



MAX. WT.	32500 KGS
	71650 LBS
TARE WT.	3000 KGS
	6600 LBS
PAYLOAD	29500 KGS
	65050 LBS
CU. CAP.	76.4 CBM
	2697 CUFT

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Lifting Clutch

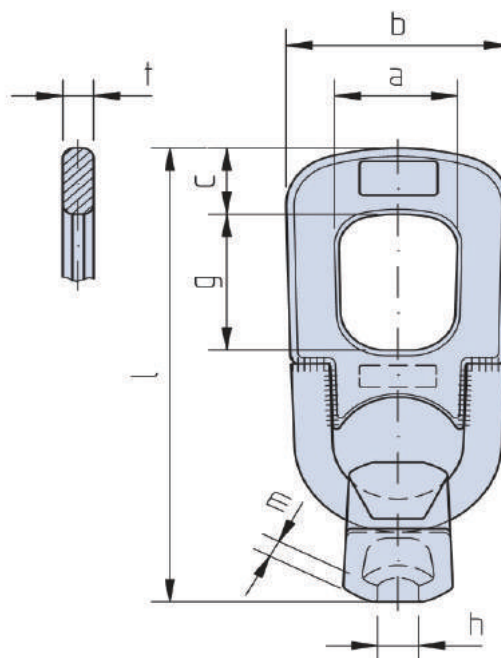
The Universal-Head Lifting Clutch is an attachment link for the lifting and transportation of precast concrete units in combination with the Spherical-Head Lifting Anchor.

The Universal-Head Lifting Clutch is a manually operated link, manufactured in the versions given in the following table.

The allowable loads for the individual cases can be taken from the tables in the following table.

Accident prevention regulations of the country of use must always be observed, especially those for the use of cranes and lifting equipment.

Precast units, especially pipes which are to be transported with the Turning and Lifting Link may not first be transported using the Universal-Head Lifting Clutch.



Dimensions of the Universal-Head Lifting Clutch

Product Code	Load group (T)	a mm	b mm	c mm	g mm	h mm	t mm	l mm	m mm
6102-1.3	1.3	47	75	20	71	11	12	188	7
6102-2.5	2.0/2.5	59	91	25	86	16	14	230	8.5
6102-5.0	4.0/5.0	70	118	37	88	21	16	283	10
6102-10.0	7.5/10.0	88	160	50	115	30	25	401	14
6102-20.0	15.0/20.0	106	180	75	135	41	30	506	21
6102-32.0	32	172	272	100	189	52	40	680	28.5
6102-45.0	45	179	349	100	192	52	40	676	28.5

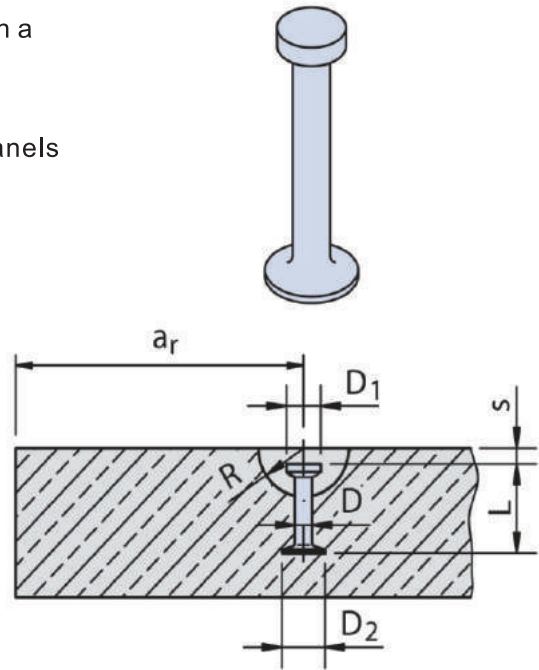
Standard Lifting Anchor

Standard Lifting Anchor consists of a round steel rod with a forged foot and head.

The Pin is factory finished and should not be altered or adapted in the yard or on site.

Suitable for large precast units such as slabs, beams, panels and pipes.

Product Code	L mm	D mm	D1 mm	D2 mm	S mm	R mm	ar mm
6000-1.3-0120	120	10	19	25	10	30	390
6000-1.3-0240	240	10	19	25	10	30	390
6000-2.0-0140	140	14	26	35	11	37	450
6000-2.0-0170	170	14	26	35	11	37	450
6000-2.0-0280	280	14	26	35	11	37	450
6000-2.5-0170	170	14	26	35	11	37	540
6000-2.5-0280	280	14	26	35	11	37	540
6000-4.0-0210	210	18	36	45	15	47	675
6000-4.0-0240	240	18	36	45	15	47	675
6000-4.0-0340	340	18	36	45	15	47	675
6000-4.0-0420	420	18	36	45	15	47	675
6000-5.0-0240	240	20	36	50	15	47	765
6000-5.0-0340	340	20	36	50	15	47	765
6000-5.0-0480	480	20	36	50	15	47	765
6000-7.5-0300	300	24	46	60	15	59	945
6000-7.5-0540	540	24	46	60	15	59	945
6000-7.5-0680	680	24	46	60	15	59	945
6000-10.0-0340	340	28	46	70	15	59	1100
6000-10.0-0680	680	28	46	70	15	59	1100
6000-15.0-0400	400	34	69	85	15	80	1250
6000-20.0-0500	500	38	69	98	15	80	1550
6000-20.0-1000	1000	38	69	98	15	80	1550
6000-32.0-0700	700	50	88	135	23	107	2150
6000-32.0-1200	1200	50	88	135	23	107	2150
6000-45.0-0500	500	50	88	135	23	107	2400
6000-45.0-1200	1200	50	88	135	23	107	2400



Lifting Anchor with Eye

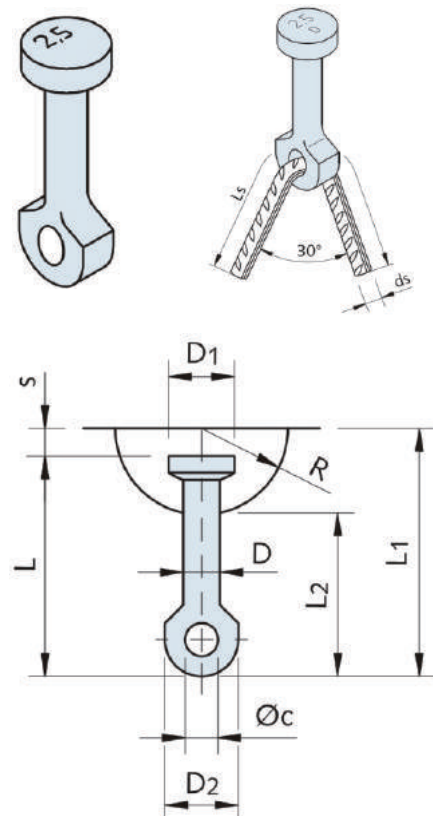
The Lifting Anchor with Eye is used whenever, due to special circumstances, the load transfer through an anchor foot is not possible.

It is mainly designed for the use in thin reinforced precast concrete units, e.g beams and girders. It is also suitable for lightweight precast concrete units. Reduced bond stresses may need to be considered for lightweight concrete.

The total anchor force is transferred into the concrete by the reinforcement tail (not supplied).

Load groups 1.3 - 20.0T.

Used with a reinforcement tail (grade 460) For use in lightweight concrete units and thin precast concrete units, e.g prestressed beams.



Product Code	Load group (T)	D mm	D1 mm	D2 mm	c mm	L mm	L1 mm	L2 mm	s mm	R mm
6001-1.3-0065	1.3	10	19	19	10	65	75	45	10	30
6001-2.5-0090	2.5	14	26	27	13	90	101	64	11	37
6001-5.0-0120	5	20	36	42	20	120	135	88	15	47
6001-10.0-0180	10	28	46	57	25	180	195	136	15	59
6001-20.0-0250	20	39	69	76	37	250	265	185	15	80

Plate Lifting Anchor

The Plate Lifting Anchor is recommended for all large thin reinforced slabs which are to be lifted at right-angles to their largest dimension and where the standard Pin Lifting Anchor will not fit in the slab. They can also be used for demoulding panels.

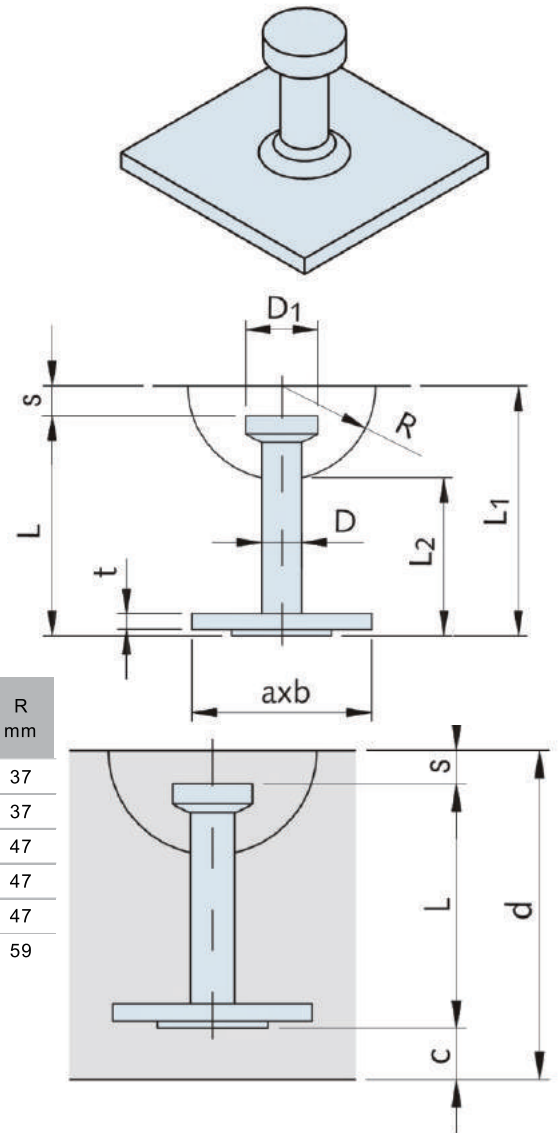
The minimum slab thickness (d) results from the anchor length (L), the head cover dimension (s) and the required concrete cover. Appropriate provisions must be taken to ensure that the concrete can flow under the anchor plate to guarantee proper protection against corrosion.

Pin Lifting Anchor with a welded plate.

Load groups 2.5 - 10.0T

For use in thin slabs which are to be lifted or assembled in a horizontal position. Especially suitable for demoulding panels or installing thin slabs.

Product Code	Load group (T)	D mm	D1 mm	a X b X t mm	L mm	L1 mm	L2 mm	s mm	R mm
6010-2.5-0055	2.5	14	26	70x70x6	55	66	29	11	37
6010-2.5-0120	2.5	14	26	70x70x6	120	131	94	11	37
6010-5.0-0055	5	20	36	90x90x8	55	70	23	15	47
6010-5.0-0065	5	20	36	90x90x8	65	80	33	15	47
6010-5.0-0110	5	20	36	90x90x8	110	125	78	15	47
6010-10.0-0115	10	28	46	90x90x10	115	130	71	15	59



Magazine Pipe Anchor

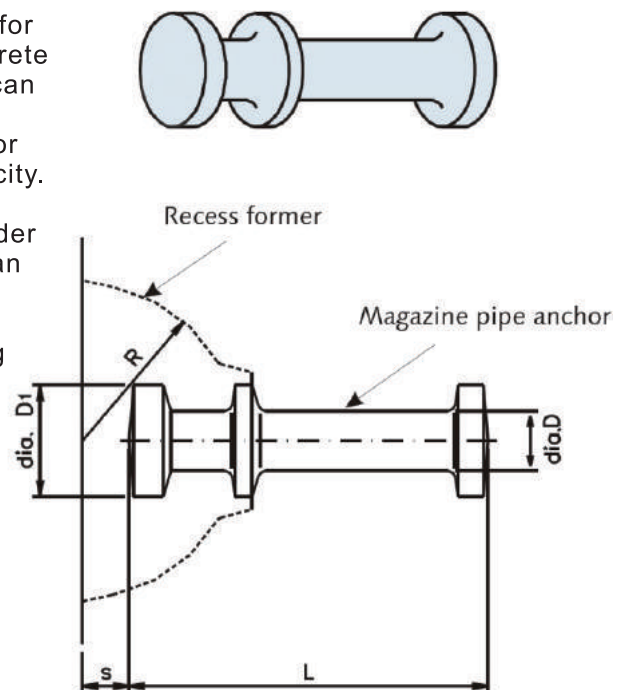
The Magazine Pipe Anchor has been specially developed for automatic installation in reinforced and non-reinforced concrete pipes. Modern machines producing pipes in great numbers can not be used to full effect if the lifting anchors are installed manually. The fully automated installation of the lifting anchor during production of the pipe permits production at full capacity.

Unlike the standard Pin Anchor, the head and foot of the Magazine Anchor are equal diameters. The additional shoulder on the anchor assists in accurate positioning. This anchor can be used with either the Universal-Head Lifting Clutch or the Special Attachment for Transverse Lifting & Turning.

Specially developed for use with automatic anchor placing machines in concrete pipes.

Load groups 1.3 - 7.5T

Load rating (T)	1.3	2.5	4	5
L (mm)	40	65	95	95
	50	85		100
	65			0
D (mm)	10	14	18	20
D1 (mm)	19	26	36	36
s (mm)	10	11	15	15
R (mm)	30	37	47	47

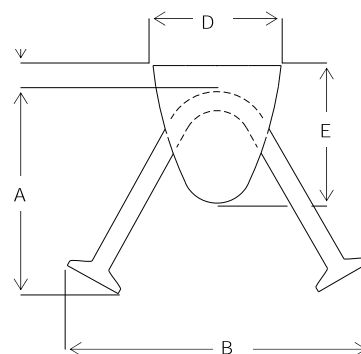
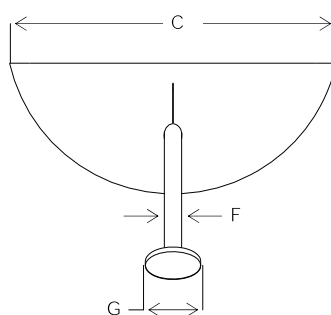
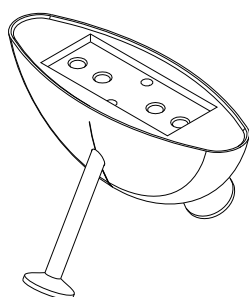
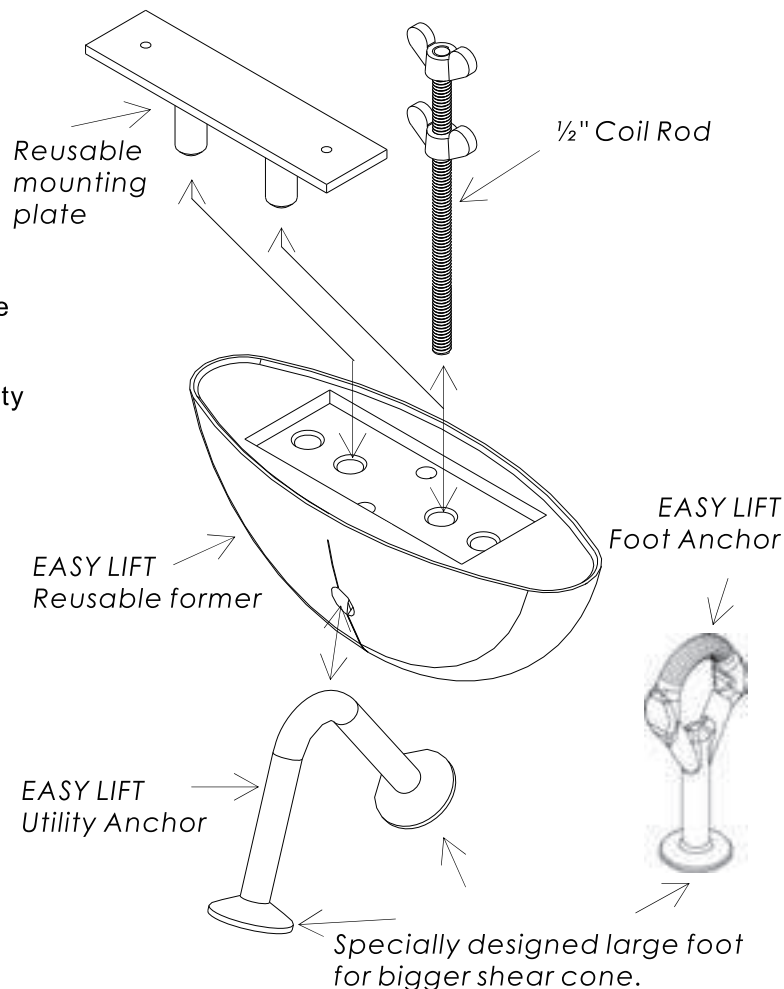


Easy Lift Anchor Lifting System

The Easy Lift Anchor Lifting System is designed to economically simplify the lifting and handling of precast concrete elements. Its economics, ease of use and versatility will be a welcome addition to your precast operations.

The Easy Lift can be utilized to remove the precast elements from their forms, handling the elements in the precast yard, loading for shipment and unloading and placement at the job site - all without the need for any special lifting equipment or hardware. Simply use a standard hook or clevis to connect to the Utility Anchor for a safe lift.

An added benefit of the easy to use system is a design feature that enables the unit to be used effectively as pulling iron.



