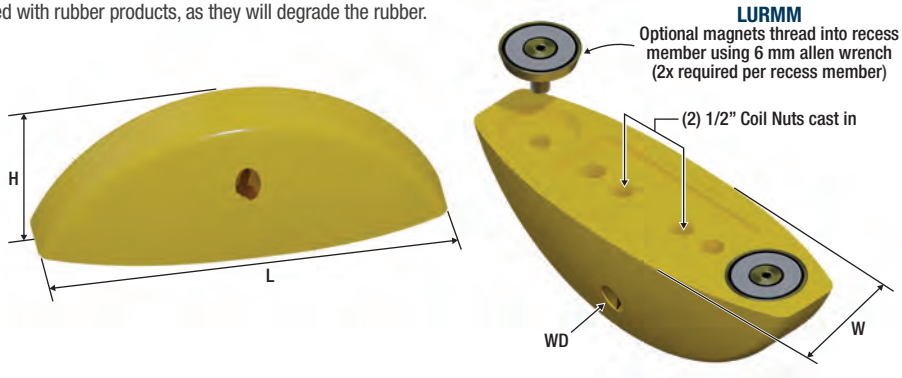
Part #	WD	Color	Max Hook Size	L	H	W	Weight (lbs)	Qty/Ctn
LURM444	.444"	Black	I Series 3T / 5T*	9-3/4"	3-1/2"	3"	2.11	10
LURM671	.671" / 18mm	Black	I Series 3T / 5T*	9-3/4"	3-1/2"	3"	1.96	10

*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

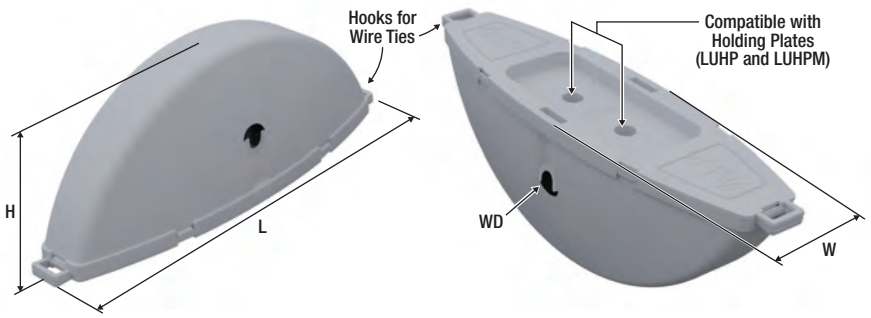
*Based upon Crosby® 320 Eye Hooks, Carbon / Alloy capacities

- 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

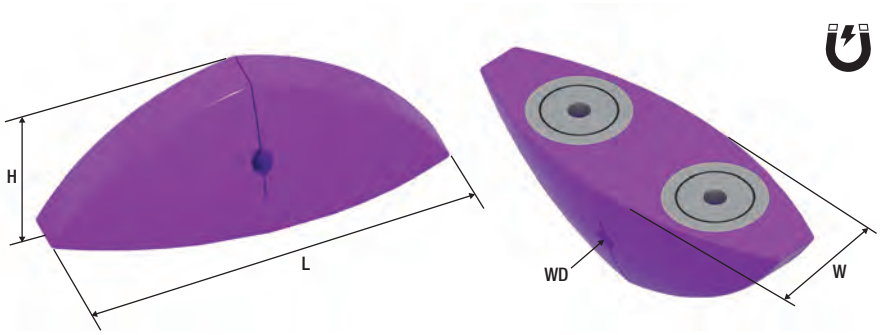
Part #	WD	Color	Max Hook Size	L	H	W	Weight (lbs)	Qty/Ctn	Qty/Crate
LURMD10A	.444" / 14mm	Gray	J Series 5T / 7T*	10-7/16”	3-9/16”	3-9/16”	0.31	40	640
LURMD10B	.671" / 18mm	Gray	J Series 5T / 7T*	10-7/16”	3-9/16”	3-9/16”	0.31	40	640
LURMD11B	.671” / 18mm	Gray	K Series 7.5T / 11T*	11-7/16”	4-5/16”	3-1/2”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

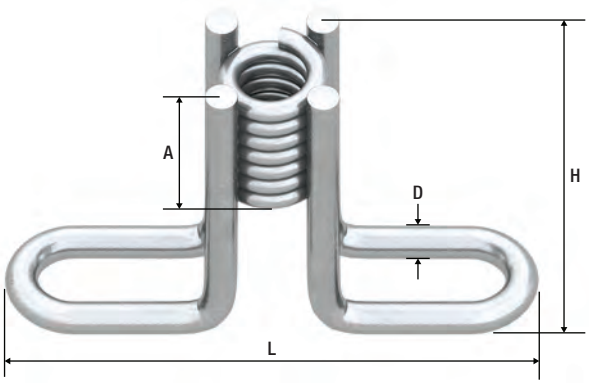
Caution: Vibration and placement of the concrete can cause the Magnetic Recess to move. It is recommended that the anchor is secured to the reinforcement before concrete placement.

*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.

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.**



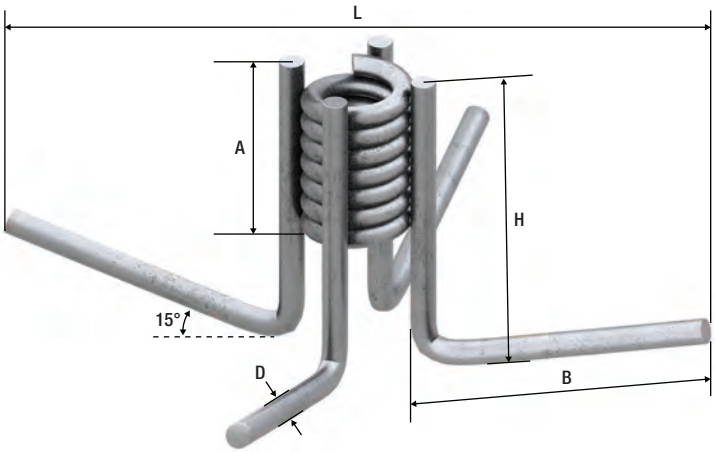
DIMENSIONS AND CAPACITIES

								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

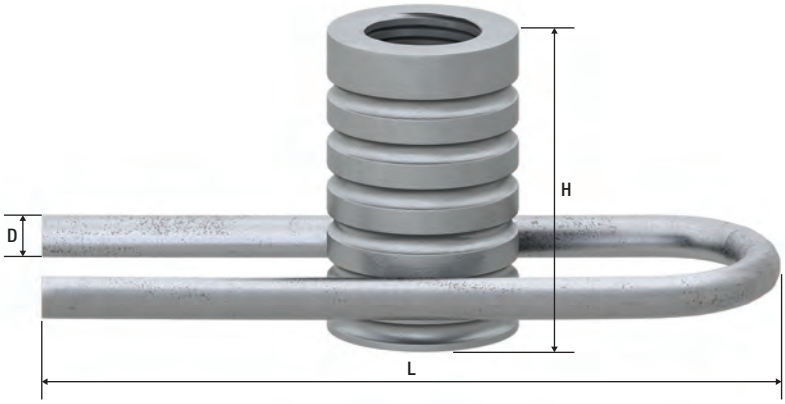
									Capacity in Concrete, 4:1 SWL			
Part #	Bolt Diameter	H	L	D	A	B	Ultimate Mechanical Capacity	Qty/Crate	Min. Edge Distance	Min. Corner Distance	Tension (lbs)	Shear (lbs)
CI53343P	3/4”	3”	7-1/8”	.327”	1-13/16”	3”	18,000	540	8”	12”	2,340	2,340
CI5314P	1”	4”	9-3/8”	.327”	2-5/16”	4”	25,000	600	10”	15”	3,520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