Easy Lift Anchor

PART NUMBER	SLAB THICKNESS	A	B	F	G
#	in.	in.	in.	in.	in.
UA450318G	4	3.125	5.281	0.450	1.375
UA450334G	04-1/2	3.750	6.000	0.450	1.375
UA450434G	05-1/2	4.750	7.122	0.450	1.375
UA450634G	8	6.750	9.375	0.450	1.375
UEL4G	4	3.125	5.300	0.670	1.340
UEL412G	04-1/2	3.750	6.800	0.670	1.340
UEL512G	05-1/2	4.750	7.400	0.670	1.340
UEL8G	8	6.750	10.000	0.670	1.340

Utility Anchor with Snap Wires

Pending Easily attaches to concrete mesh for side or vertical mounting. Ideal for concrete pipes. Available in .670 or .450 wire diameter. Safety factor 4:1

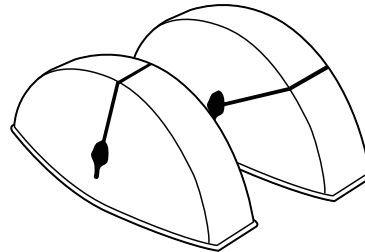


Utility Anchor Former

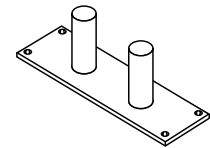
Economical alternative for stripping, handling, and setting panels. Very versatile system - applicable to any precast element, can be used as pulling iron or lifting and pulling iron. Safety factor 4:1

Easy Lift Former

PART NUMBER	C	D	E
#	in.	in.	in.
UAF450	8.000	3.000	3.250
UELF670	8.000	3.000	3.250
ELF670L	10.000	3.000	3.250



Setting Plugs

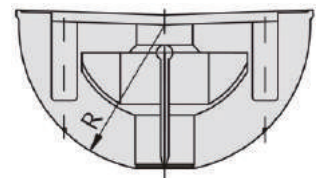
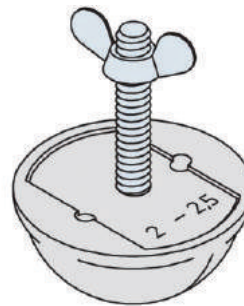


Setting Plate

Round Rubber Recess Former

To attach the Pin Anchor to the mould. The recess forms a round, hemispherical void in the precast unit to allow lifting in all directions. Load groups 1.3 - 32.0T.

The Rubber Recess Former is constant in shape, even when heated up to 120°C or in contact with oil. The Rubber Recess Former can be used several times. In order to ease the identification of the load group, the formers are produced in different colours.



Product Code including threaded plate with threaded bar	Product Code including threaded plate with socket	Product Code without steel parts	Load group (T)	Colour	R (mm)
6132-1.3	6133-1.3	6131-1.3	1.3	blue	30
6132-2.0/2.5	6133-2.0/2.5	6131-2.0/2.5	2.0 & 2.5	yellow	37
6132-4.0	6133-4.0	6131-4.0	4.0	black	47
6132-5.0	6133-5.0	6131-5.0	5.0	blue	47
6132-7.5	6133-7.5	6131-7.5	7.5	red	59
6132-10.0	6133-10.0	6131-10.0	10.0	yellow	59
6132-15.0	6133-15.0	6131-15.0	15.0	grey	80
6132-20.0	6133-20.0	6131-20.0	20.0	black	80
6132-32.0	6133-32.0	6131-32.0	32.0 & 45.0	black	107

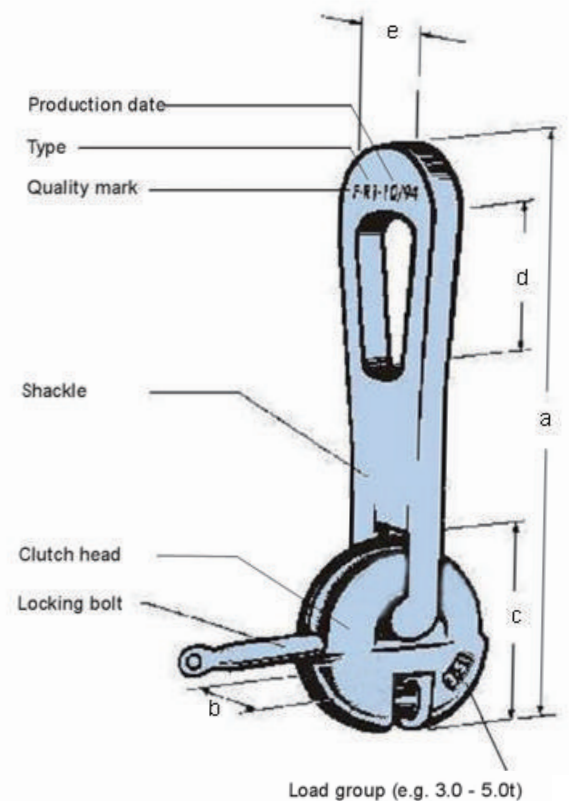
Ring Clutch

The ring clutch consists of a shackle and a clutch head. The shackle is free to move in any direction. The clutch head in each load group matches the shape of the recess former and incorporates a locking bolt which engages in the head of the cast-in anchor.

Four ring clutches are available, each one suitable for three or four anchor load ranges.

The ring clutches are clearly matched to the anchors by compatible design as well as by marking the anchor types and load groups. Only matching components will fit together.

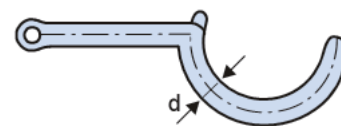
Load group[t]	2.5 t	5.0 t	10.0 t	26.0 t
Corresponding load ranges[t]	0.7-2.5	3.0-5.0	5.3-10.0	12.5-26.0
a[mm]	265	330	425	605
b[mm]	27	26	50	72
c[mm]	80	100	140	209
d[mm]	70	86	112	160
e[mm]	50	71	90	120



Locking bolt

Ring clutches with worn or bent locking bolts must be taken out of use. Check wear on the bolt using the table below.

Load group [t]	Nominal dimension d [mm]	Minimum dimension d [mm]
1.25	8 +0.4/-0.6	7
2.5	13 +0.7/-0.4	12
5.0	16.5 +0.7/-0.4	15.5
10.0	23.5 +0.8/-0.4	22.5
26.0	32 +0.9/-0.5	31



Clutch head

If the clutch head is deformed or the mouth opening is enlarged, the ring clutch has to be withdrawn and cannot be repaired. Check wear on the clutch head using the table below.

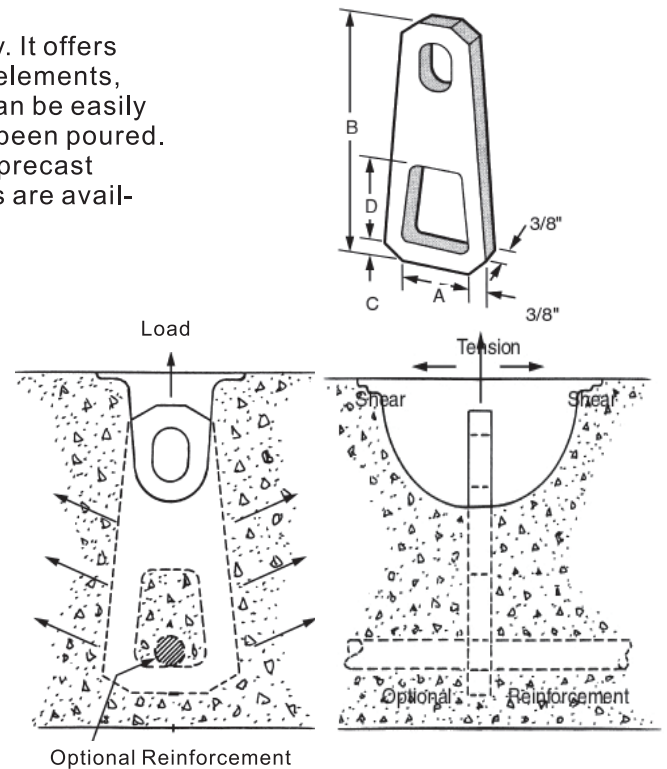
Load group [t]	Nominal dimension d [mm]	Maximum dimension d [mm]
1.25	7 ± 0.12	8
2.5	12 ± 0.5	13.5
5.0	18 ± 0.5/-1.0	19.5
10.0	22 ± 0.5	23.5
26.0	34 ± 2.0/-1.0	37



Plate-Lift H-Anchor

The Plate-Lift H-Anchor is unique in design simplicity. It offers exceptional strength for lifting and handling precast elements, yet can be used in panels as thin as 3". The anchor can be easily preset in the form or "wet set" after the concrete has been poured. The H-Anchor is the strongest and most economical precast lifting anchor available for back-stripping. H-Anchors are available in plain and hot-dipped galvanized finish.

Product Code	A	B	C	D	Minimum Slab Thickness	Weight Each
FL523	1.25"	2.30"	0.35"	0.56"	3"	0.28 lbs.
FL524	1.25"	3.30"	0.38"	1.44"	4"	0.36 lbs.

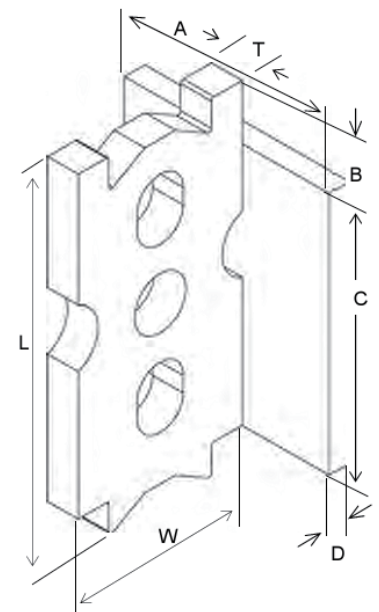


Ring Lift Erection Anchor with Shear Plate

Combines the reinforcing capabilities of the Ring Lift Anchor with the spall-free performance of an Erection Anchor

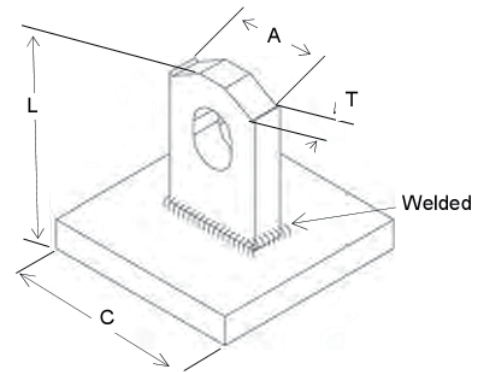
- The shear plate replaces the need for a shear bar making it easier to install
- Ideal for an "A" frame or tilt table or whenever the lift is not straight up
- For lifts that entail only anchor tension
- Shear capacity is less than the standard erection anchor due to the shorter length
- The anchor's head loads are equal to the standard erection anchor due to length
- Convex sides build better strength without adding material
- Available in 2T, 2.5T, 4T, 5T, 8T, 10T capacities
- Based on a 4:1 safety factor

ANCHOR TONNAGE	CLUTCH ID	LENGTH (L)	WIDTH (W)	THICKNESS (T)	SWL 4:1 SF TENSION W/ TENSION BAR lb	WEIGHT EACH lb
tons	#	in.	in.	in.		
2T	2-2.5T	4	2	3/8	4,000	1.20
2.5T	2-2.5T	4	2	3/8	5,000	1.20
4T	4-5T	7	2-1/2	5/8	8,000	3.57
5T	4-5T	7	2-1/2	5/8	10,000	3.57
8T	8-10T	7	3-1/2	3/4	16,000	8.00
8T	8-10T	13-1/2	3-1/2	3/4	16,000	10.14
10T	8-10T	7	3-1/2	3/4	20,000	8.00
10T	8-10T	13-1/2	3-1/2	3/4	20,000	10.14



Ring Lift Plate Anchor

- Used for face and back lifts of thin walled units.
- Low profile with wide, flat base for excellent anchorage
- Horizontal plate welded to the bottom gives creates high pull-out strength in stripping, handling and erection applications.
- Based on a 4:1 safety factor

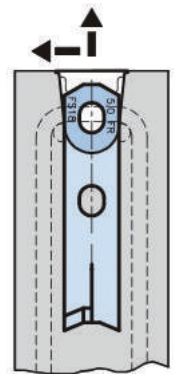


ANCHOR TONNAGE	CLUTCH ID	ANCHOR LENGTH (L)	HEAD WIDTH (A)	HEAD THICKNE SS (T)	PLATE LENGTH SQUARED (C)	SAFE WORKING LOAD UNREINFORCED 3000 PSI CONCRETE TENSION	SAFE WORKING LOAD REINFORCED 2000 PSI CONCRETE TENSION	MIN. EDGE DISTANC E	WEIGHT EACH
tons	in.	in.	in.	in.	in.	lb	lb	in.	lb
2T	-2.5T	2-1/4	1-1/4	3/8	2-1/2	2,000	4,000	4-1/2	0.89
4T	4-5T	3	1-1/2	5/8	3	4,338	8,000	6	1.21
4T	4-5T	3-1/2	1-1/2	5/8	3	6,000	8,000	7	1.69
4T	4-5T	4-3/8	1-1/2	5/8	4	7,600	8,000	8	1.91
8T	8-10T	7-1/8	2-1/2	3/4	4	16,000	16,000	13-5/8	5.50

Spread Anchor

The spread anchor is very versatile. It provides an efficient anchorage in both thin panels and slabs. For special applications additional reinforcement can be combined with the spread anchor by utilising the extra hole.

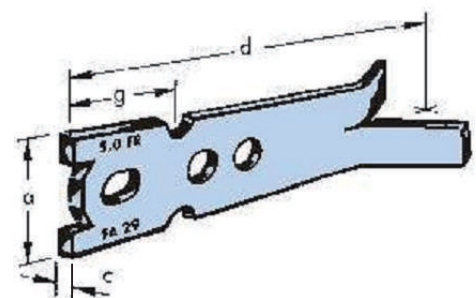
Load range 0.7 t to 22.0 t



Erection anchor

The special shaped anchor head means that the pitching/turning loads are taken by the anchor and not to the concrete. This helps prevent spallation of the concrete. The anchors are notched to assist with the placement of additional reinforcement required in the pitching/turning operation.

Load range 1.4 t to 22.0 t



Load group [t]	a [mm]	c [mm]	d [mm]	g [mm]
1.4	55	6	200	45
2.5	55	10	230	45
4	70	12	270	70
5	70	15	290	70
7.5	95	15	320	90
10	95	20	390	90
12.5	148	20	500	90
17	148	25	500	90
22	148	30	500	90

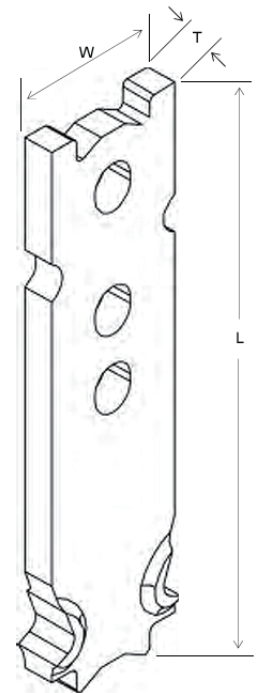
X-Foot Erection Anchor

For horizontal to vertical edge lifts and the shear rotation of thin-walled units.

- Specially designed head provides added protection against spalling
- For lifts applying shear and tension to the anchor
- Specially designed body allows for full reinforcement
- Available in 2T, 4T, or 8T capacities
- Based on a 4:1 safety factor

Superior Design

Two steel protrusions or “ears” on the head of the anchor provide added protection against spalling. These ears hug either side of the ring clutch, restricting its rotation during lateral pulls. As a result, lateral forces are transmitted directly to the edges of the anchor instead of the concrete. The body of the Erection Anchor is shaped to allow full reinforcement for secure support.



ANCHOR TONNAGE	CLUTCH ID	WIDTH (W)	LENGTH (L)	THICKNESS (T)	SWL 4:1 SF TENSION W/ TENSION BAR	WEIGHT EACH	SAFE WORKING LOAD REINFORCED 2000 PSI CONCRETE TENSION	MIN. EDGE DISTAN CE	WEIGHT EACH
tons	#	in.	in.	in.	lb	lb	lb	in.	lb
2T	2-2.5T	2	8	3/8	4,000	1.59	4,000	4-1/2	0.89
4T	4-5T	2-1/2	9-1/2	5/8	8,000	4.20	8,000	6	1.21
8T	8-10T	3-1/2	13-1/2	3/4	16,000	9.30	8,000	7	1.69

X-Foot Erection Anchor with Shear Plate

For horizontal to vertical edge lifts and the shear rotation of thin-walled units.

- The shear plate replaces the need for a shear bar making it easier to install
- No special ring clutch or recessing members necessary
- Specially designed head provides added protection against spalling
- Specially designed body allows for full reinforcement
- Available in 2T, 4T, or 8T capacities
- Based on a 4:1 safety factor

ANCHOR TONNAGE	CLUTCH ID	WIDTH (W)	LENGTH (L)	THICKNESS (T)	SWL 4:1 SF TENSION W/ TENSION BAR	WEIGHT EACH
tons	#	in.	in.	in.	lb	lb
2T	2-2.5T	2	8	3/8	4,000	2.15
4T	4-5T	2-1/2	9-1/2	5/8	8,000	4.60
8T	8-10T	3-1/2	13-1/2	3/4	16,000	10.30

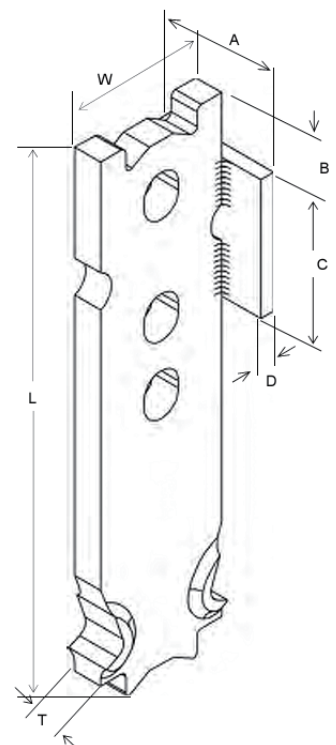


Plate-Lift Erection Anchor

Plate-Lift Erection Anchors are specifically designed for horizontal to vertical edge lifts and handling of thin-walled precast concrete elements. Two steel protrusions or “ears” on the head of the anchor provide protection against concrete spalling. These protrusions restrict the ring clutch rotation during lateral pulls. As a result, lateral forces are transmitted directly to the edge of the anchor instead of the concrete.

The body of the Erection Anchor is shaped to allow full reinforcement for secure support and spall-free rotation. Erection Anchors are available plain or hot-dipped galvanized.