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

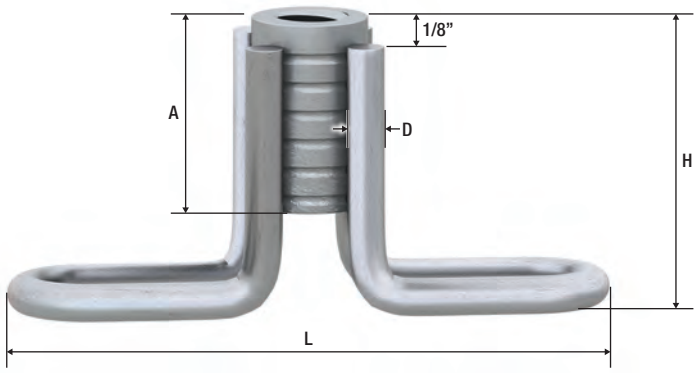
Plated inserts are not designed for use with hot dip galvanized bolts.

- 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

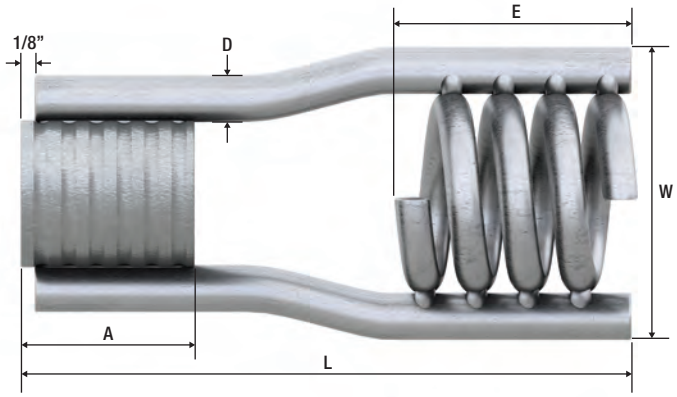
Capacity in Concrete, 3:1 SWL

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.

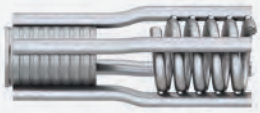
- Table is based on 3,000 psi and 145 PCF concrete.
- Inserts must be set back 1/2" from concrete surface.
- Inserts should have 3/4" minimum clearance off the bottom face to obtain rated loads.
- Above capacities are based upon mechanical testing and available industry data.
- Minimum spacing of inserts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

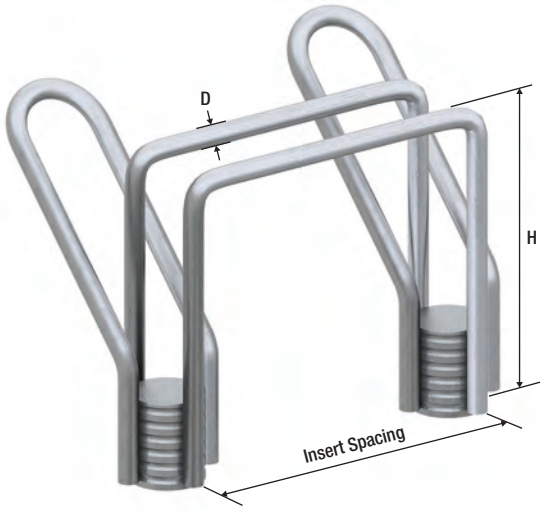
											Capacity in Concrete, 3:1 SWL			
Part #	Bolt Diameter	Threads per Inch (UNC)	L	W	A	# of Struts	D	E	Insert Ultimate Mechanical Capacity (lbs)	Qty/ Ctn	Min. Edge Distance	Min. Corner Distance	Tension (lbs)	Shear (lbs)
FI5734412P	3/4"	10	4-3/4"	2-1/8"	1-5/8"	2	0.375"	1-11/16"	18,000	50	14"	20"	5,890	5,890
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

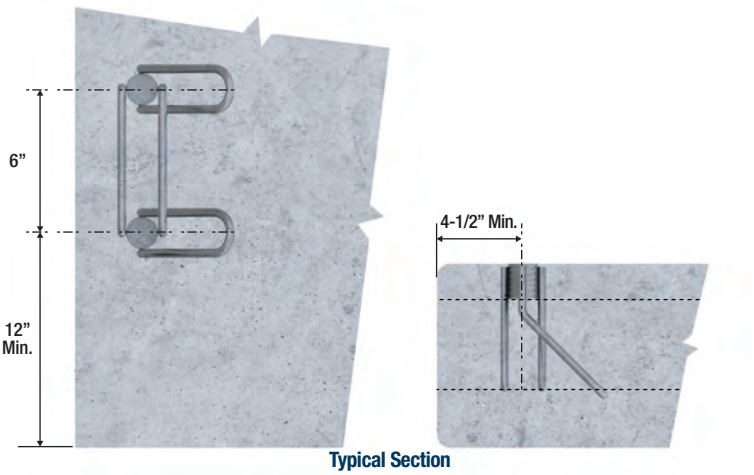
Plated inserts are not designed for use with hot dip galvanized bolts.

- 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.

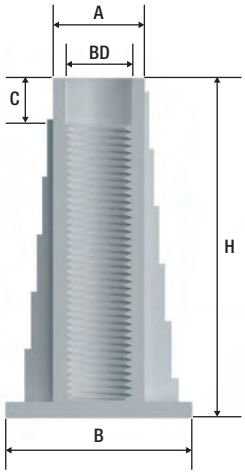
PLASTIC NC THREADED INSERTS

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.