Safe Working Load (Tons)	A	B	C	D	E	F	G	H	J	X
2	2"	8"	3/8"	1-13/16"	2-3/8"	3-3/8"	5/8"	1"	1/2"	3/8"
4	2-1/2"	10-7/16"	5/8"	2-1/2"	3-3/16"	4-7/16"	3/4"	1-1/4"	3/4"	7/16"
6	3-3/4"	13-1/4"	5/8"	3-1/8"	4"	5-3/4"	1"	1-3/4"	3/4"	5/8"
8	3-3/4"	13-1/4"	3/4"	3-1/8"	4"	5-3/4"	1"	1-3/4"	3/4"	5/8"

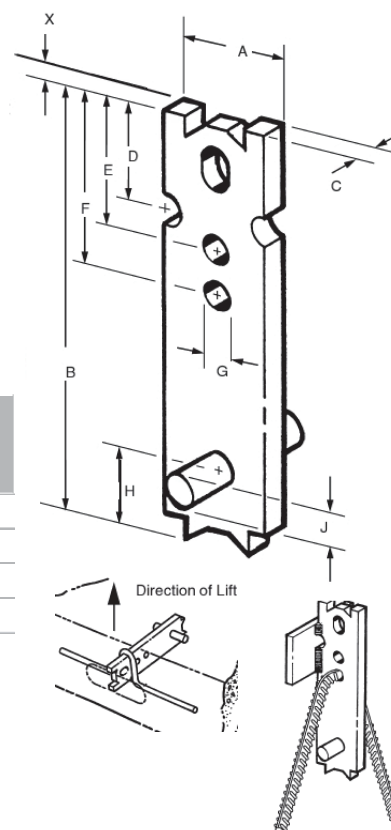


Plate-Lift Erection Anchor with Shear Plate

Plate-Lift Erection Anchor with Shear Plate is designed specifically for edge tilting precast concrete elements from the horizontal to a vertical position. An integral shear plate eliminates any possibility of forgetting to install a required shear bar.

As on other Plate-Lift Erection Anchors, two steel protrusions or “ears” at the head of the anchor provide protection against concrete spalling. These “ears” restrict the ring clutch rotation during lateral pulls. As a result, lateral forces are transmitted directly to the edge of the anchor instead of the concrete.

The body of the erection anchor is shaped to allow full reinforcement for secure support and spall-free rotation.

Erection Anchors are available plain or hot-dipped galvanized.

Safe Working Load (Tons)	A	B	C
2	2-1/2"	3/4"	3"
4	2-1/2"	1-1/4"	3"
6	3"	1-5/8"	3-1/2"
8	3"	1-5/8"	3-1/2"

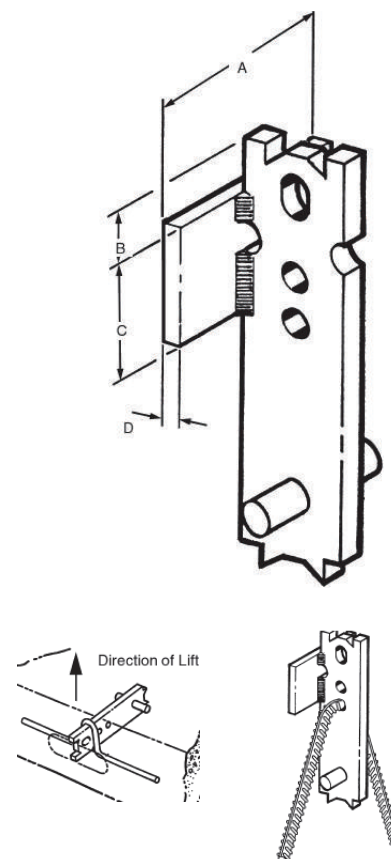


Plate-Lift Flat Foot Anchor

The Plate-Lift Flat Foot Anchor is a versatile anchor that can be used to back-strip and transport thin panels. This anchor may also be used to erect the panels. The anchor's safe working load may be increased by adding four 18" lengths of #4 rebar as shown in the sketch.

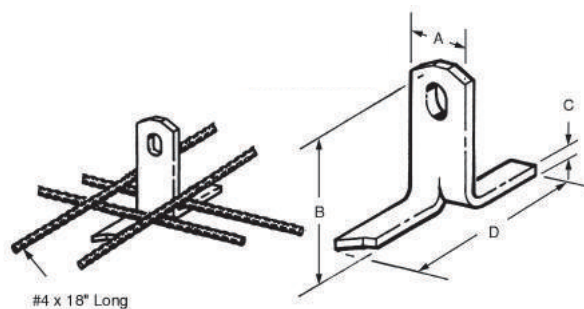
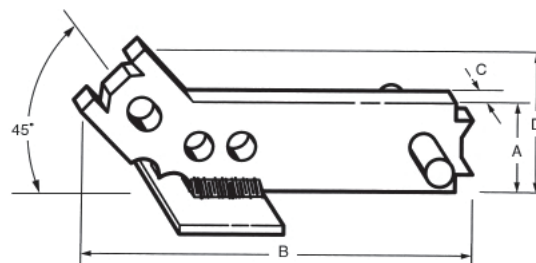


Plate-Lift Flat Foot Anchor	Product Code	Precast Concrete Minimum Panel Thickness	Minimum Edge or Corner Distance	Shear Safe Working Load	Tension Safe Working Load	Shear Safe Working Load Reinforced	Tension Safe Working Load Reinforced	A	B	C	D
2-ton x 2-3/4" long	FL058	3-7/8"	5-1/2"	1,325 lbs.	1,325 lbs.	4,000 lbs.	4,000 lbs.	1-1/4"	2-3/4"	3/8"	4"
2-ton x 3-3/8" long	FL400	4-1/2"	6-3/4"	1,875 lbs.	1,875 lbs.	4,000 lbs.	4,000 lbs.	1-1/4"	3-3/8"	3/8"	4"
3-ton x 3-3/4" long	FL157	3-7/8"	7-1/2"	2,350 lbs.	2,350 lbs.	6,000 lbs.	6,000 lbs.	1-1/2"	3-3/4"	1/2"	4"

Plate-Lift Erection Anchor with 45° Head with Shear Plate

Plate-Lift Erection Anchor with 45° Head and Shear Plate is designed for use when the lifting edge is beveled at a 45° angle. The factory installed shear plate eliminates the need for any additional shear reinforcement.

Erection Anchors are available plain, or hot-dipped galvanized.



P-92-AH Fleet-Lift Erection Anchor (ton x length)	Product Code	Precast Concrete Panel Thickness	Shear Safe Working Load for Shear	Tension Safe Working Load Anchor Only	Tension Safe Working Load with Tension Bar	A	B	C	D
2-ton x 8-1/2" long	FL452	5" Min.	1,750 lbs.	2,650 lbs.	2,650 lbs.	2"	8-1/2"	3/8"	3-1/2"
2-ton x 8-1/2" long	FL452	6"	2,150 lbs.	3,850 lbs.	3,850 lbs.				
4-ton x 11" long	FL454	6" Min.	2,400 lbs.	5,200 lbs.	5,200 lbs.	2-1/2"	11"	5/8"	4"
4-ton x 11" long	FL454	8"	3,500 lbs.	6,200 lbs.	6,200 lbs.				
8-ton x 13-3/4" long	FL458	8" Min.	3,500 lbs.	7,500 lbs.	7,500 lbs.	3-3/4"	13-3/4"	3/4"	5-3/8"

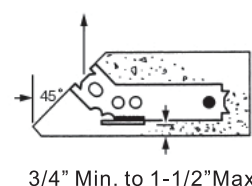


Plate-Lift L-Anchor

Plate-Lift L-Anchor is a very efficient anchor. This anchor is used for both stripping and erection carrying tension and/or shear loads (except for edge shear in thin panels). The L-Anchor produces exceptionally high pullout strength for its size, due to its foot design.

The L-Anchor can be placed on the face, back, or thicker panel edge allowing for backstripping and their rotation from horizontal to vertical.

The anchor is available in plain or hot-dipped galvanized finish. This anchor requires the use of the 2/5-ton range ring clutch and the 2/3-ton load range recess plug.

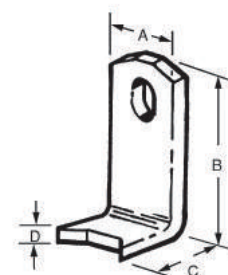


Plate-Lift L-Anchor (ton x length)	Product Code	Precast Concrete Panel Thickness	Minimum Edge or Corner Distance	Shear Safe Working Load	Tension Safe Working Load	A	B	C	D
1-ton x 4" long	FL050	5" Min.	12"	2,000 lbs.	2,000 lbs.	1-1/4"	4"	1-7/16"	3/16"

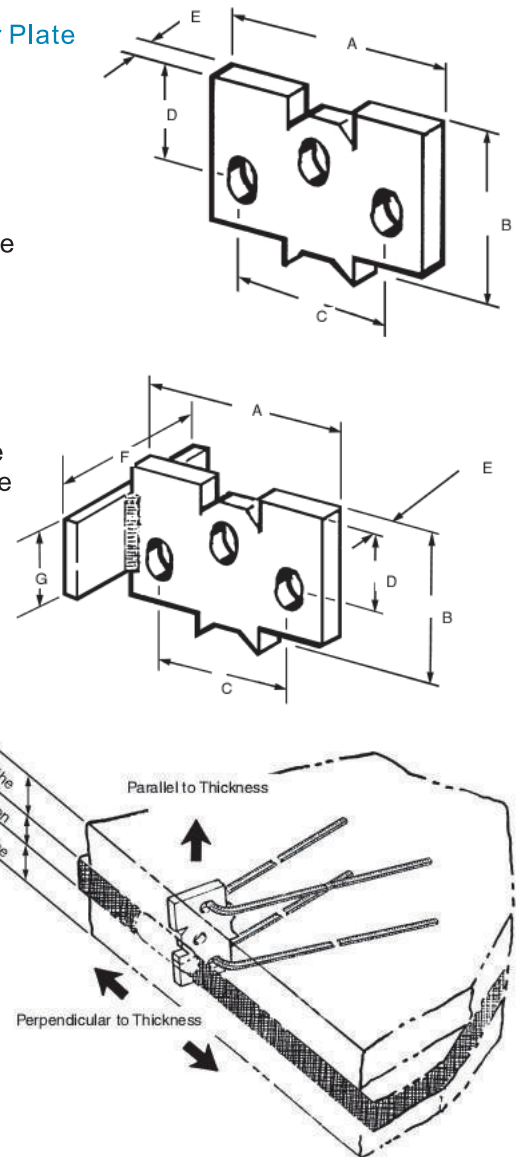
P-92-S Fleet-Lift Sandwich Panel Erection Anchor

P-92-SP Fleet-Lift Sandwich Panel Erection Anchor with Shear Plate

The Fleet-Lift Sandwich Panel Erection Anchor is designed to erect precast, insulated sandwich panels with a minimum loss of insulation. The anchor uses standard Fleet-Lift recess plugs and ring clutches.

The P-92-S Sandwich Panel Erection Anchor is designed for use in 2" x 2" x 2", 3" x 2" x 3" and 2" x 2" x 4" thick insulated sandwich panels. The design of the anchor allows it to distribute anchor loads evenly to both concrete wythes. This is accomplished by the use of two specially bent rebars per sandwich panel anchor. The sandwich panel erection anchor, with its unique anchor head shape, in combination with the two bent rebars, transfers both the anchor's shear and tension loads evenly into each of the concrete wythes. Place one bent rebar through the anchor's top hole and the second rebar through the anchor's bottom hole. The rebar extend from the anchor into the top and bottom wythe of concrete. The two specially bent rebar must be used with the sandwich panel erection anchor to achieve the safe working loads shown.

The P-92-SP Sandwich Panel Erection Anchor is similar in design and action to the P-92-S anchor, above, except it is smaller overall and has a built-in shear plate. The shear plate improves shear capacity when used in the 2" thick wythes. Both the P-92-S and P-92-SP anchors are available in plain or hot-dipped galvanized finish.

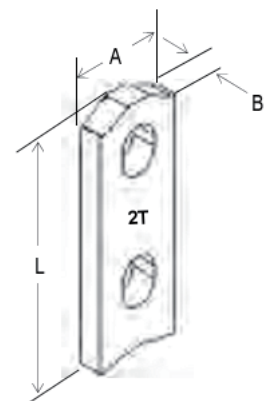


Anchor Tonnage	Product Code	Shear Plate	A	B	C	D	E	F	G
4-ton	FL077	No	6"	3-3/4"	4-3/8"	1-13/16"	5/8"	—	—
8-ton	FL184	No	6"	4-3/4"	4-3/8"	3-3/8"	3/4"	—	—
4-ton	FL230	Yes	6"	3-3/4"	4-3/8"	1-13/16"	5/8"	3"	5/8"
8-ton	FL284	Yes	6"	4-3/4"	4-3/8"	3-3/8"	3/4"	3"	5/8"

Two-Hole Anchor

- Used for stripping panels from tilt tables and tripping panels
- Also appropriate for high tension loads that cannot be held with other anchors or for panels constructed of lightweight concrete
- Safe working loads up to 10 tons
- Based on a 4:1 safety factor

ANCHOR TONNAGE	CLUTCH ID	LENGTH (L)	WIDTH (A)	THICKNESS (B)	SWL 4:1 SF TENSION	WEIGHT EACH
tons	#	in.	in.	in.	lb	lb
2T	2-2.5T	4	1-1/4	3/8	4,000	0.42
2.5T	2-2.5T	4	1-1/4	3/8	5,000	0.42
4T	4-5T	4	1-1/2	5/8	8,000	0.87
5T	4-5T	4	1-1/2	5/8	10,000	0.87
8T	8-10T	7	2-1/2	3/4	16,000	3.08
10T	8-10T	7	2-1/2	3/4	20,000	3.08



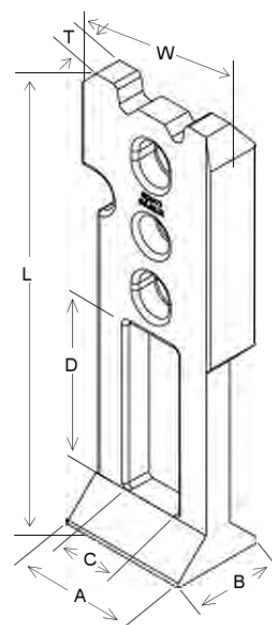
New Generation Forged Foot Erection Anchor

- Patented
- Ideal for horizontal to vertical edge lifts and the shear rotation of thin-walled units
- Specially designed head provides added protection against spalling
- Specially designed body allows for full reinforcement
- Available in 2.5T, 5T, 10T capacities
- Based on a 4:1 safety factor

Superior Design

Two steel protrusions or "ears" on the head of the anchor provide added protection against spalling. These ears hug either side of the ring clutch, restricting its rotation during lateral pulls. As a result, lateral forces are transmitted directly to the edges of the anchor instead of the concrete. The body of the Erection Anchor is shaped to allow full reinforcement for secure support and spall-free rotation.

ANCHOR TONNAGE	CLUTCH ID	WIDTH (W)	LENGTH (L)	THICKNESS (T)	AWEIGHT EACH	B	C	D	SAFE WORKING LOAD	WEIGHT EACH
tons	#	in.	in.	in.	in.	in.	in.	in.	lb	lb
2.5T	2-2.5T	2-5/16	6-1/8	3/8	2	1	1-1/4	1.835	5,000	1.45
5T	4-5T	3-1/2	9-1/2	5/8	2-1/2	2	1-1/4	3.974	10,000	4.15
10T	8-10T	4-1/2	12	3/4	3-1/2	2-1/2	1-5/8	4.610	20,000	8.75



Two-Hole Anchor

- Used for stripping panels from tilt tables and tripping panels
- Also appropriate for high tension loads that cannot be held with other anchors or for panels constructed of lightweight concrete
- Safe working loads up to 10 tons
- Based on a 4:1 safety factor

ANCHOR TONNAGE	CLUTCH ID	LENGTH (L)	WIDTH (A)	THICKNESS (B)	FOOT DIAMETER (C)	SWL TENSION
tons	#	in.	in.	in.	lb	lb
2.5T	2-2.5T	3-1/2	1-5/16	3/8	1-1/2	3,500
2.5T	2-2.5T	4	1-5/16	3/8	1-1/2	4,000
2.5T	2-2.5T	4-1/2	1-5/16	3/8	1-1/2	4,800
2.5T	2-2.5T	5-1/2	1-5/16	3/8	1-1/2	5,000
2.5T	2-2.5T	6-3/4	1-5/16	3/8	1-1/2	5,000
5T	4-5T	3-1/2	1-13/16	5/8	2-1/4	4,000
5T	4-5T	4-1/2	1-13/16	5/8	2-1/4	5,800
5T	4-5T	4-3/4	1-13/16	5/8	2-1/4	6,200
5T	4-5T	5-1/2	1-13/16	5/8	2-1/4	8,000
5T	4-5T	9-1/2	1-13/16	5/8	2-1/4	10,000
10T	8-10T	4-3/4	2-5/8	3/4	2-7/8	6,600
10T	8-10T	5-1/2	2-5/8	3/4	2-7/8	8,500
10T	8-10T	7	2-5/8	3/4	2-7/8	12,000
10T	8-10T	10	2-5/8	3/4	2-7/8	20,000

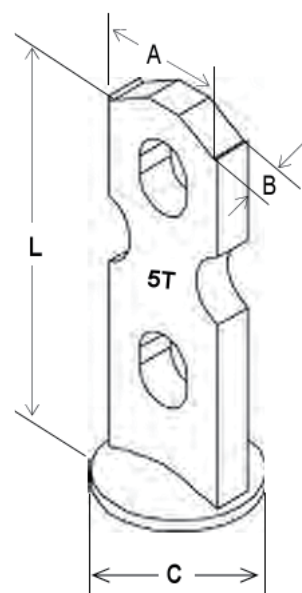
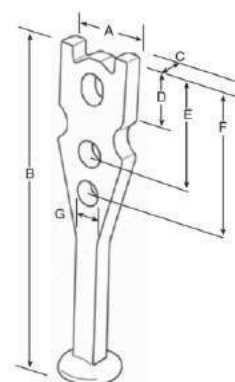


Plate Lift Forged Erection Anchor

Forged Erection Anchor is specifically designed to provide greater lifting capacities for horizontal to vertical edge lifts. The anchors are forged to provide 20% greater safe working loads. The head of the anchor is designed with two protrusions or "ears" on the head of the anchor which provide protection against concrete spalling. These protrusions restrict the ring clutch rotation during lateral pulls. As a result, lateral forces are transmitted directly to the edge of the anchor instead of the concrete. The Anchors are available in plain or hot-dipped galvanized finishes.

Product Code	A	B	C	D	E	F	G	Safe Working Load (Tons)
126748	2"	8"	3/8"	1-13/16"	2-3/8"	3-3/8"	5/8"	3
126749	2-1/2"	10-7/16"	5/8"	2-1/2"	3-3/16"	4-7/16"	3/4"	6
126747	3-3/4"	12-9/16"	3/4"	3-1/8"	4"	6-1/8"	1"	10



Cast Eye Nut and Bolts

Fabricated of ductile iron, the cast eye nut is threaded all the way through with coil thread and eliminates the need to inventory many different lengths of cast eye bolts. By using standard high strength coil rod cut to required length, any length bolt can be made to meet customer need.

Caution should be taken to ensure the coil rod is threaded fully into the eye nut and the large shoulder of the eye nut is tightened down firmly against the concrete.

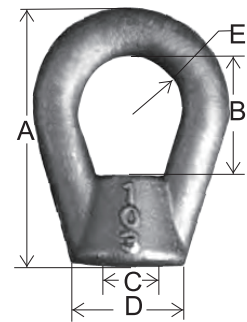
To make permanent length eye bolts, it is permissible to weld the coil rod to the casting.

CAUTION: Welding must be done with extreme care by only qualified personnel to ensure the elimination of excessive heat. Too much heat, particularly near the loops, can result in the embrittlement of the material and premature failure.

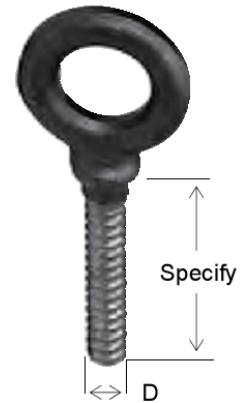
CAUTION: The eye nut is intended for straight tension loading only. This lifting eye is not to be used for any angular loading.

CAUTION: Use reduction factors when using under angle.

BOLT DIAMETER (D)	SWL TENSION	A	B	C	E	F
in.	lb	in.	in.	in.	in.	in.
1/2	2700	3-1/4	1-1/2	1	3/4	2
3/4	3600	3-1/2	2-1/4	1	3/4	2
1	7200	5	2-1/2	1-1/4	1	3
1-1/4	10600	6-1/4	3-1/2	1-1/2	1-1/4	4



Cast Eye Nut



Cast Eye Bolt

Recess former

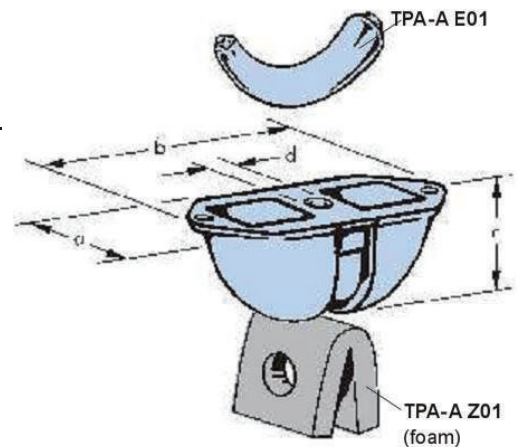
Recess former for permanent fixing to the mould. The head of the anchor is wrapped in the foam strip TPA-Z01 and secured in the recess former from outside by means of wedge TPA-E01. To demould, simply remove the wedge.

Plastic recess former TPA-A4 (incl. TPA-A E01)

Load group	Designation	a [mm]	b [mm]	c [mm]	d [mm]	Colour
2.5 t	TPA-A4 2.5	37	102	45	M 8	Orange
5.0 t	TPA-A4 5.0	48	126	59	M 8	Black
10.0 t	TPA-A4 10.0	70	184	84	M 12	Green
26.0 t	TPA-A4 26.0	112	252	118	M 16	Blue

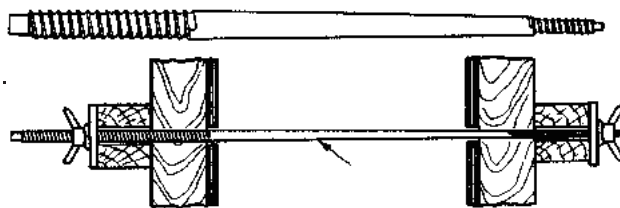
Steel recess former TPA-A5 (incl. TPA-A E01)

Load group	Designation	a [mm]	b [mm]	c [mm]	d [mm]
2.5 t	TPA-A5 2.5	37	102	45	M 8
5.0 t	TPA-A5 5.0	48	126	59	M 8
10.0 t	TPA-A5 10.0	70	184	84	M 12
26.0 t	TPA-A5 26.0	112	252	118	M 16



Taper Ties

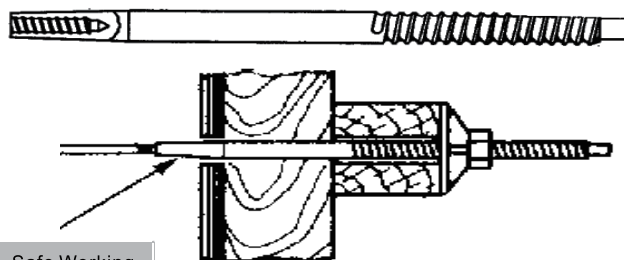
Taper ties are used where specifications permit complete removal of the form tie from the concrete. They are manufactured with either Acme or coil thread and with up to 75" of taper.



Safe Working Load Tension (lbs.)	Large End of Tie		Small end of Tie		Standard Tie Lengths	Tapered body Diameter
	Coil Thread Diameter	Length of Thread	Coil Thread Diameter	Length of Thread		
7,500	3/4"	10"	1/2"	2"	34" 43" 52"	.670" to .500"
18,000	1"	10"	3/4"	6"	30" 36" 42"	.884" to .750"
34,000	1-1/4"	10"	1"	6"	48" 54"	1.113" to 1.00"
50,000	1-1/2"	10"	1-1/4"	6"	60" 72"	1-1/2" to 1-1/4"
75,000 H.S.	1-3/4"	10"	1-1/2"	6"	36" 48" 60" 72"	1-3/4" to 1-1/2"

She-bolt

She-bolts are high strength units suitable for heavy concrete construction. Manufactured with Euro, Acme or Coil external threads, they provide a positive system for use with gang and steel forms. She-bolts are used in conjunction with inside tie rods.



Nom. Size	overall Length	D	L1	L2	Taper	Safe Working Load*
5/8"	18" or 24"	3/4"	7-3/4"	4"	1" to 7/8"	19,100
5/8"	18" or 24"	1-1/4"	7-3/4"	4"	1-1/4" to 1-1/8"	19,100
7/8"	18" or 24"	1-1/2"	7-3/4"	4"	1-1/2" to 1-3/8"	32,900

D/R Wing Nut

D/R Swivel Wing Nut

D/R Cast Nut Washer

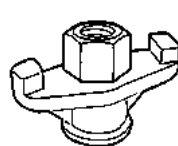
5/8" and 7/8" Wing Nut is a high strength malleable steel nut with 2-1/2 threads per inch for use with the D/R Thread Bar. For added versatility, the Swivel Wing Nut features a heavy duty, ribbed washer base, reducing the number of loose working parts required

5/8" 21,900 lbs. Safe Working Load

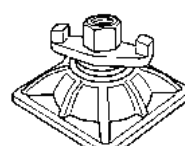
7/8" 39,200 lbs. Safe Working Load

5/8" 21,900 lbs. Safe Working Load

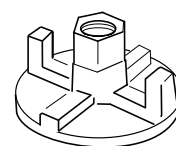
7/8" 39,200 lbs. Safe Working Load



D/R Wing Nut



D/R Swivel Wing Nut



D/R Cast Nut Washer



D/R Euro Thread Bar

The D/R Euro Thread Bar is a hot-rolled high strength steel with two flat sides in the thread pattern. This bar has been used in Europe on all types of projects for years. The flat sides provide self-cleaning and allow a gripping surface for turning the bar. Euro Thread Bar is available in both 15mm (5/8") and 20mm (7/8") diameters and is standard in 19'-8" lengths. Euro Thread Bar is bendable.



5/8" - 20,000 lbs.

7/8" - 32,000 lbs.

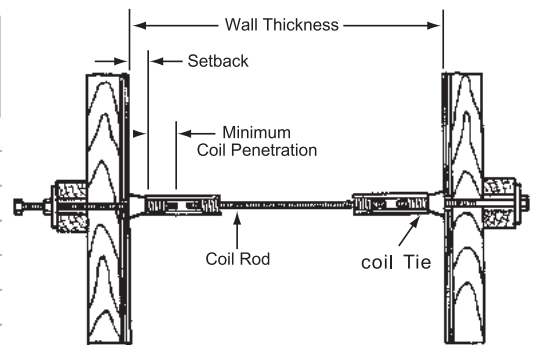
Maximum Safe Working Load

Coil Rod

Coil Rod is continuous coil threaded rod available in 1/2" to 1-1/4" diameters in 1/4" increments. Available in special cut-to-length sizes or in standard 12' length, coil rod is used with other coil tie products in many different combinations and applications



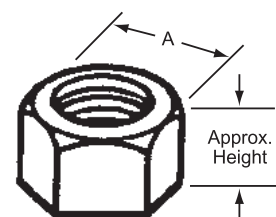
Coil rod Diameter	Safe Working Loads		Minimum root Area (sq. in.)	Tensile Stress (psi.)	yield Stress (psi.)	Minimum Coil Penetration
	Tension (lbs.)	Shear (lbs.)				
1/2"	9,000	6,000	0.1385	130,000	110,000	2"
5/8"	12,000	8,000	0.2124	113,000	96,000	2-1/4"
3/4"	18,000	12,000	0.3079	117,000	100,000	2-1/4"
7/8"	24,000	16,000	0.4477	117,000	100,000	2-1/2"
1"	38,000	25,300	0.541	140,000	120,000	2-1/2"
1-1/8"	45,000	30,000	0.7163	126,600	105,000	2-1/2"
1-1/4"	56,000	37,500	0.9161	123,000	105,000	2-1/2"
1-1/2"	68,000	45,300	1.3892	98,000	85,000	3"



Hex Coil Nuts

- Available in standard or heavy
- All made from standard hex stock
- Available in all diameters.
- The heavy coil nut twice the length of a standard coil nut

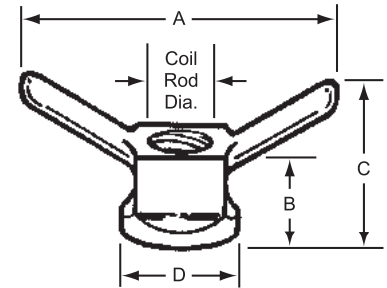
INSERT TYPE	BOLT SIZE	SAFE WORK LOAD (TENSION)		NUT LENGTH (L)	WIDTH ACROSS FLATS (W)	PART NUMBER
		ONE STANDARD	TWO STANDARD - ONE HEAVY			
	in.	lb	lb	in.	in.	#
Standard	1/2	1,800	3,600	1/2	7/8	12CN
	3/4	3,600	7,200	5/8	1-1/8	34CN
	1	7,200	15,000	1	1-5/8	1CN
	1-1/4	10,800	22,500	1-1/4	2	114CN
	1-1/2	16,200	27,000	1-1/2	2-3/8	112CN
Heavy	1/2	-	3,600	1	7/8	HHCN12
	3/4	-	7,200	1-1/2	1-1/8	HHCN34
	1	-	15,000	2	1-5/8	HHCN1
	1-1/4	-	22500	2-1/2	2	HHCN114



Wing Nut

The Wing Nut is made of ductile iron and can be used for any application requiring quick removal and application of a nut.

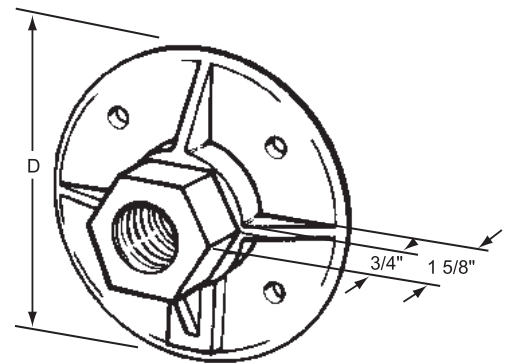
Coil rod Diameter	Safe Working Load Tension (lbs.)	A	B	C	D
1/2"	9,000	5"	1-1/4"	2-3/8"	1-3/8"
3/4"	18,000	5-7/8"	1-1/4"	2-1/2"	1-3/4"
7/8"	18,000	6"	1-5/8"	2-3/4"	1-3/4"
1"	38,000	6"	1-5/8"	3"	2"
1-1/4"	52,000	5-5/8"	1-5/8"	2-3/4"	2-1/4"
1-1/2"	80,000	6-3/4"	1-7/8"	2-3/4"	2-7/8"



Nut Washer

The Nut Washers combine the advantages of a washer and nut into a one-piece ductile iron unit. The nut washer is equipped with nailing holes to secure them to the formwork and are designed to spread the forming loads over the wood forming members. The Nut Washer has coil thread in the sizes displayed in the chart and can be used with all appropriate coil threaded devices. The Nut Washer is equipped with Acme thread and is normally used with the She-Bolt.

Type	Thread		Safe Working Load Tension (lbs.)	D
	Diameter	Type		
B-27	1/2"	Coil	4,500	4"
B-27	3/4"	Coil	9,000	4"
B-27	7/8"	Coil	12,000	5"
B-27	1"	Coil	18,000	5"
D-6	3/4"	Acme	9,000	4"

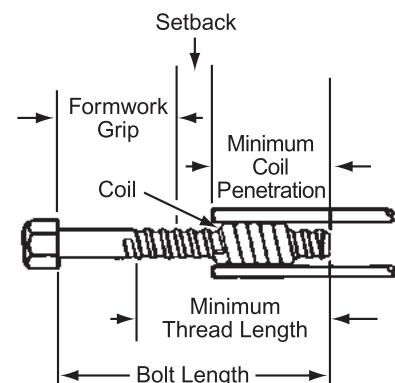


Coil Bolt

The Coil Bolts are designed for ease of use and durability. Coil bolts have fast acting, self-cleaning coil threads. Coil Bolts may be fabricated from ASTM blanks or from Coil Rod with welded Coil Nut heads.

Coil bolts are designed to be reusable, but they do wear and must be continuously inspected and replaced when wear or damage is noted. A waterproof grease should be applied to the portion of bolt that will be embedded in the concrete. This will facilitate bolt removal from the set concrete.

When determining the minimum required overall length of coil bolts, you must consider the following items:
 Formwork grip (including washer thickness).
 Setback of the form tie or insert.
 Minimum coil penetration (applies to all coil products).



Coil bolt Selection and Minimum Coil Penetration Chart

1/2" Dia.		3/4" Dia.		1" Dia.		1-1/4" Dia.		1-1/2" Dia					
Forged hex head		Forged hex head		Forged hex head		Forged hex head		Forged hex head					
Safe Work Load		Safe Work Load		Safe Work Load		Safe Work Load		Safe Work Load					
Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear	Tension	Shear				
Under 6" 4,125 lbs	Under 6" 2,750 lbs	9,000 lbs.	6,000 lbs.	18,000 lbs	12,000 lbs	27,000 lbs	18,000 lbs.	41,250 lbs.	27,500 lbs				
6" & Over 6,750 lbs.	6" & Over 4,500 lbs.												
Minimum Coil Penetration 2"		Minimum Coil Penetration 2-1/4"		Minimum Coil Penetration 2-1/2"		Minimum Coil Penetration 2-1/2"		Minimum Coil Penetration 3"					
Minimum root Area .1385 Sq. In.		Minimum root Area .3079 Sq. In.		Minimum root Area .5410 Sq. In.		Minimum root Area .9161 Sq. In.		Minimum root Area 1.3890 Sq. In.					
Threads per inch 6		Threads per inch 4-1/2		Threads per inch 3-1/2		Threads per inch 3-1/2		Threads per inch 3-1/2					
bolt Length	Minimum Thread Length	bolt Length	Minimum Thread Length	bolt Length	Minimum Thread Length	bolt Length	Minimum Thread Length	bolt Length	Minimum Thread Length				
3"	2-1/4"	3"	2-1/4"	3"	2"	3"	2"	—	—				
4"	3-1/4"	4"	3-1/4"	4"	3"	4"	3"	4"	3"				
5"	4-1/4"	5"	4-1/4"	5"	4"	5"	4"	5"	4"				
6"	5"	6"	5"	6"	5"	6"	5"	6"	5"				
Over 6"	5"	Over 6"	5"	Over 6"	5"	Over 6"	5"	Over 6"	5"				

SWL provides a factor of safety of approximately 2 to 1.

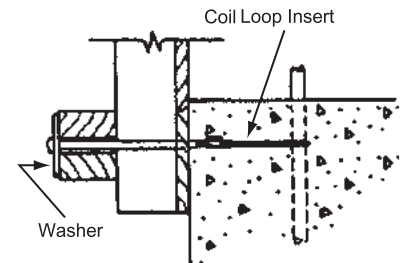
Coil Loop Insert Straight

The Coil Loop Insert Straight is made of a single looped wire strut welded to a helix coil. The inserts are available in 1/2", 3/4" and 1" nominal diameter standard or screw-on coil and in various standard lengths. This is also available in other than standard lengths and with a nailing washer face on special order.



bolt Diameter	Insert Length	Wire Strut Diameter	Safe Working Load Tension (lbs.)	Minimum Concrete Strength (psi)
1/2"	3"	0.223	4500	2000
1/2"	4"	0.223	4500	2000
1/2"	6"	0.306	7500	2000
3/4"	4"	0.223	4500	2000
3/4"	6"	0.306	7500	2000
1"	6"	0.306	7500	2000
1"	8"	0.306	7500	2000

SWL provides a factor of safety of approximately 2 to 1.