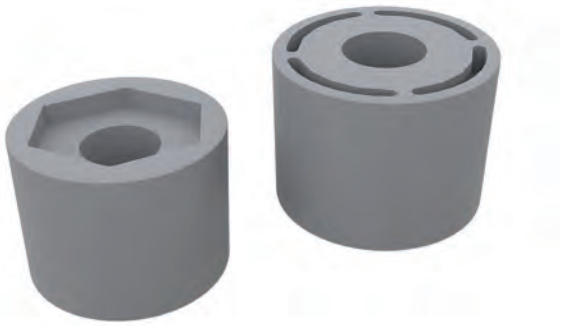


TAP-ON LOCATOR PLUG

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

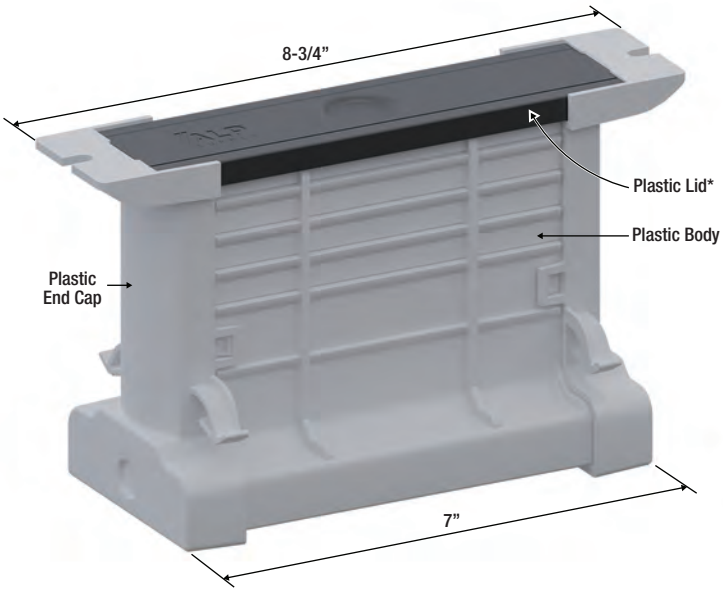
DIMENSIONS

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

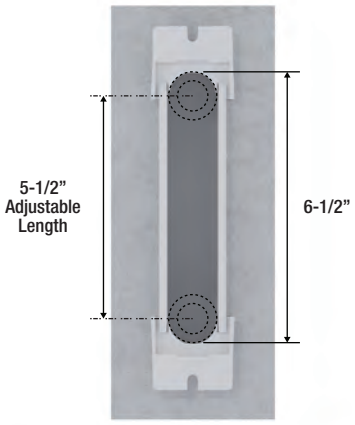


ALP® TECH SLOT® INSERTS

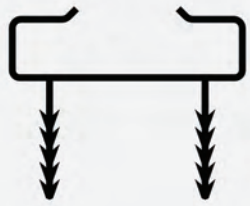
The ALP Tech Slot Inserts are designed to provide an adjustable and high capacity tieback for precast panel connections to framing systems. Tech Slots are manufactured with an all plastic body and comes preassembled with a steel T-Nut that slides inside the plastic body for tolerances in the field. The 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

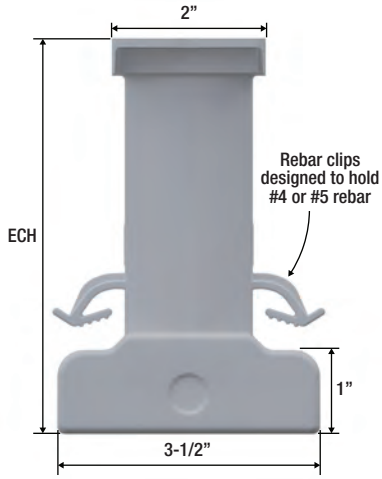


TSFP
Foam Pins clip to base of the Tech Slot Body.

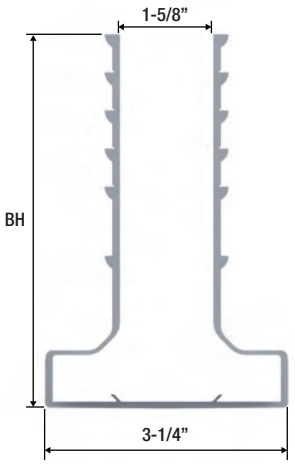
DIMENSIONS

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

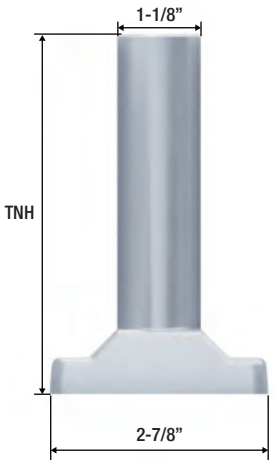
T-Nut is not designed for use with hot dip galvanized bolts due to thread engagement.



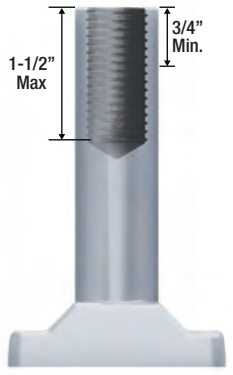
Plastic End Cap



Plastic Body

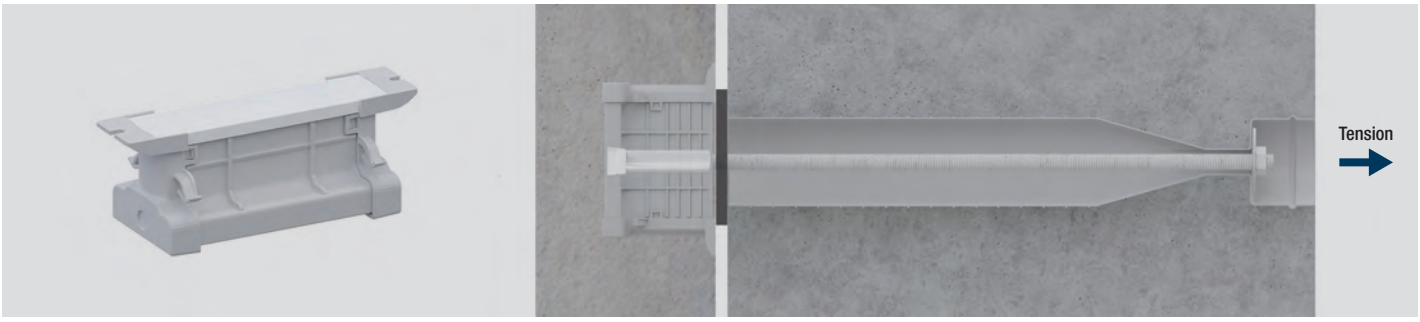


Steel T-Nut

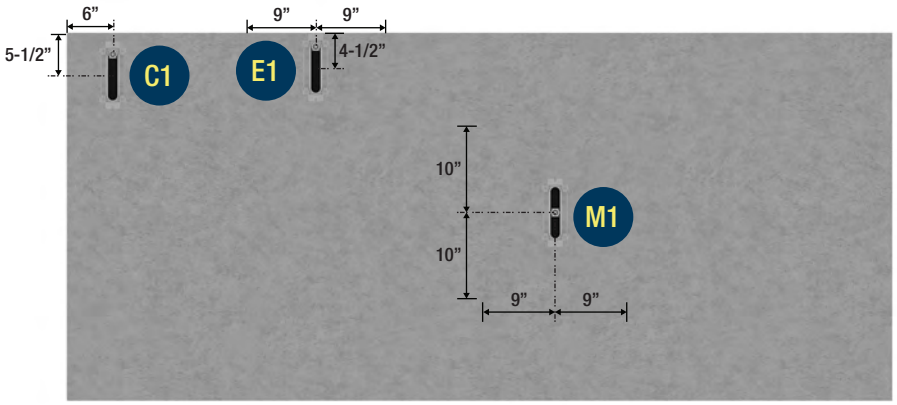


Steel T-Nut Thread Engagement

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

					6,000 PSI			Max Capacity					
Insert Location	Required Reinforcement*	T-Nut Location	Min. WT	Min. ST	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	Centered	3”	4”	10,651	9,320	723	10,000	13,750	12,032	934	6	MSC
	#5 x 24” Rebar**	Centered	3”	4”	-	-	-	5,000	13,518	12,469	646	5	MSC
E1	None	End of Slot, Near Edge of Concrete	NT	4”	7,620	7,300	310	6,848	8,141	7,799	331	3	ESC
C1	Corner Bars	End of Slot, Near Edge of Concrete	NT	8”	8,499	8,187	277	6,006	8,503	8,191	277	4	CSC

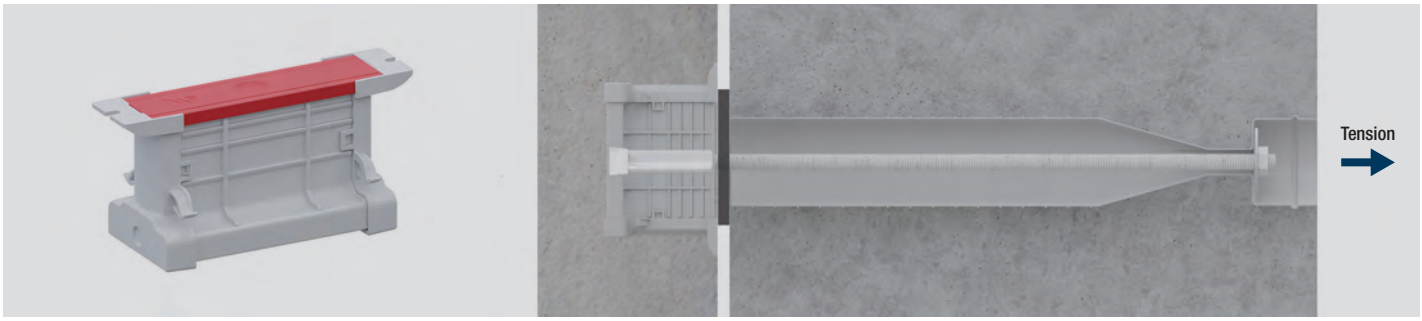
*Refer to Reinforcement Detail page for more information

- 1/4” x 3” x 3” (minimum) washer required for compression and shear
- To ensure listed tension design capacities are achieved, a minimum of 3/4” thread engagement is required
- Insert Capacity is based upon T-Nut location that yields the lowest capacity for the application.
- Published values based upon unreinforced concrete, unless noted otherwise
- To achieve the published capacities, it is the responsibility of the precast engineer to detail reinforcement required to prevent concrete flexural stress failure.

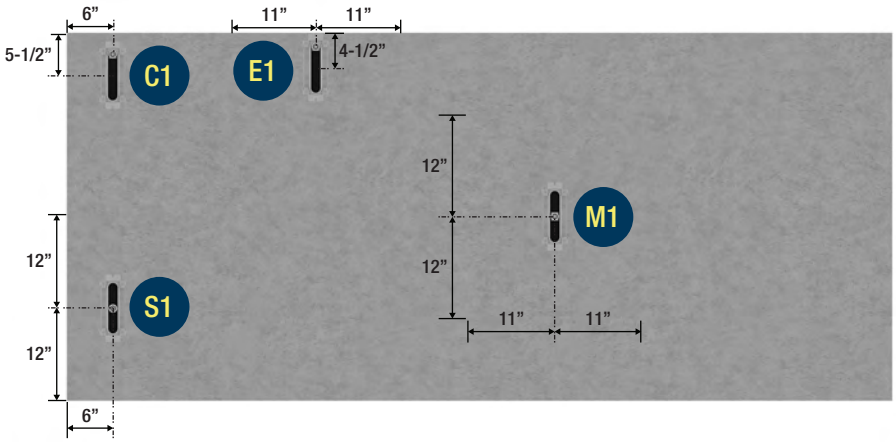
**Minimum edge distances should be increased to provide required rebar coverage

- The above load values and corresponding data is provided for use in determining the design capacity of the Tech Slot. The design approach is the responsibility of the precast engineer.
- Other testing values may be available upon request
- WT = Wythe Thickness
- ST = Slab Thickness
- NT = Not Tested

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

Insert Location	Required Reinforcement*	T-Nut Location	Min. WT	Min. ST	6,000 PSI Ultimate Avg. (lbs)	6,000 PSI Ultimate Min. (lbs)	6,000 PSI Std. Dev. (lbs)	Max Capacity PSI	Max Capacity Ultimate Avg. (lbs)	Max Capacity Ultimate Min. (lbs)	Max Capacity Std. Dev. (lbs)	# of Tests	Failure Mode
M1	None	Centered	4”	5”	20,093	17,693	2,180	10,000	25,940	22,841	2,815	7	MSC
	#5 x 24” Rebar**	Centered	4”	5”	21,230	18,646	2,352	10, 000	27,408	24,072	3,036	8	MSC
S1	Trim Bar	Centered	NT	8”	-	-	-	5,000	18,549	18,549	N/A	1	SSC
E1	None	End of Slot, Near Edge of Concrete	NT	5”	11,334	10,328	872	6,848	12,109	11,034	931	3	ESC
C1	Corner Bars	End of Slot, Near Edge of Concrete	NT	8”	13,645	12,779	751	6,006	13,651	12,786	752	3	CSC

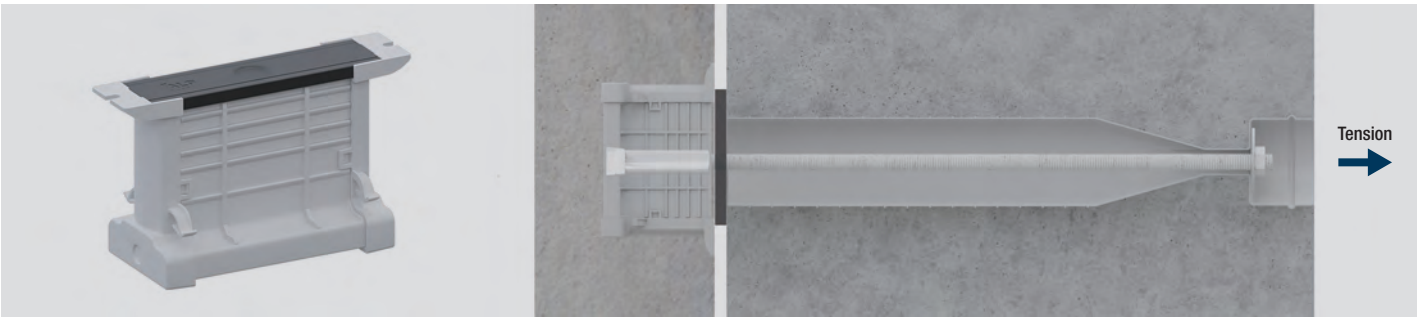
*Refer to Reinforcement Detail page for more information