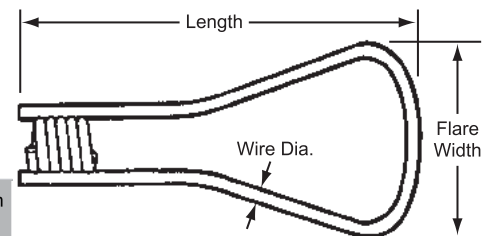


Single Flared Coil Insert

The Single Flared Coil Insert is made with the loop end flared for greater anchorage in the concrete. Standard lengths and sizes are shown in the chart. Special lengths and flare shapes can be special ordered.

bolt Dia. x Insert Length	Flare width	Wire Strut Diameter	Safe Working Load Tension (lbs.)	Minimum Concrete Strength (psi)	Minimum edge Distance
1/2" x 4" or 6" or 8"	3"	.223"	4,500	2,000	11"
3/4" x 6" or 9" or 12"	5-1/2"	.306"	7,500	2,000	13"
3/4" x 6" or 9" or 12"	5-1/2"	.375"	9,000	2,000	13"
3/4" x 9" or 12"	5-1/2"	.442"	13,500	2,000	13"
1" x 6" or 9" or 12"	5-1/2"	.375"	9,000	2,000	15"
1" x 9" or 12"	5-1/2"	.442"	15,000	2,000	15"
1-1/4" x 12"	5-1/2"	.375"	9,000	2,000	15"
1-1/4" x 12"	5-1/2"	.442"	15000	2000	15"
1-1/4" x 12"	5-1/2"	.442"	15000	2000	15"

SWL provides a factor of safety of approximately 2 to 1.

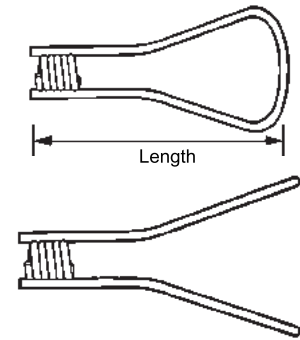


Double Flared Coil Loop Insert

The Double Flared Coil Loop Insert is made with two looped wire struts welded to a helix coil. The insert is suitable for heavy form anchorage in mass concrete construction. Standard length is 12" for 1", 1-1/4" and 1-1/2" diameter units. Standard 6" nominal flares are supplied unless special size or shaped flares are requested.

bolt Diameter x Insert Length	Flare width	Wire Strut Diameter	Safe Working Load Tension (lbs.)	Minimum Concrete Strength (psi)	Minimum edge Distance
1" x 12" Std.	5-3/4"	.375"	18,000	1,000	15"
1" x 12" Hvy.	5-3/4"	.442"	27,000	1,000	15"
1-1/4" x 12" Std.	6"	.375"	18,000	1,000	15"
1-1/4" x 12" Hvy.	6"	.442"	27,000	1,000	15"
1-1/2" x 12" Std.	6-1/4"	.375"	18,000	1,000	15"
1-1/2" x 12" Hvy.	6-1/4"	.442"	27,000	1,000	15"

SWL provides a factor of safety of approximately 2 to 1.



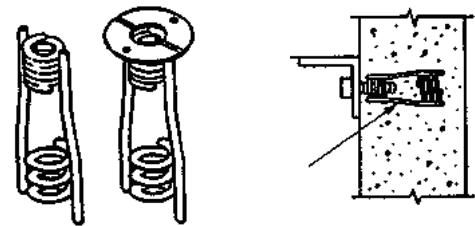
Machine Thread Coil Tie

The Machine Thread Coil Tie is fabricated by tapping one or both coils of a standard coil tie with machine thread. Available in 1/2", 3/4", 1" and 1-1/4" diameters and lengths as required.



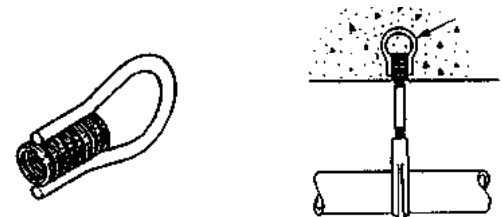
Expanded Coil Inserts

The Expanded Coil Inserts are coil or closed ferrule structural connection inserts available in two, four or six strut versions, in 1/2" through 1-1/2" diameters, with or without nailing washer.



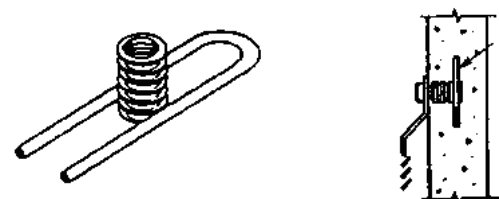
Loop Ferrule Insert

The Loop Ferrule Insert is a versatile insert suited for structural connections and suspension of equipment, ceilings, piping, etc. Available in 1/4" to 1" diameter closed ferrules in 1/8" increments.



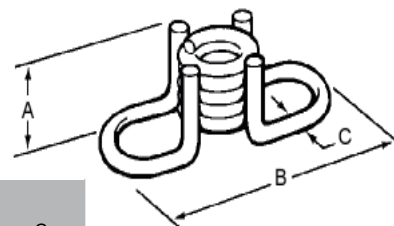
Thin Slab Ferrule Insert

The Thin Slab Ferrule Insert is used where the depth of embedment is limited. The F-44 is specially designed to develop good working loads in very thin concrete slabs. Available in 1/4" through 1" diameter, in 1/8" increments, closed ferrules.



Flared Thin Slab Coil Insert

Flared Thin Slab Coil Insert is designed for use in very thin slabs or other conditions where a longer insert cannot be used. Inserts should be set back 1/2" from the surface of the concrete, maintaining at least 3/4" of concrete below the insert. Minimum spacing between inserts is twice the minimum corner distance.

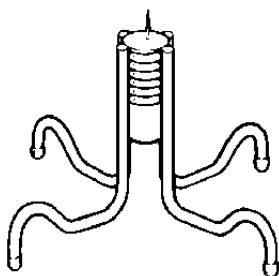


Bolt Diameter	Insert Height	Minimum Edge Distance	Minimum Corner Distance	Safe Working Load Tension	Safe Working Load Shear	A	B	C
1/2"	1-3/4"	6"	6"	1,520 lbs.	1,090 lbs.	1-3/4"	4-1/8"	0.223"
3/4"	2-5/16"	8"	8"	2,170 lbs.	1,640 lbs.	2-5/16"	4-7/8"	0.306"
3/4"	3-1/2"	9"	9"	3,570 lbs.	2,600 lbs.	3-1/2"	4-7/8"	0.306"
1"	2-5/16"	8"	8"	2,460 lbs.	1,970 lbs.	2-5/16"	5-1/4"	0.306"
1"	4-1/2"	12"	12"	5,280 lbs.	4,000 lbs.	4-1/2"	5-1/4"	0.306"

SWL provides a factor of safety of approximately 2 to 1.

Single Pickup Insert

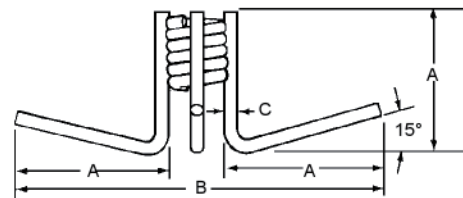
T-1 Single Pickup Inserts are available with plastic or stainless steel tips and with or without T-21 Insert Locator Plugs installed. T-1 inserts are designed for use with T-12 or T-26 Swivel Lifting Plates. Do not use T-1 inserts as an edge or end pick-up insert. Height of insert is 3/8" less than the panel's structural thickness. Standard panel thickness is shown in the chart and other panel thickness is available on special order. Minimum spacing between inserts is twice the minimum corner distance.



Bolt Diameter	Panel Thickness	Minimum Edge Distance	Minimum Corner Distance	Safe Working Load Tension	Safe Working Load Shear
3/4"	4"	9"	9"	2,360 lbs.	2,360 lbs.
	5"	11"	16"	3,540 lbs.	3,540 lbs.
	6"	12"	18"	4,880 lbs.	4,880 lbs.
	7"	14"	21"	6,350 lbs.	6,350 lbs.
	8"	16"	24"	7,950 lbs.	7,950 lbs.
1"	4"	10"	10"	2,450 lbs.	2,450 lbs.
	5"	12"	12"	3,650 lbs.	3,650 lbs.
	6"	13"	16"	5,000 lbs.	5,000 lbs.
	7"	14"	21"	6,480 lbs.	6,480 lbs.
	8"	16"	24"	8,080 lbs.	8,080 lbs.
1-1/4"	4"	10"	10"	2,540 lbs.	2,540 lbs.
	5"	12"	14"	3,750 lbs.	3,750 lbs.
	6"	14"	15"	5,110 lbs.	5,110 lbs.
	7"	15"	18"	6,610 lbs.	6,610 lbs.
	8"	15"	24"	8,200 lbs.	8,200 lbs.
1-1/2"	4"	12"	12"	2,640 lbs.	2,640 lbs.
	5"	14"	14"	3,860 lbs.	3,860 lbs.
	6"	14"	16"	5,230 lbs.	5,230 lbs.
	7"	15"	21"	6,740 lbs.	6,740 lbs.
	8"	16"	24"	8,200 lbs.	8,200 lbs.

Thin Slab Coil Insert

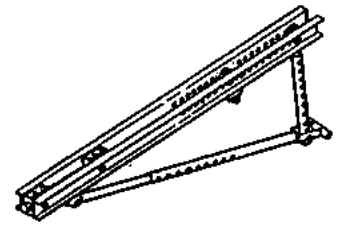
Thin Slab Coil Insert The Dayton Superior F-53 Thin Slab Coil Insert is designed for lifting thin precast concrete panels from the casting bed and for handling the panels until they are set into their final position. Inserts should be set back 1/2" from the surface of the concrete, maintaining at least 3/4" of concrete below the insert. Minimum spacing between inserts is twice the minimum corner distance. Available in insert heights up to 4".



Bolt Diameter	Insert Height	Minimum Edge Distance	Minimum Corner Distance	Safe Working Load	Safe Working Load	A	B	C
3/4"	3"	8"	12"	2,340 lbs.	2,340 lbs.	3"	7-1/8"	0.306"
1"	4"	10"	15"	3,520 lbs.	3,460 lbs.	4"	9-3/8"	0.306"
1-1/4"	4"	10"	15"	3,520 lbs.	3,460 lbs.	4"	9-5/8"	0.306"
1-1/2"	4"	10"	15"	3,520 lbs.	3,460 lbs.	4"	9-7/8"	0.306"

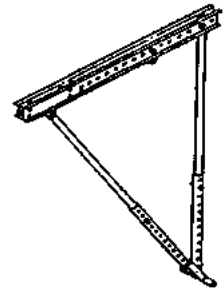
C-49 Bridge Overhang Bracket

Bridge Overhang Bracket supports bridge deck fascia formwork. It can be mounted to steel or concrete sirders using an appropriate hanging device. Standard brackets have approximately 3000lbs safe working load.



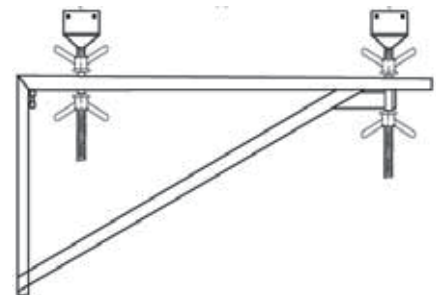
C-49-D Bridge Overhang Bracket for Deep Girders

C-49-D-Bridge Overhang Bracket for Deep Girders supports bridge deck fascia formwork. It has been designed to mount to deep steel or concrete girders, using an appropriate hanging device. Standard brackets have apporximately 4200lbs safe working load.

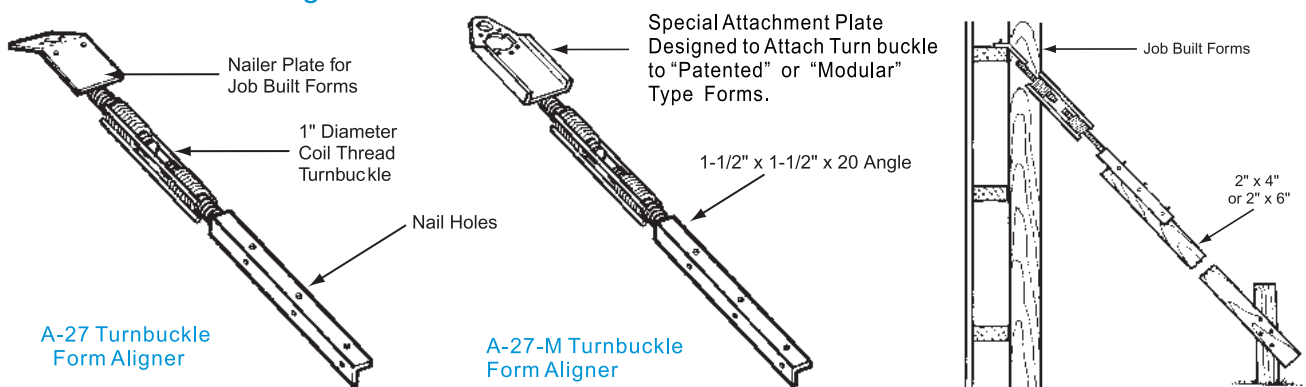


C-49-W Bridge Overhang Bracket

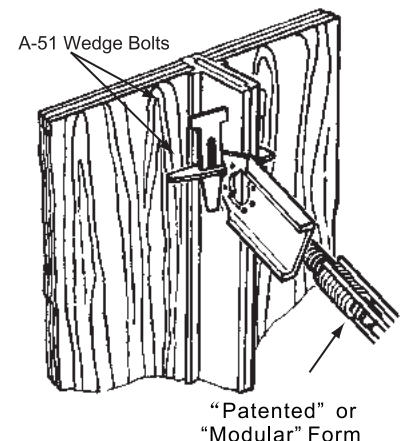
C-49-W Bracket aids in preventing web of beam from bending during construction of bridge deck. Constructed with all-steel support frame to improve stablity and resist movement. Meets ANSI Specification A 10.9, Sections 6.5.1, 6.6.1, 7.2.1 and ACI 347 Specification 2.4 Screw Jacks extend up to 6".



Turnbuckle Form Aligners

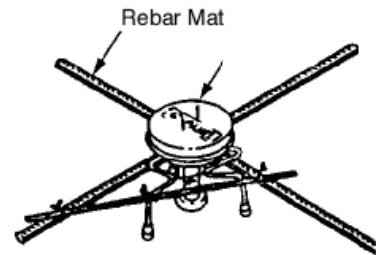
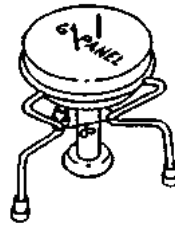


The A-27 and A-27-M Turnbuckle Form Aligners are designed to accurately position and plumb vertical forms. The turnbuckle section of the aligner features a 1" diameter self-cleaning coil thread for fast adjustments. Overall length of the aligner is 37" minimum and 40" maximum, offering 3" of effective adjustment. The A-27 aligner has bent nailing plate equipped with nail holes and a 15/16" hole to accept 3/4" or 7/8" steel stakes. The A-27-M aligner has a special attachment plate that allows direct attachment to modular type forms. Both models are rugged units that offer high reuse and labor savings. The safe working load of the aligners is limited by the lumber, nailing and/or staking methods.



22KP Plastic Assembly

The insert is complete with plastic void and plastic protected wire base. Available in sizes from 5-1/2" to 12". we can provide full sets together if necessary.



Panel

Modular Versatility

Our panels come in 36 different sizes and can be combined vertically or horizontally to create almost any dimension. Our is the only handset clamp system that does not have a Top or Bottom! Panel orientation is not an issue with this revolutionary handset clamp system! A full line of accessories and hardware makes configuring gangs and setting details quick and simple. A design so economical, that no additional hardware is required for transitioning from handset to crane set.

System Strength

Panels, clamps and ties are designed to withstand 1500 psf of concrete pressure! Our panels are the strongest handset panels available in the world! The system is manufactured with 70ksi steel frames. Frames and accessories are all hot dipped galvanized to ensure a long service life. The unique corner casting protects the panel frame from job site abuse. The form face is nine ply 1/2" birch plywood with a 220/220 plastic resin overlay on both sides to provide a high quality concrete finish and extended panel life.



Handset Capability

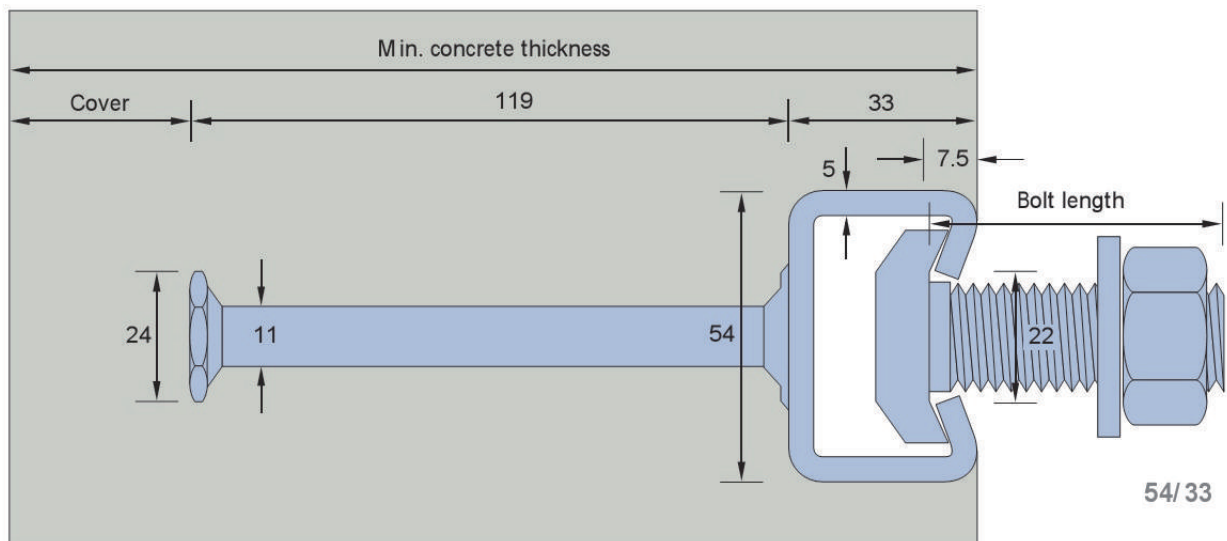
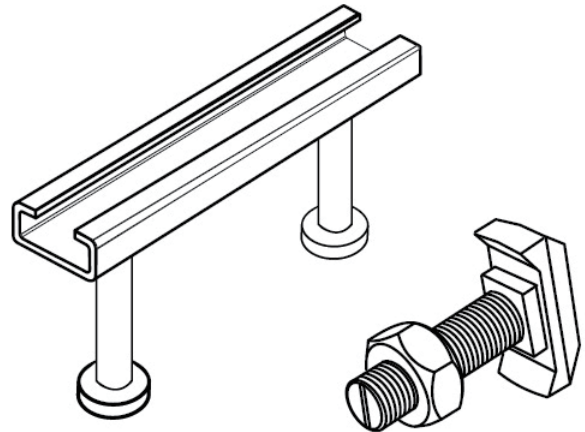
The system only weighs 6.8 lbs per square foot! The panels quickly clamp together to create the fastest setting handset system in the world! System transitions from a handset system to a gang form system instantly! No additional hardware is required to cycle formwork from placement to placement. The clamps eliminate the need for horizontal walers even when moving large gangs. The patented clamp only weighs 7 pounds and completely aligns the form with one hammer strike.