**Minimum edge distances should be increased to provide required rebar coverage

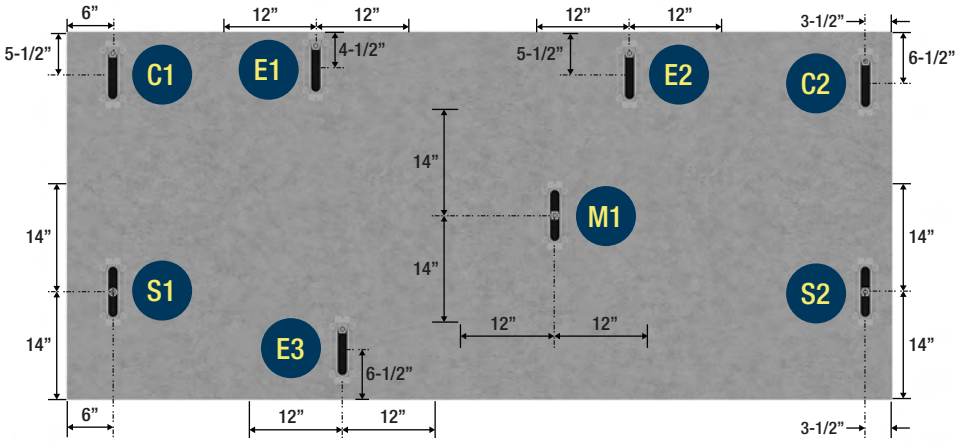
- 1/4” x 3” x 3” (minimum) washer required for compression and shear
- To ensure listed tension design capacities are reached, a minimum of 3/4” thread engagement is required
- Insert Capacity is based upon T-Nut location that yields the lowest capacity for the application.
- Published values based upon unreinforced concrete, unless noted otherwise
- To achieve the published capacities, it is the responsibility of the precast engineer to detail reinforcement required to prevent concrete flexural stress failure.

- The above load values and corresponding data is provided for use in determining the design capacity of the Tech Slot. The design approach is the responsibility of the precast engineer.
- Other testing values may be available upon request
- WT = Wythe Thickness
- ST = Slab Thickness
- NT = Not Tested

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



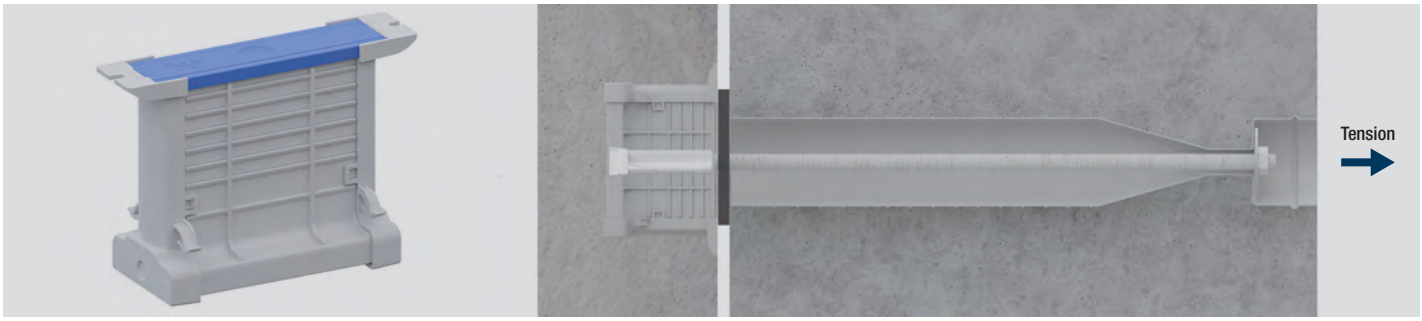
CAPACITIES - TSI65 - 5" HEIGHT

					6,000 PSI			Max Capacity					
Insert Location	Required Reinforcement*	T-Nut Location	Min. WT	Min. ST	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	Centered	5"	6"	27,600	23,937	2,164	10,000	35,632	30,902	2,793	6	MSC
S1	Trim Bar	Centered	NT	8"	-	-	-	5,000	23,678	23,678	N/A	1	SSC
S2	None	Centered	NT	8"	-	-	-	5,547	17,964	17,147	623	4	SSC
E1	None	End of Slot, Near Edge of Concrete	NT	6"	15,115	14,047	928	6,941	16,257	15,108	998	4	ESC
E2	Trim Bar	End of Slot, Near Edge of Concrete	NT	8"	22,475	20,675	2,397	7,659	25,393	23,359	2,708	4	ESC
E3	None	End of Slot, Near Edge of Concrete	NT	8"	-	-	-	5,547	23,754	23,259	559	3	ESC
C1	Corner Bars	End of Slot, Near Edge of Concrete	NT	8"	19,425	18,554	1,026	7,659	21,946	20,963	1,159	3	CSC
C2	None	End of Slot, Near Edge of Concrete	NT	8"	-	-	-	5,547	14,724	13,113	1,479	4	CSC

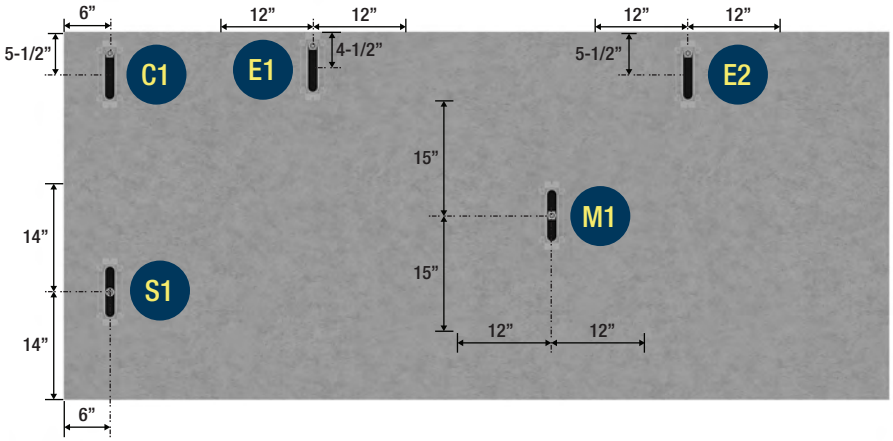
*Refer to Reinforcement Detail page for more information

- 1/4" x 3" x 3" (minimum) washer required for compression and shear
- To ensure listed tension design capacities are reached, a minimum of 3/4" thread engagement is required
- Insert Capacity is based upon T-Nut location that yields the lowest capacity for the application.
- Published values based upon unreinforced concrete, unless noted otherwise
- To achieve the published capacities, it is the responsibility of the precast engineer to detail reinforcement required to prevent concrete flexural stress failure.
- The above load values and corresponding data is provided for use in determining the design capacity of the Tech Slot. The design approach is the responsibility of the precast engineer.
- Other testing values may be available upon request
- WT = Wythe Thickness
- ST = Slab Thickness
- NT = Not Tested

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

					6,000 PSI			Max Capacity					
Insert Location	Required Reinforcement*	T-Nut Location	Min. WT	Min. ST	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	Centered	6"	8"	34,073	30,116	2,318	7,463	38,000	-	-	6	MSC
	None	End of Slot	6"	8"	37,482	36,373	1,399	6,167	38,000	-	-	3	MSC
S1	None	Centered	NT	8"	30,469	26,711	2,510	7,659	34,425	30,179	2,836	6	SSC
E1	None	End of Slot, Near Edge of Concrete	NT	8"	20,001	18,944	960	6,941	21,513	20,376	1,033	3	ESC
E2	Trim Bar	End of Slot, Near Edge of Concrete	NT	8"	23,817	20,598	3,128	7,659	26,909	23,273	3,534	3	ESC
C1	Corner Bars	End of Slot, Near Edge of Concrete	NT	8"	22,013	21,610	352	7,659	24,871	24,415	398	3	CSC
		Centered	NT	8"	26,661	-	-	7,659	30,123	-	-	1	CSC