Channels are a range of rolled steel profiles designed to provide secure fixings into concrete. The channels are rectangular in section and bonded to the concrete by anchors. Each channel is complemented by matching T-head bolts.

The channels are fixed to the formwork prior to the casting to concrete. When the formwork is struck, each channel provides a slot, into which matching T-head bolts can be fixed in any position along the length.

Materials

The channels are available in carbon steel hot dip galvanised (hdg), pre-galvanised and stainless steel.



Standard stock short lengths(mm)	Anchor centres(mm)	No of anchors
100 (not all channel sizes)	60	2
150	100	2
200	150	2
250	200	2
300	250	2
350	150	3
400	175	3
550	250	3
800	250	4

Order code for cast-in channels

54/33	hdg	550	5
size	material	length	number of
(mm)	/finish	(mm)	anchors*

Note to Order Code

* Number of anchors need only be stated for standard special short lengths, as required to achieve the load data quoted in the table opposite.

Da101 Dovetail Anchors

- Function:** Designed to anchor masonry to concrete. Used with DA100 Dovetail Anchor Slot.
- Dimensions:** 16 gage(1.5mm), 14gage(1.9mm), 12gage(2.7mm) x 1inch (25mm) wide x 3-1/2inch (90mm), 4-1/2inch (113mm), 5-1/2inch (138mm), 6-1/2inch (163mm) lengths (length does not include dovetail). Dovetail measures 1inch (25mm) in length.
- Finishes:** Mill Galvanized; Hot Dip Galvanized; or Stainless Steel.
- Special Notes:**
- Other lengths and thickness available.
 - Other styles available with twists, bends, holes, splits, etc.
 - See Seismic Section for popular DA131 Dovetail Anchor which has been fully tested and can be substituted for DA101.



Da720 Series Dovetail Triangular Ties

- Function:** Designed to anchor masonry to concrete. Used with DA100 Dovetail Anchor Slot.
- Dimensions:** 12 gage (2.7mm) Dovetail Clip with 3/16 inch (5mm) wire tie x 3-1/2 inch (90mm), 4-1/2 inch (113mm), 5-1/2 inch (138mm), 6-1/2 inch (163mm), 7-1/2 inch (193mm) and 9-1/2 inch (243mm) lengths.
- Finishes:** Mill Galvanized; Hot Dip Galvanized; or Stainless Steel.
- Special Notes:** Can adapt for Seismic Zones see Seismic Section.



DA904 Continuous Channel Anchor Slot

- Function:** Designed to anchor masonry to concrete, block, brick or steel columns. Used with DA900 Series Channel Anchors.
- Dimensions:** 16 gage(1.5mm) or 11gage(3mm) x 8feet (2440mm) length x 1-3/4inch (43mm) wide. 12 usable slots measure 9/16 inch x 5-3/8 inches (14mm x 135mm).
- Finishes:** Mill Galvanized; Hot Dip Galvanized; or Stainless Steel.
- Special Notes:**
- Not recommended against sheathing over wood or metal stud.
 - Fender washer of appropriate size required when slots are used to accommodate drill-in fasteners to concrete, block or brick.
 - Power-driven fasteners not recommended.



Da918 Series Channel Anchor Triangular Ties

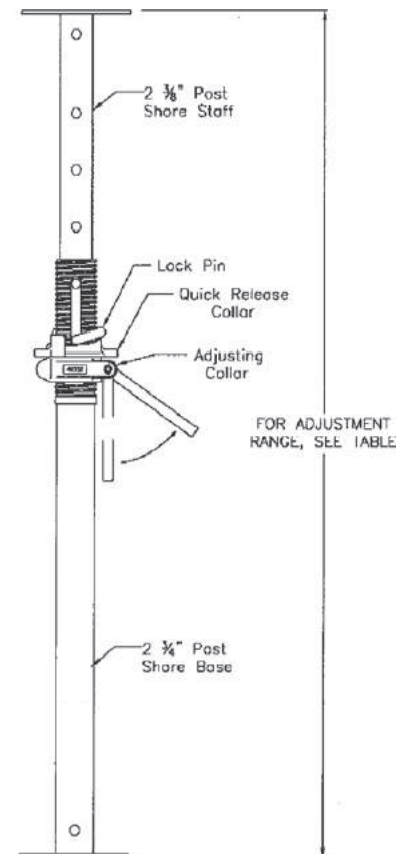
- Function:** Designed to anchor masonry to a structure. Used with DA901, DA902, DA903, or DA904 Channel Anchor Slots.
- Dimensions:** 12 gage(2.7mm) Channel Anchor Clip with 3/16 inch (5mm) wire tie x 3-1/2inch (90mm), 4-1/2inch (113mm), 5-1/2inch (138mm), 6-1/2inch (163mm), 7-1/2inch (193mm) and 9-1/2inch (243mm) lengths.
- Finishes:** Mill Galvanized; Hot Dip Galvanized; or Stainless Steel.
- Special Notes:** Can adapt for Seismic Zones see Seismic Section.



Heavy Duty Post shores

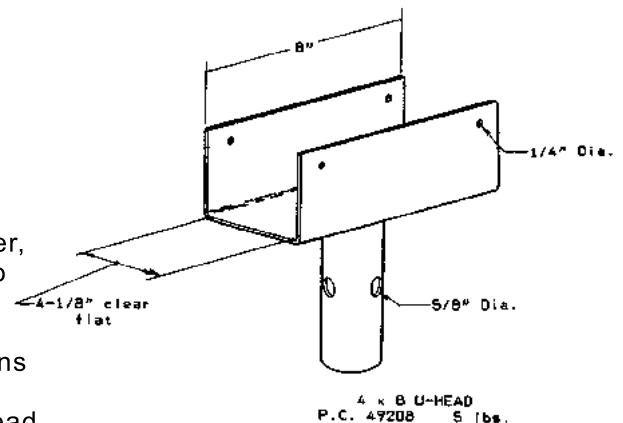
Heavy Duty Post Shores are available in three models providing adjustable shoring heights from 5'-7" to 16'. The Post Shores carry safe load ratings of up to 10,000 lbs. Despite their high load rating, they are still light enough to be carried by one person. A Post Shore is composed of a base post with threaded collar, and staff member which fits into the base post. Post Shores have a unique locking pin that, under normal use conditions, can't be broken or lost. For approximate height adjustment, a locking pin is inserted into one of the holes spaced at 4" intervals along the staff length. A safety pin secures the locking pin and eliminates accidental slippage of the base and staff. After the Post Shore has been set in position, a threaded collar with handle permits fine height adjustments over a 6" range. The Quick Release Collar (QRC), located immediately above the threaded collar, is used for stripping. A hammer blow to the QRC allows the staff to drop approximately $\frac{3}{4}$ " and then the threaded collar assembly to be turned down easily.

	Post shore #1	Post shore #2	Post shore #3
Range	5'7" to 9'6"	7'3" to 12'10"	8'10" to 16'0"
Weight	49 lbs.	59 lbs.	74 lbs.
Height	Load Rating (lbs.)		
8'	10,000	10,000	--
9'	10,000	10,000	10,000
10'	--	10,000	10,000
11'	--	10,000	10,000
12'	--	8,800	10,000
13'	--	--	8,850
14'	--	--	7,200
15'	--	--	5,500
16'	--	--	3,900



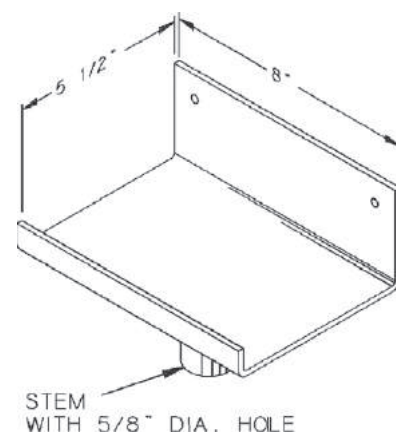
4"x8" U-Head

To support W8x10 steel stringer, Aluminum Joist stringer, or 4" lumber stringer, the 4" x 8" U-Head is inserted into the Post Shore staff through the end plate hole and secured by the $\frac{1}{2}$ " dia. attachment pin and hairpin clip. Nail holes on side of U-Head provide a convenient means of securing lumber stringers. The Steel Beam Clamp should be used to secure the steel stringers to the U-Head.



5"x8" J-Head

The 5"x8" J-Head is used at the top of the Heavy Duty Post Shore to support a Aluminum Beam stringer. The J-Head must be pinned to the top of the Post Shore using the $\frac{1}{2}$ " diameter attachment and hairpin clip. A Steel Beam Clamp or Aluminum Attachment Clip Assembly should be used to secure the Aluminum Beam to the J-Head. Do not use this product in a Frame Fast Shoring Frame.



Post shore

Post shores are designed to support vertical loads. All formwork or supported structures must be restrained from lateral movement.

- The Post Shore 350 DB and AS 550 offer you a simple, cost-effective way to shore or reshore.
- Shores can be used individually or in conjunction with frame shoring assemblies.
- U-Head provides a saddle to support the stringer or joists.
- Attached quick-release device saves time and energy during stripping.
- Hot-dipped galvanized finish prevents rust and extends life.
- All adjusting hardware is self-contained. No lost or missing parts.
- Both post shores may be used upside down.

Post Shore 350 DB

Part No.	Height	Weight
VFTP552147	6'6" - 11'6"	46.5 lbs.

DB 350 Load Capacities*

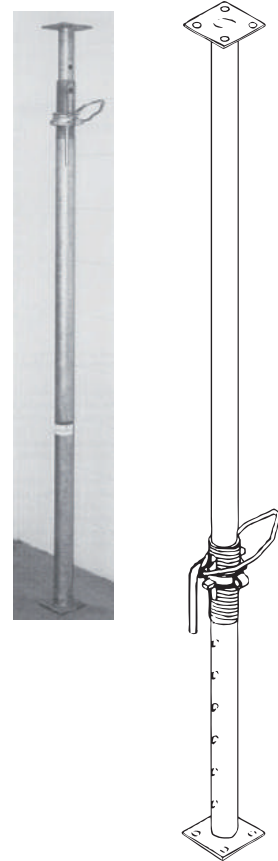
Height (ft.)	6'6"	7'0"	7'6"	8'0"	8'6"	9'0"	9'6"	10'0"	10'6"	11'0"	11'6"
Load (lbs.)	6445	6445	6445	6445	6445	6445	6445	5600	5170	4400	3860

Post Shore AS 550

Part No.	Height	Weight
VFTP463087	10' - 18'	74.2 lbs.

AS 550 Load Capacities*

Height (ft.)	10'0"	10'6"	11'0"	11'6"	12'0"	12'6"	13'0"	13'6"	14'0"	14'6"	15'0"
Load (lbs.)	9367	8800	8176	7475	6903	6353	5815	5316	4880	4490	4160
Height (ft.)	15'6"	16'0"	16'6"	17'0"	17'5"	18'0"					
Load (lbs.)	3859	3575	3340	3133	2924	2732					

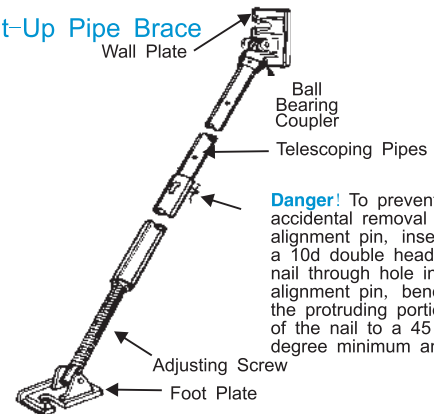


Pipe Wall Brace

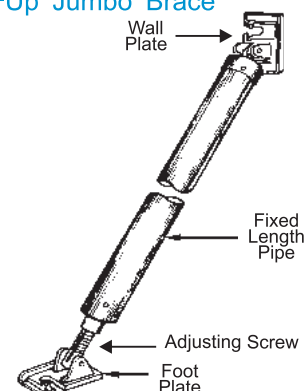
The Tilt-Up Wall Braces are all steel, heavy duty wall braces designed to quickly and easily align and brace tilt-up wall panels. Rough adjustment of the braces is easily accomplished by telescoping the pipes to the nearest incremental hole. Final adjustment is then achieved by simply turning the brace. The wall braces are available in numerous sizes to provide a continuous range of tilt-up panel heights of fifty feet or more. Refer to the chart below for additional information.

Type	Description	Minimum and Maximum Brace Length
B-1	On-Site Pipe Brace	7'-6" to 8'-10"
B-2	Regular Pipe Brace	13'-6" to 20'-6"
B-4	Heavy Duty Regular Pipe Brace	14'-6" to 23'-6"
B-5	Heavy Duty Long Pipe Brace	22'-6" to 39'-0"
B-6	Shore Pipe Brace	10'-0" to 14'-0"
B-7	Shore Jumbo Brace	17'-0" Fixed Length
B-8	Jumbo Brace	22'-0" Fixed Length
B-9	Jumbo Brace with 5'-0" Extension	27'-0" Fixed Length
B-10	Jumbo Brace with 10'-0" Extension	32'-0" Fixed Length
B-11	Tru-Itt Brace	25'-6" to 40'-0"
B-12	Jumbo 5-1/2"	32'-0" Fixed Length
B-14	B-12 Jumbo Brace, 10'-0" Extension	42'-0" Fixed Length
B-15	B-12 Jumbo Brace, 20'-0" Extension	52'-0" Fixed Length
B-16	B-12 Jumbo Brace, 5'-0" Extension	37'-0" Fixed Length

Tilt-Up Pipe Brace

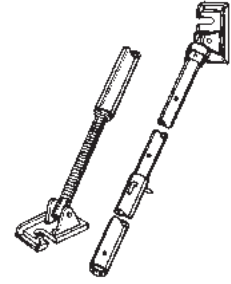


Tilt-Up Jumbo Brace



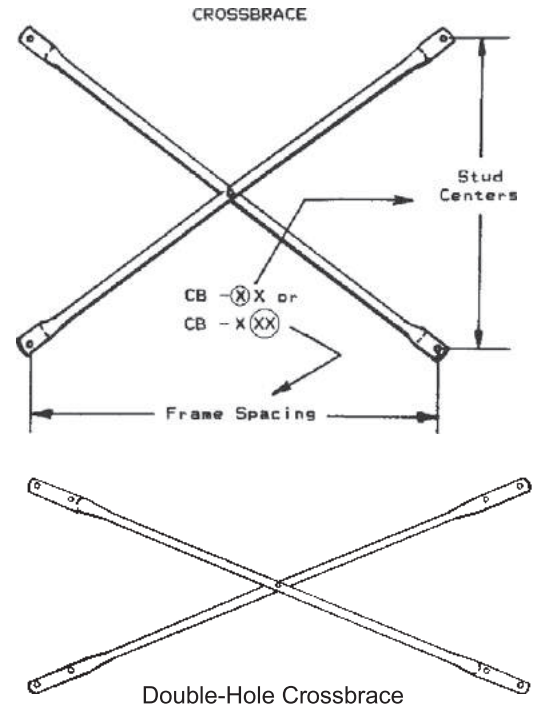
Pipe Brace Extensions

The Pipe Brace Extensions are available for the B-8 and B-12 pipe brace models. The T-15 extension for the B-12 model extends the brace ten feet. Extensions for the B-8 brace are available in five feet and ten feet lengths.



Cross Brace (X - Brace)

Cross braces are used to connect frames together to make a tower, and give it stability. They provide many different frame spacings from 3' to 12'. They are manufactured from steel angle or from 1" OD tubular steel up to 10' spacing and 1¼" OD for 12' spacing. The ends of braces are flattened and have a 9/16" hole to connect to the frames. The crossbraces are inserted onto the stud of the frame and locked by the locking device. Crossbraces are designed for use with 24", 36" or 48" stud center spacings. For example, while a CB48 cross brace gives an 8' frame spacing on 6' and 5' high frames, it will give an 8'-8 5/8" frame spacing on 3' high frames. Double Hole Crossbraces may be used with 36" or 48" stud spacings. The outer holes are used for the 48" stud center, and the inner holes are used for the 36" center frames.