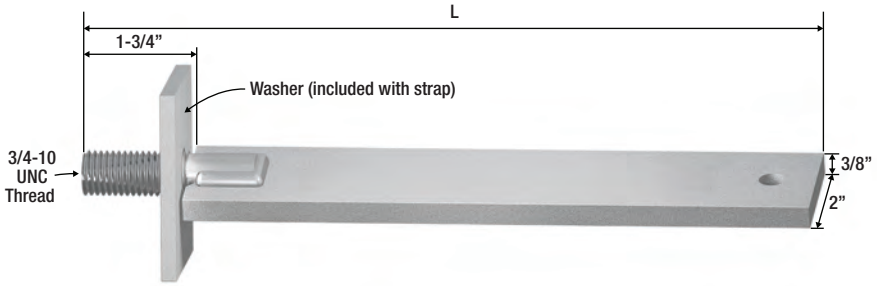
*Refer to Reinforcement Detail page for more information

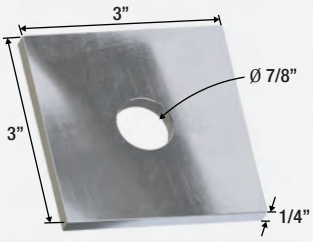
Shaded area indicates the capacity in concrete is limited by the mechanical capacity of the anchor

- 1/4" x 3" x 3" (minimum) washer required for compression and shear
- To ensure listed tension design capacities are reached, a minimum of 3/4" thread engagement is required
- Insert Capacity is based upon T-Nut location that yields the lowest capacity for the application.
- Published values based upon unreinforced concrete, unless noted otherwise
- To achieve the published capacities, it is the responsibility of the precast engineer to detail reinforcement required to prevent concrete flexural stress failure.
- The above load values and corresponding data is provided for use in determining the design capacity of the Tech Slot. The design approach is the responsibility of the precast engineer.
- Other testing values may be available upon request
- WT = Wythe Thickness
- ST = Slab Thickness
- NT = Not Tested

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

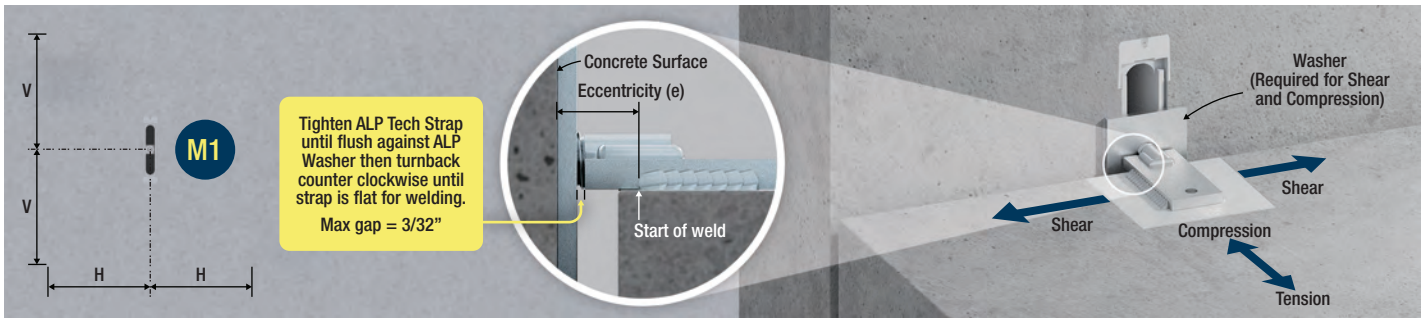
DIMENSIONS

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)

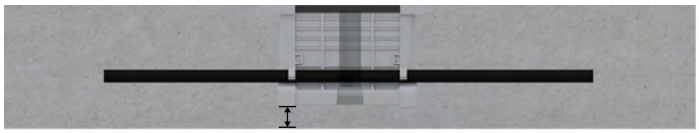


SHEAR CAPACITIES - M1 LOCATION

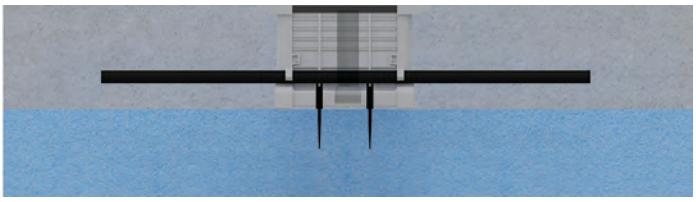
Insert	Loading (Shear) Eccentricity	Max Mechanical Capacity: Ultimate Average (lbs)	Max Mechanical Capacity: Standard Dev. (lbs)	Max Mechanical Capacity: # of Tests	Capacity in Concrete (5,000 PSI): Ultimate Average (lbs)	Capacity in Concrete (5,000 PSI): Standard Dev. (lbs)	Capacity in Concrete (5,000 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.
- To ensure listed design capacities are reached, ALP Strap should be turned clockwise until bottoming out inside the T-Nut and returned to flat position. The use of an all thread rod should be turned clockwise until bottoming out inside T-Nut.
- The use of all thread rods in shear applications should consider the use of a washer or other means to prevent shear bending.
- 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 shear capacities with edge distances less than what is listed above, contact ALP Tech Support
- For eccentricity between 1" and 3", linear regression calculation equations can be used.
- To achieve the published capacities, it is the responsibility of the precast engineer to detail reinforcement required to prevent concrete flexural stress failure.
- The above load values and corresponding data is provided for use in determining the design capacity of the Tech Slot. The design approach is the responsibility of the precast engineer.

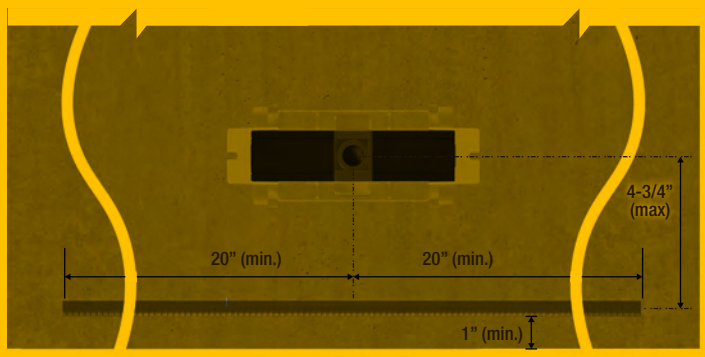
ALP® TECH SLOT® INSERTS - REINFORCEMENT DETAILS