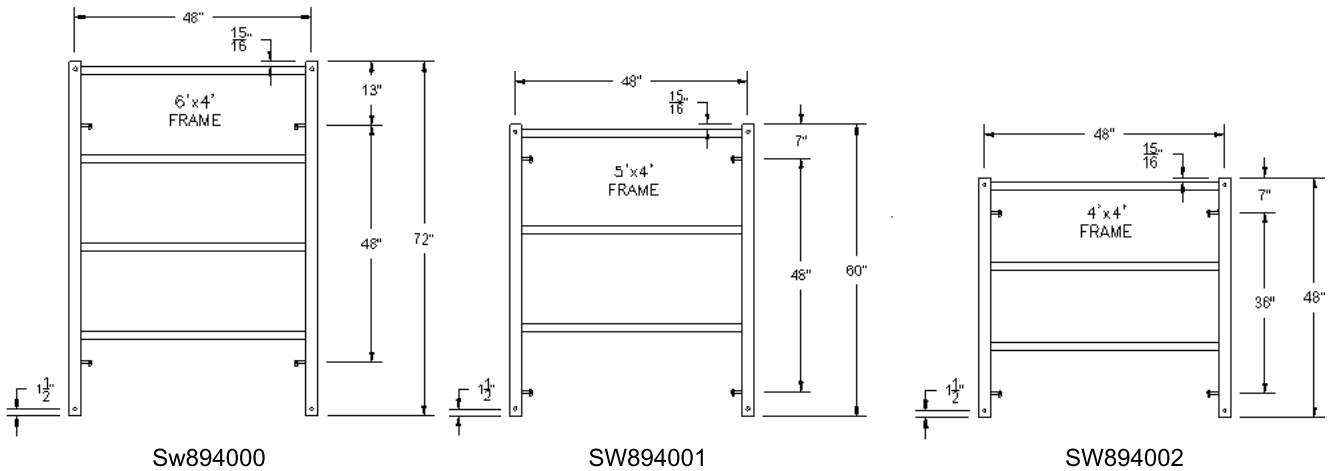
Single-Hole Crossbraces 24" Stud Centers	Product Code	Wt. (lbs)	Single-Hole Crossbraces 48" Stud Centers (no new rental adds)	Product Code	Wt. (lbs)
CB 23 3' Frame Spacing	49255	5.5	CB 43 3' Frame Spacing	49256	8
CB 24 4' Frame Spacing	49035	7	CB 44 4' Frame Spacing	49037	9
CB 25 5' Frame Spacing	49038	8	CB 45 5' Frame Spacing	49040	9
CB 26 6' Frame Spacing	49068	10	CB 46 6' Frame Spacing	49041	11
CB 27 7' Frame Spacing	49031	11	CB 47 7' Frame Spacing	49033	12
CB 28 8' Frame Spacing	49027	14	CB 48 8' Frame Spacing	49094	15
CB 210 10' Frame Spacing	49042	17	CB 410 10' Frame Spacing	49096	17
CB 212 12' Frame Spacing	48875	26.5	CB 412 12' Frame Spacing	49297	28
CB 215 15' Frame Spacing	48876	33.5	CB 415 15' Frame Spacing	49296	35
Single-Hole Crossbraces 36" Stud Centers	Product Code	Wt. (lbs)	Double-Hole Crossbraces 36" and 48" Stud Ctrs	Product Code	Wt. (lbs)
CB 33 3' Frame Spacing	SW894076	5.5	DHCB — 3,4' x 4' — 4' Frame Spacing	SW894013	9.4
CB 35 5' Frame Spacing	SW894077	8	DHCB — 3,4' x 5' — 5' Frame Spacing	SW894012	10.6
CB 36 6' Frame Spacing	SW894078	10	DHCB — 3,4' x 6' — 6' Frame Spacing	SW894011	11.3
CB 37 7' Frame Spacing	SW894079	11	DHCB — 3,4' x 7' — 7' Frame Spacing	SW894010	13.2
CB 38 8' Frame Spacing	SW894080	14	DHCB — 3,4' x 8' — 8' Frame Spacing	SW894009	14.6
			DHCB — 3,4' x 10' — 10' Frame Spacing	SW894008	17.4

FrameFast shoring Frames

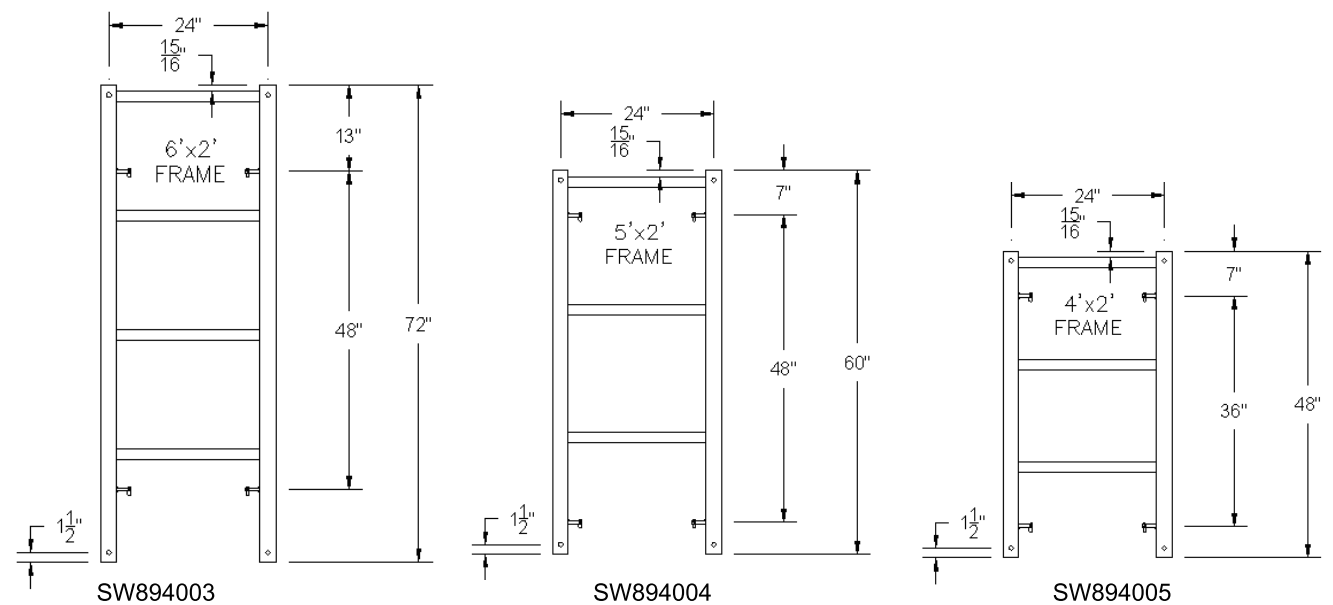
FrameFast Shoring Frames are rated for 12,000 lbs. safe load per leg, up to two tiers high. Of course this load will be increased or decreased depending on the actual number of tiers used and total extension of the jacks. Refer to layout drawings for maximum shore leg capacities. This frame can be adapted to virtually any shoring condition, through the use of other accessories. The 2' and 4' wide frames have the same load capacity.

SW shoring Frames There are 6 standard sizes of frames available as shown in Fig. 14. Holes at each end of SW legs are $\frac{11}{16}$ " diameter. Crossbrace studs are located either 7" or 13" from the top of the frame legs.

4' Wide SW Frame

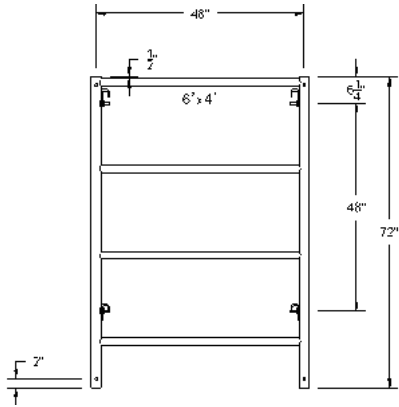


2' Wide SW Frame

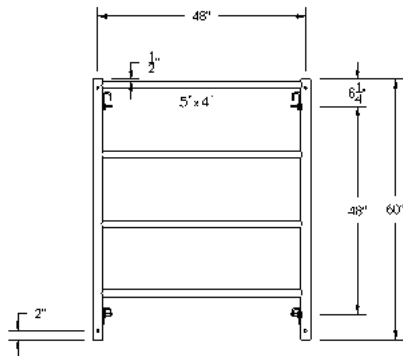


FF shoring Frames — There are eight standard sizes of frames available as shown in Older FF frames may have diagonal structural tubes supporting the top ledger on 3' and 4' high frames, and the top and bottom ledgers of 5' and 6' high frames. Holes at each end of the FF legs are 5/8" diameter. Cross-brace studs are located 6 1/4" from the top of the frame legs.

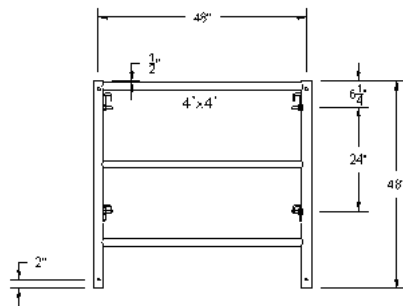
4' Wide FF Frames



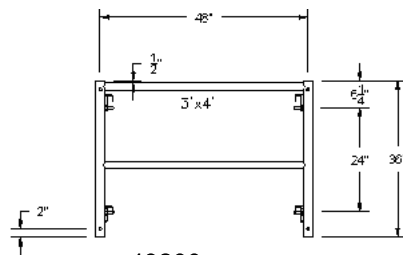
49203



49202

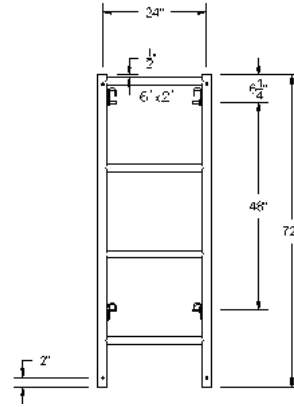


49201

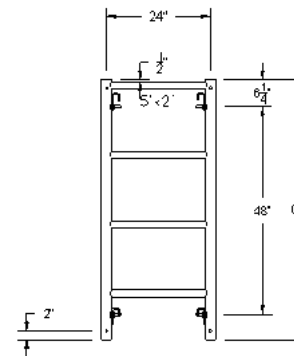


49200

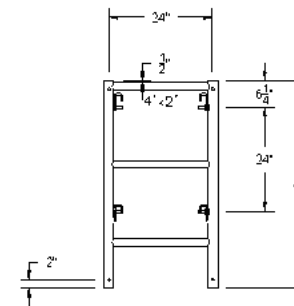
2' Wide FF Frames



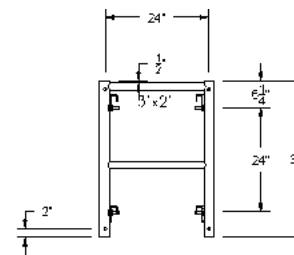
48886



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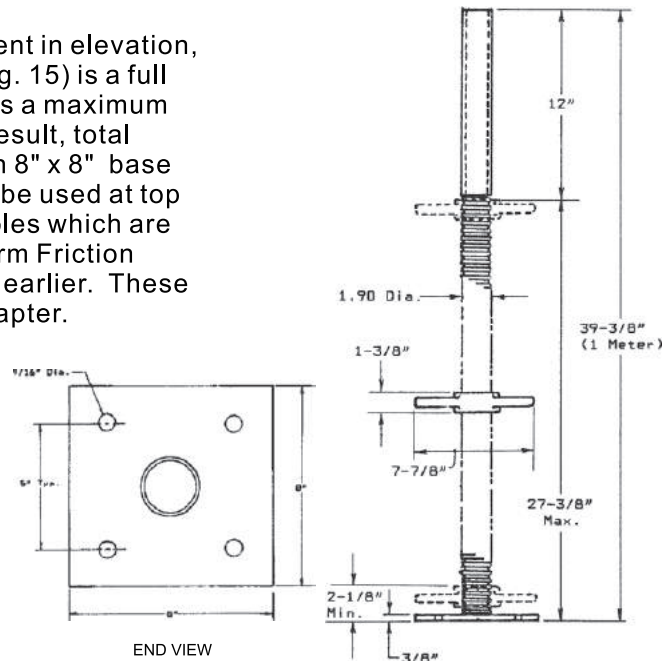
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48883

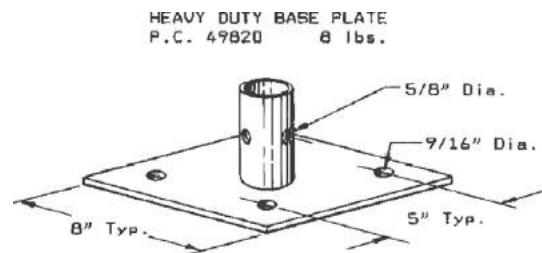
Meter screw Jack

The screw jacks are used for leveling, fine adjustment in elevation, and stripping clearance. The Meter Screw Jack (Fig. 15) is a full meter (39-3/8") in length with 1.9" OD, and provides a maximum extension of 27-3/8", longest in the industry. As a result, total adjustment range is 25 1/4", from 2-1/8" to 27-3/8". An 8" x 8" base plate is welded to the jack as a unit, so the jack can be used at top of the shore leg or at bottom. The plate has four holes which are used to clamp the W8x10 stringer using the Versiform Friction Clamp, or Aluminum Attachment Clip, as described earlier. These holes are also used to attach the 8" x 8" U-Head Adapter.



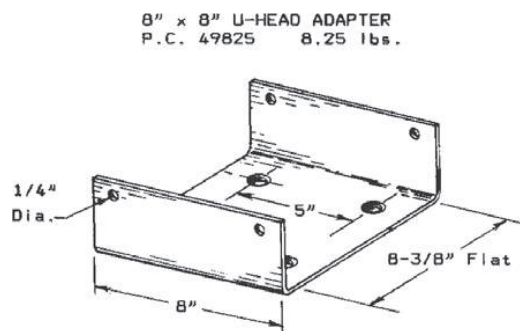
Heavy Duty Base Plate

The Heavy Duty Base Plate has a 8" x 8" x 3/8" dimension and distributes leg load, providing a firm footing for the shoring tower. Some applications may require its use at the top of a tower, in which case, the 8" x 8" U-Head Adapter may be bolted to it, since it has the same pattern of holes.



8"x8" U-Head Adapter

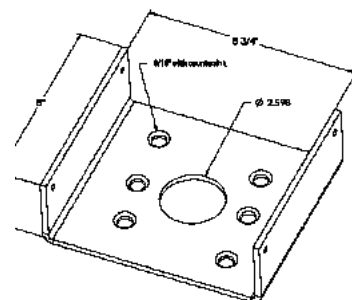
The U-Head Adapter or Aluminum Joist stringer are used with the Meter Screw Jack when the W8x10 stringers are lapped side by side at the shore head. Like the Meter Screw Jack, the adapter has four holes and is attached using two (2) flathead machine screws in diagonal holes. The Steel Beam Clamp secures the stringer to the U-Head.



note: When lapping W8x10 steel stringers, a machine screw and nut must be placed in each of the four holes and wrench tightened.

8"x8" 7-Hole U-Head

The 7-Hole U-Head performs the same functions as the 8" x 8" U-Head Adapter, but it can also be used with Symons ShorFast system.

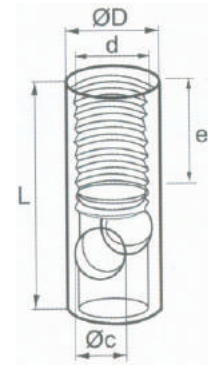


Lifting Socket

The lifting socket are widely used in the application of precast concrete construction, such as lifting beam, wall and floor slab etc.. A reinforcement bar must be inserted through the cross hole to ensure the proper transmission of the load from the socket into the concrete.

Dimensions & Safe Working Loads at Concrete strength of 25N/mm^2

Description	Ref. No.	SWL(kg)	d	D	L	c	e
Rd12	10101	500	Rd12x1.75	15	40	8	22
Rd14	10104	800	Rd14x2.0	18	47	10.5	25
Rd16	10107	1200	Rd16x2.0	21	55	13	27
Rd18	10110	1600	Rd18x2.5	24	65	13	34
Rd20	10113	2000	Rd20x2.5	27.2	69	15.5	35
Rd24	10116	2500	Rd24x3.0	31	78	18	43
Rd30	10119	4000	Rd30x3.5	39.5	105	22.5	56
Rd36	10122	6300	Rd36x4.0	47	125	27.2	68
Rd42	10125	8000	Rd42x4.5	54	145	32	80
Rd52	10128	12500	Rd52x5.0	67.2	195	40	97

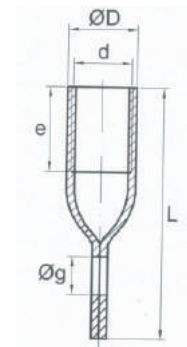


Lifting Insert

The Lifting Insert is a M threaded thick-wall insert for the lifting purpose. It can be used for the transport of beams, panels and slabs etc. A rebar must be passed through the cross hole to transfer the load into the concrete.

Dimensions & Safe Working Loads at Concrete strength of 25N/mm^2

Description	Ref. No.	SWL(kg)	d	D	L	e	g
M10x50	10701	350	M10	13.5	50	20	10.3
M12x60	10705	500	M12	15	60	22	10.3
M16x80	10709	1200	M16	21	80	27	13.3
M20x100	10713	2000	M20	27.5	100	35	15.3
M24x110	10717	2500	M24	31	110	43	17.3
M30x155	10724	4000	M30	39.5	155	56	19.5

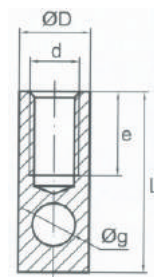


Solid Rod Socket

Heavy Duty Lifting/Fixing sockets for high tensile and shear loads. Widely use in the application of precast concrete construction, such as lifting beams, wall and floor slabs etc.. A Reinforcement bar is to be inserted through the cross hole to transfer the load into the concrete.

Dimensions & Safe Working Loads at Concrete strength of 25N/mm^2

Description	Ref. No.	SWL(kg)	d	D	L	e	g
M10x42	10901	600	M10	16	9	22	42
M12x50	10904	900	M12	18	11	20	50
M12x75	10907	900	M12	18	11	40	75
M16x75	10710	1700	M16	23	14	40	75
M20x75	10913	2300	M20	28	16	35	75
M24x100	10916	3000	M24	32	18	35	100

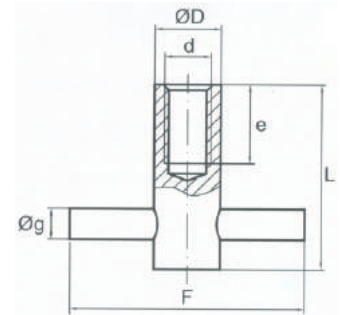


Solid Rod Socket w/t Cross Bar

Heavy Duty Lifting/Fixing sockets for high tensile and shear loads. Widely use in the application of precast concrete construction, such as lifting beams, wall and floor slabs etc.. Cross bar factory fitted.

Dimensions & Safe Working Loads at Concrete strength of 25N/mm^2

Description	Ref. No.	SWL(kg)	d	D	L	e	g
M10x42	11001	600	M10	16	9	22	42
M12x50	11004	900	M12	18	11	20	50
M12x75	11004	900	M12	18	11	40	75
M16x75	11010	1700	M16	23	14	40	75
M20x75	11013	2300	M20	28	16	35	75
M24x100	11016	3000	M24	32	18	35	100

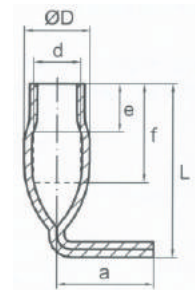


Fixing Insert w/t Bended End

Fixing Insert w/t bended end are used for the fixing of light weight precast-concrete units. Easy to use cause no reinforcement bar required.