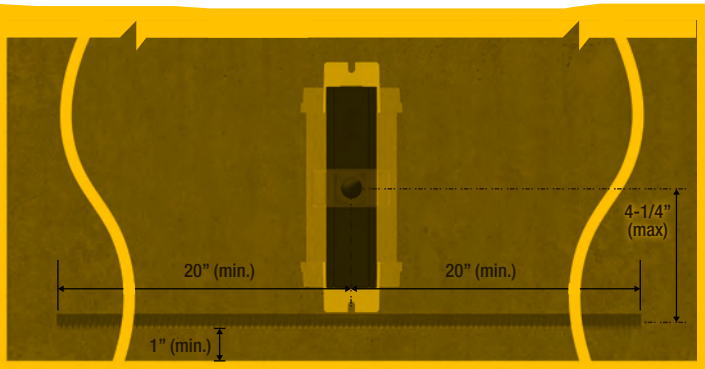
M1 **(2) #5 x 24" Rebar**



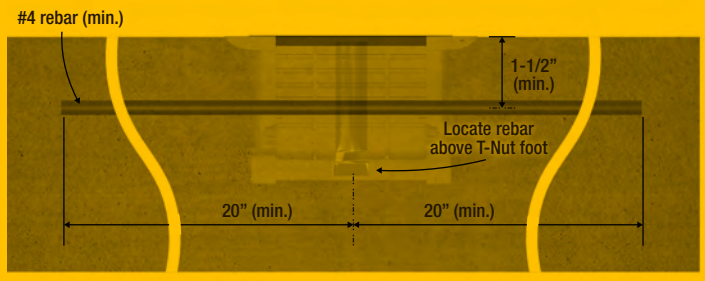
M1 **(2) #5 x 24" Rebar on Insulation**



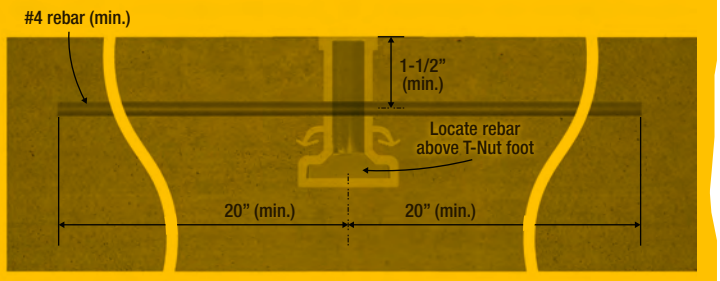
S1 **Trim Bar Detail (Plan View)**



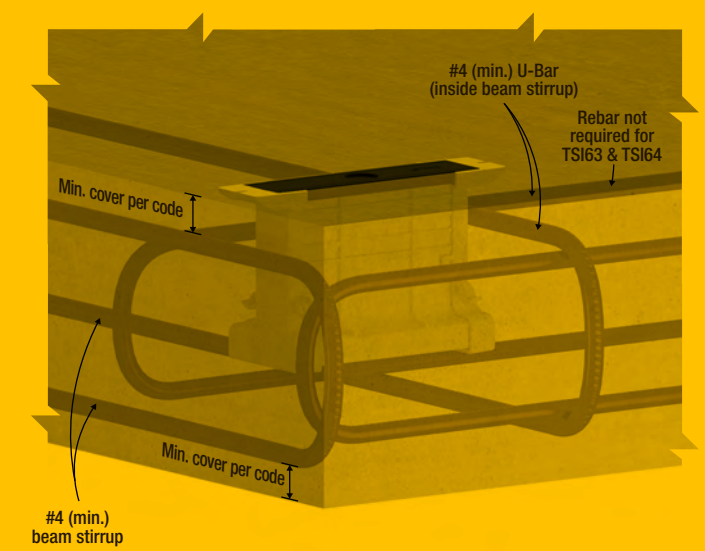
E2 **Trim Bar Detail (Plan View)**



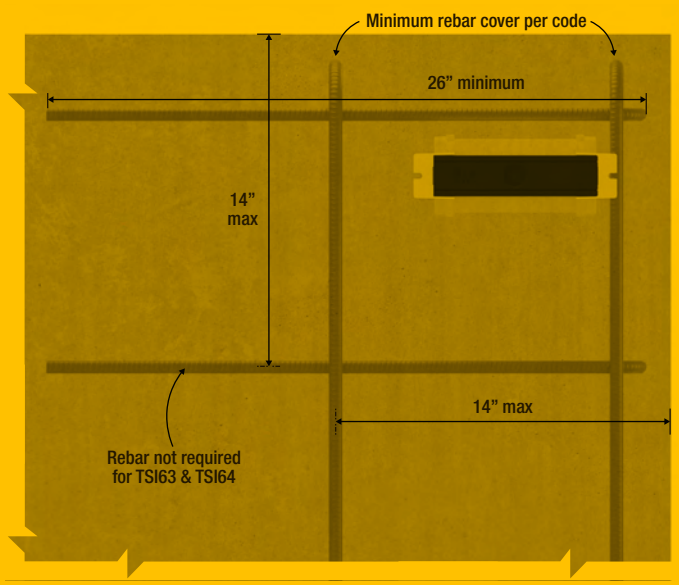
S1 **Trim Bar Detail (Side View)**



E2 **Trim Bar Detail (Side View)**

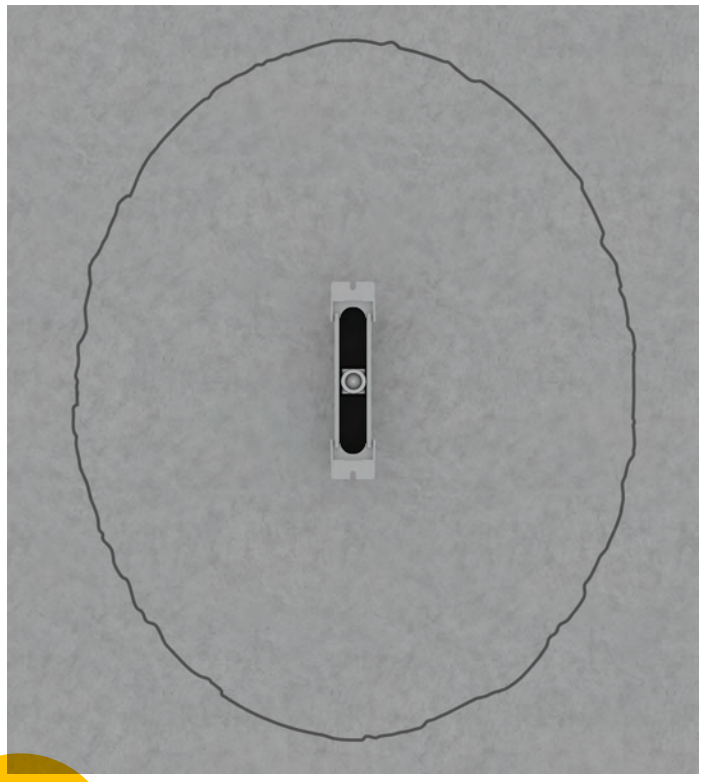


C1 **Corner Bars Detail**

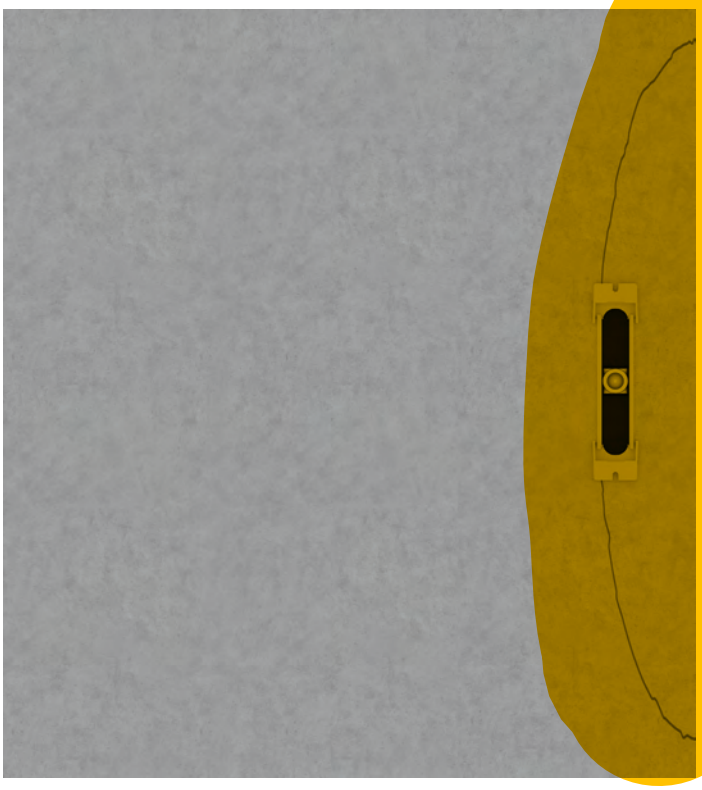


C1 **Corner Bars Detail (Plan View)**

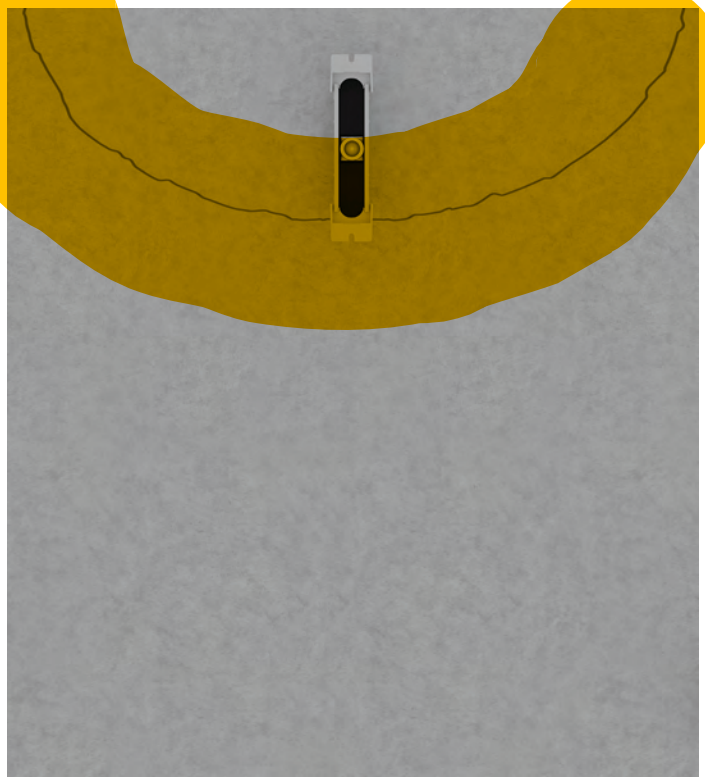