Dimensions & Safe Working Loads at Concrete strength of 25N/mm^2

Description	Ref. No.	SWL(kg)	d	D	L	f	e	a
M8X30X20	12201	180	M8	11	30	16	8	20
M10X35X21	12205	240	M10	13	35	16	10	21
M12X45X25	12209	400	M12	16	45	23	12	25
M16X60X30	12213	950	M16	22	60	28	15	30
M20X70X30	12217	1250	M20	27	70	25	18	30
M24X80X37	12221	1450	M24	32	80	25	21	37

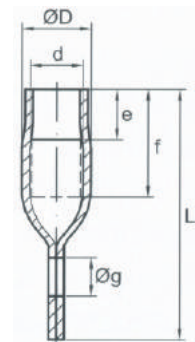


Fixing Insert

Fixing Inserts are used for the fixing of light weight precast-concrete unites. A reinforcement tail must be used for the transmission of the load into the concrete. The fixing inserts are not supposed to be used for lifting in any cases.

Dimensions & Safe Working Loads at Concrete strength of 25N/mm^2

Description	Ref. No.	SWL(kg)	d	D	L	f	e	g
M8X40	12101	200	M8	11	40	15	8	8.2
M8X50	12105	250	M8	11	50	20	8	8.2
M10X50	12109	350	M10	13	50	20	10	9.2
M10X60	12113	450	M10	13	60	25	10	9.2
M12X60	12117	500	M12	16	60	25	12	10.2
M12X70	12121	600	M12	16	70	30	12	10.2
M14X70	12125	700	M14	19	70	25	14	12.2
M14X80	12129	700	M14	19	80	30	14	12.2
M16X70	12133	700	M16	22	70	25	16	12.2
M16X80	12137	800	M16	22	80	25	16	12.2
M16X100	12141	1000	M16	22	100	30	16	12.2
M20X100	12145	1250	M20	27	100	40	20	14.2
M20X120	12149	1250	M20	27	120	40	20	14.2
M24X120	12153	1700	M24	32	120	50	24	14.2
M27X135	12157	2200	M27	36	135	60	27	17.2
M30X150	12161	2600	M30	42	150	70	30	17.2

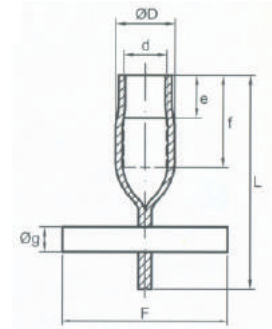


Fixing Insert w/t Cross Bar

Fixing Insert w/t Cross Bar transfers the forces into the concrete directly with the cross pin instead of additional reinforced bar.

Dimensions & Safe Working Loads at Concrete strength of 25N/mm²

Description	Ref. No.	SWL(kg)	d	D	L	f	e	g	F
M8X50	12301	250	M8	11	50	20	8	8	50
M10X60	12304	450	M10	13	60	25	10	10	70
M12X60	12307	500	M12	16	60	25	12	12	70
M14X80	12310	700	M14	19	80	30	14	12	70
M16X100	12313	1000	M16	22	100	30	16	12	100
M20X100	12316	1250	M20	27	100	40	20	14	120
M24X120	12319	1700	M24	32	120	50	24	14	150



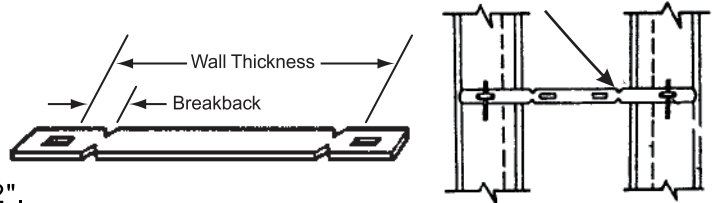
Omni Wedge

Omni wedge, is a high strength snap tie wedge designed to slip over the head of standard or heavy duty snap ties to provide ample bearing area for proper load distribution in to the wales.



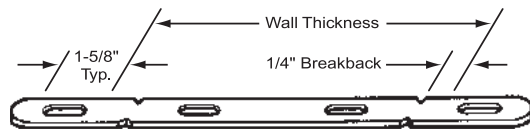
A21F Flat Tie

A-21-F Flat Tie is used to tie steel frame form panels together. A-21-K Tie Keys are inserted through adjoining panels and the tie key slot. A-21-C Panel Clamps are required at each tie location to prevent lateral form movement. A-21-F Flat Ties are available from 6" through 24" in 1/2" increments. Standard breakback is 1/2".



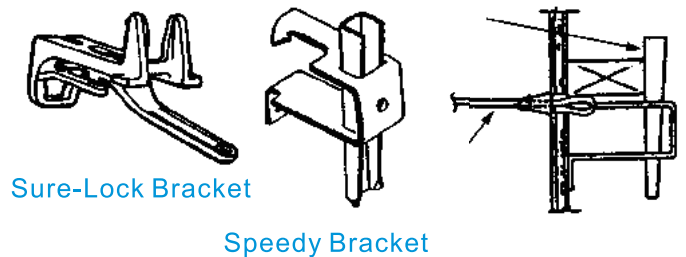
A21X Flat Ties

A21X Flat Ties are available in several styles and breakbacks for use with various modular steel frame forming systems.



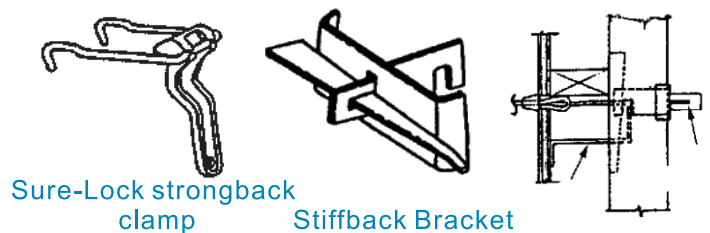
Sure-Lock Bracket and Speedy Bracket

Sure-Lock Bracket and Speedy Bracket are rugged units designed to accept the Sure-Lock Tie. They will accommodate a single 2x4, 3x4 or 4x4 waler; horizontally or vertically.



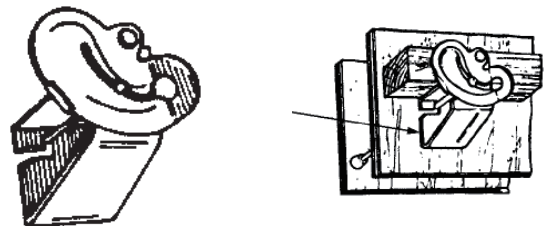
Sure-Lock strongback clamp and Stiffback Bracket

Sure-Lock strongback clamp and Stiffback Bracket are used in conjunction with the Sure-Lock Bracket or the Speedy Bracket, respectively, to securely hold 2x4 strongbacks to the form.



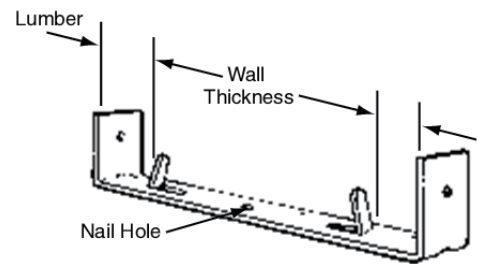
Jahn A Bracket

Jahn A bracket is designed to be used with short-end snap tie. This durable bracket can be used with horizontal walers or vertical studs



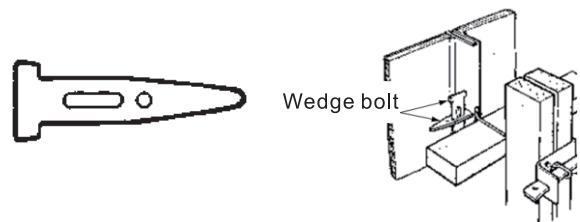
Spreader Cleats

Spreader Cleats are used to form footers or grade beams up to 32" high. On panels up to 24" high the cleats are spaced at 32" maximum center to center spacing. For panels over 24", and up to 32", the cleats should be spaced at 24" maximum center to center spacing. Two versions of the spreader cleat are available. The stamped metal cleat is available for 6" and 8" wall thicknesses with 3/4" or 1-1/8" lumber ends. The other spreader cleat version two lumber ends attached with a wire strut. This version is available for wall thicknesses over 5" with 3/4", 1-1/8", 1-5/8" and 2-1/4" lumber ends.



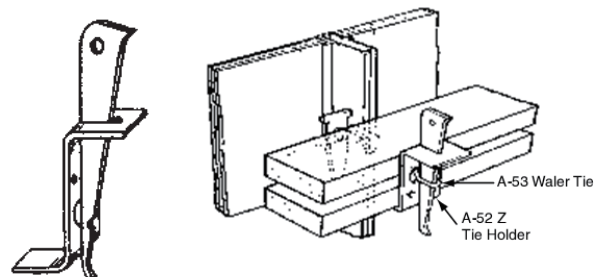
Wedge bolt

Wedge bolt, is used with loop Panel Ties, Plylags, etc., to secure modular type forms.



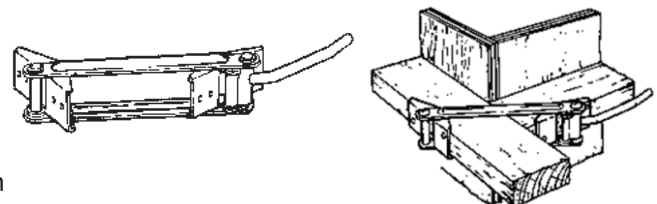
Z Tie holder and A-53 Waler Tie

Z Tie Holder is used in conjunction with the A-53 Waler Tie to secure double 2x lumber wales to modular type forms. The A-53 Waler Tie is available in two sizes to accommodate 2 x 4 and 2 x 6 lumber.



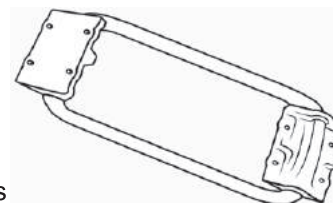
Jahn Cornerlock

Jahn Cornerlock is used at outside corners to secure the 2x4 walers. Nail holes are provided for secure attachment and grips on the underside provide a positive non-slip action. The cam action of the locking handle draws the wales together. No special tools are required for installation or stripping.



4x4 Post Shore Clamp

The 4"x4" Shore Clamp is designed to be used hundreds of times. The simple design consists of a rectangular collar of high strength rod and two pivotal, heavy-duty malleable castings. The plates have grooves scored into the surface for gripping the 4"x4". A hammer lug is provided to seat the clamp once the shore is installed. The 4"x4" Shore Clamp is designed to be used with standard 4"x4" lumber.



You need two 4"x4" Shore Clamps for each 7"x4"x4" shore. The plate has four nail holes for attachment to the 4"x4" lumber. Start by slipping the clamp onto the 4"x4" 14" from the end. The second clamp is attached 2" from the end, making the clamps 12" apart.

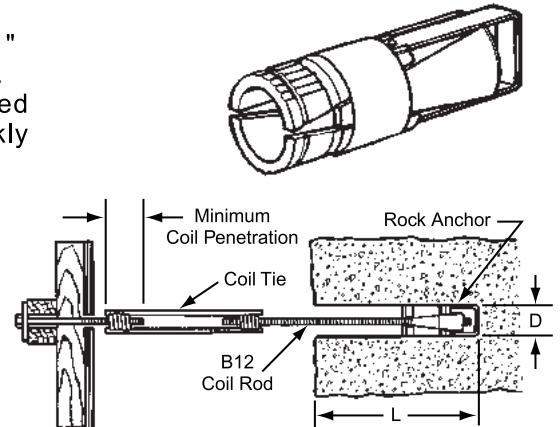
4"x4" shore clamps are stocked 20 in a bag, and 800 on a skid.

Rock Anchor

Rock Anchor is a preassembled unit tapped with 1/2", 3/4" or 1" diameter coil thread. NC thread is available on special order. Rock anchors used in sound rock or concrete allows one-sided forming of walls or similar applications to be completed quickly and economically.

The rock anchor is threaded onto the coil rod until the rod hits the backstop of the anchor. The plastic retaining sleeve is removed and the rock anchor/coil rod assembly is placed into the bore hole. The assembly is installed so that the anchor backstop "bottoms" in the bore hole. Tightening the coil rod will draw the anchor wedges forward to expand the anchor's shell.

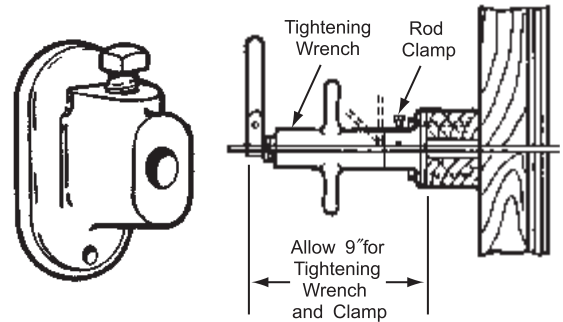
Care should be taken to not overtighten the anchor



Coil Rod Diameter	Minimum Hole Depth "L" *	Required Hole Diameter "D"	Safe Working Load Tension (lbs.) **
1/2"	6"	1-3/8"	4,500
3/4"	8"	1-5/8"	9,000
1"	10"	1-3/4"	18,000

Rod Clamps

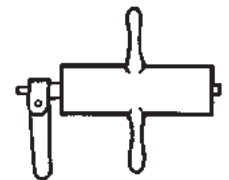
The Rod Clamps are cast malleable iron clamps used with smooth or deformed 1/4", 3/8" and 1/2" rod to tie forms. The rod is clamped securely by a bolt or nut/bolt combination. Nail holes are provided to affix the clamp to the wales. For an additional safety measure, we recommends bending the rod approximately 90° behind the clamp. (See application sketch).



Tightening Wrench

The Tightening Wrench is placed over a smooth or deformed rod behind a rod clamp and is used to draw the assembly tight allowing the clamp to be properly tightened. The wrench is available in 1/4", 3/8" and 1/2" sizes.

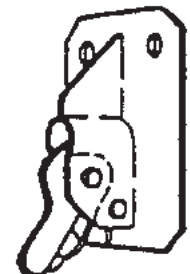
Caution: Do not use the Tightening Wrench for straightening forms or for pulling smooth rod from set concrete.



Form Clamp

The Form Clamp is available in two sizes to handle all smooth and deformed rod diameters from 1/4" to 5/8". This strong and versatile clamp is used effectively on all types of forming requirements, especially suited for battered or curved wall applications.

Rod Size	Approx. Safe Working Load
1/4"	1,250
3/8"	3,000

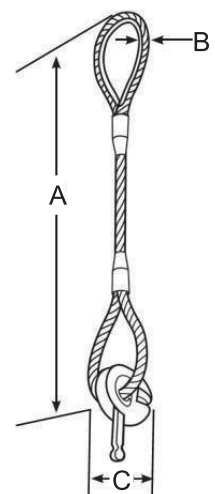


Easy Lift Anchor Placement

Placement of the Easy Lift is dependent on the structural shape of the precast unit and/or the precast manufacturer's preference.

The anchors are not designed for thin edge installations. Always maintain minimum edge distances and adjust anchor capacities if concrete strengths other than those noted in the capacity chart are encountered.

Safe Working Load (Tons)	Load Range (Tons)	A	B	C
3	2-3	30"	1/16"	2-3/4"
6	4-6	36"	3/4"	3-11/16"
10	8-10	36"	1"	5-5/16"



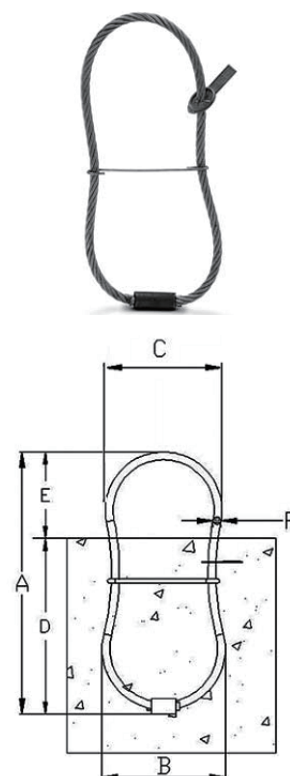
Wire Rope Lifting System

The Wire Rope Lifting System is an economical lifting loop for utility type structures. It is used in either face or edge lifts applications and is 'mucked' into the surface of the concrete. The galvanized wire rope is formed in a figure 8 shape, with the ends of the rope secured by a positive swaged clamp, and a steel band at approximately the mid point to establish the proper shape. The Wire Rope Lifting System is embedded 2/3 of it's length into the concrete. The hardware must be standard hook or clevis with a diameter at least twice the rope diameter. Each anchor has a color-coded tag which identifies the SWL in tension of the anchor.

PRODUCT FEATURES AND BENEFITS:

- 7 standard sizes-handles most precast applications up to 10,000 lb SWL
- Mucked into surface-no recess members required by the precaster
- Uses standard jobsite Crosby Hooks-no hardware purchase required by precaster.
- Galvanized wire rope-reduces resting of the anchor
- Can be cut off or left exposed-reduces labor cost for precaster
- Economical-for the cost conscious precaster

Part #	Description	Safe Working Load	A	B	C	D	E	F
#127326	0.8 T	1,600#	8.07"	3.7"	3.3"	6	2	0
#127327	1.2 T	2,400#	9.06"	3.9"	3.5"	7	3	0
#127328	1.6 T	3,200#	9.84"	5.1"	4.9"	7	3	0
#127329	2.0 T	4,000#	11.81"	5.3"	4.9"	9	3	0
#127330	2.5 T	5,000#	12.80"	5.5"	4.9"	9	3	0
#127331	3.8 T	7,600#	14.57"	6.5"	5.7"	11	4	0
#127332	5.0 T	10,000#	14.96"	7.6"	5.7"	11	4	1



Cable Lifting Loop For Coil Inserts

- Provides a fast and reliable system for handling precast items.
- Made with coil thread to be used with Universal Building Products Inc. coil lifting inserts.

CAUTION: Cable Lifting Loop intended for straight tension loading only.

Note: Check for compatible lifting loads on coil inserts.

D	L	A	B	C	SWL TENSION	PART NUMBER
in.	in.	in.	in.	in.	lb	#
3/4	10	2-1/2	1-3/4	3/8	5,200	CLL34
1	13	3	2-1/4	7/16	8,000	CLL1