ALP® TECH SLOT® INSERTS - FAILURE MODES



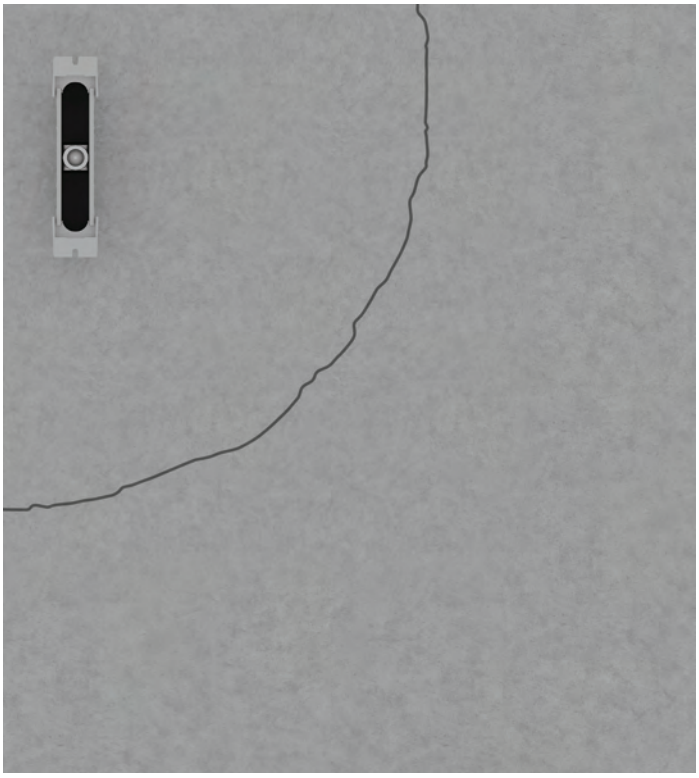
MSC - Middle Shear Cone



SSC - Side Shear Cone



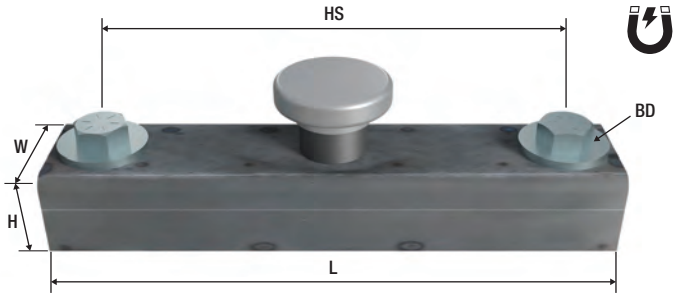
ESC - Edge Shear Cone



CSC - Corner Shear Cone

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.**



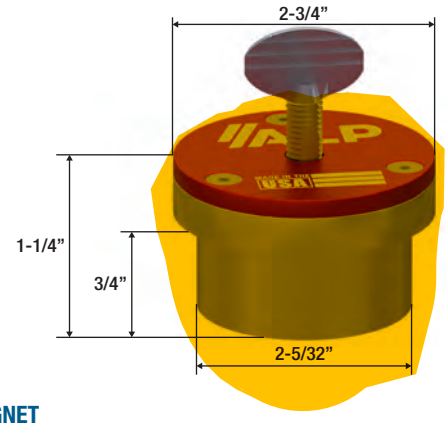
Part #	Description	Tension Capacity (lbs)*	L	W	H	HS	BD
TKTBM500	0.5 Ton Button Magnet	500	6-11/16”	2-7/16”	1-9/16”	5-1/8”	1/2”
TKTBM2000	1 Ton Button Magnet	2,000	11”	2-7/16”	1-5/8”	10-9/16”	1/2”
TKTBM5000	2.5 Ton Button Magnet	5,000	12-5/8”	4-3/4”	2-1/2”	10-5/8”	5/8”

*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.