

Utility Anchor System

The Dayton Superior Utility Anchor 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.

Key Advantages

- High strength – up to 24,000 lbs. SWL
- No special lifting hardware required
- Uses a standard hook or clevis
- Easy to install and use
- Utilizes reusable 90° and 45° polyurethane recess plugs
- Eliminates “through holes” in the precast element
- An economical and versatile system – applicable to any precast concrete element

Added Benefit

Utility contractors can use the utility anchor effectively as a pulling iron. When used as a pulling iron, the safe working loads may be increased by 33%, based on the use of a 3 to 1 factor of safety.

The design of the Dayton Superior Utility Anchor Utility System assures the precaster of an economical, user-friendly system for lifting and handling precast concrete elements.

Utilize the Utility Anchor System to:

- Remove precast elements from their forms
- Handle in the precast yard
- Load for shipment
- Unload and place at the job site

The precaster is able to do it all without the need for any special lifting equipment or hardware. Simply use a standard hook or shackle to connect slings to the utility anchor for a safe lift.

The Utility Anchor System uses a polyurethane recess plug to create a void in the concrete. The concrete void created for the P75 utility anchor is sufficiently large to accept the following:

1. 6-ton Grade 8 alloy hook or
2. 7-ton forged alloy shackle

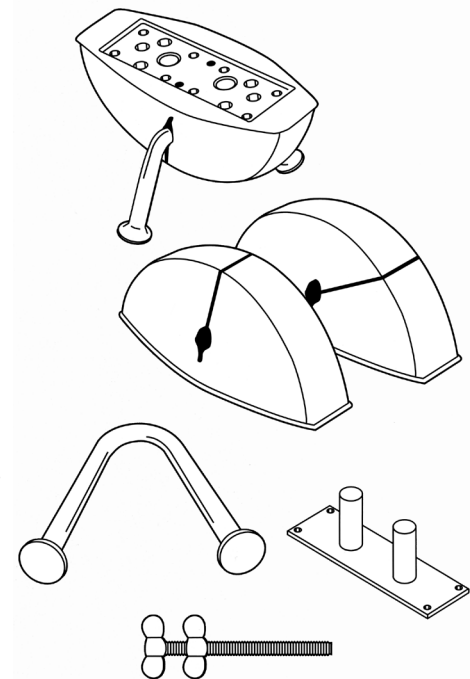
For the P75H Utility Anchors:

3. 15-ton cast/alloy hook or
4. 15-ton forged alloy shackle

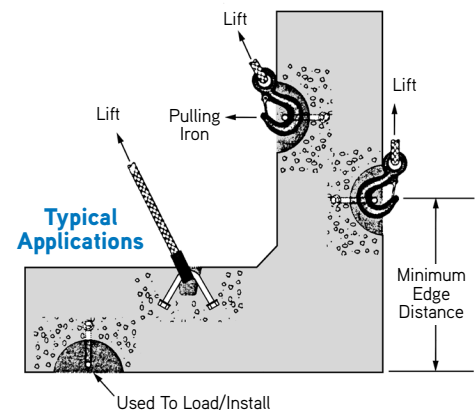
DO NOT use larger hooks or shackles; they will apply additional and unintended loads to the utility anchor and could cause a premature failure of the concrete or anchor.

Anchor Placement

Placement of the Utility Anchor is dependent on the structural shape of the precast element. Utility anchors are not designed for thin edge installation. Always maintain minimum edge distances. For special conditions, contact the nearest Dayton Superior Technical Service Department for assistance.

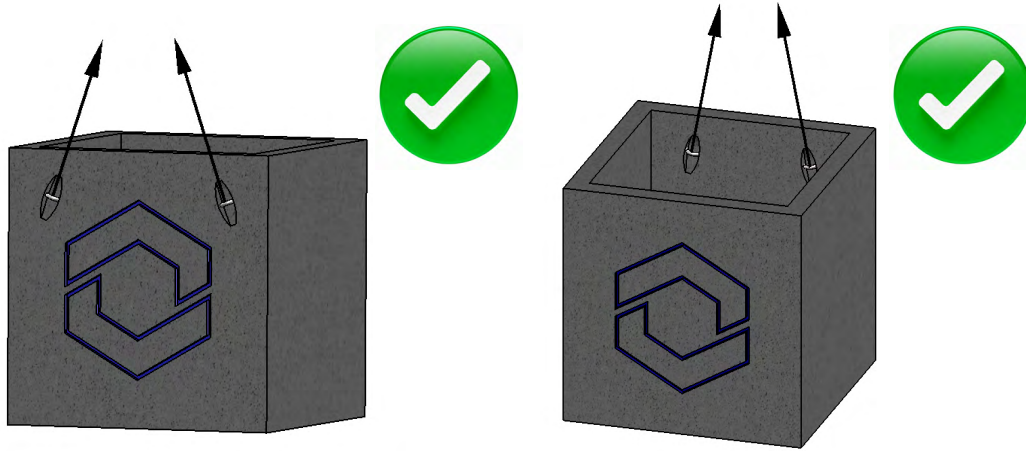


Utility Anchor
Lifting System



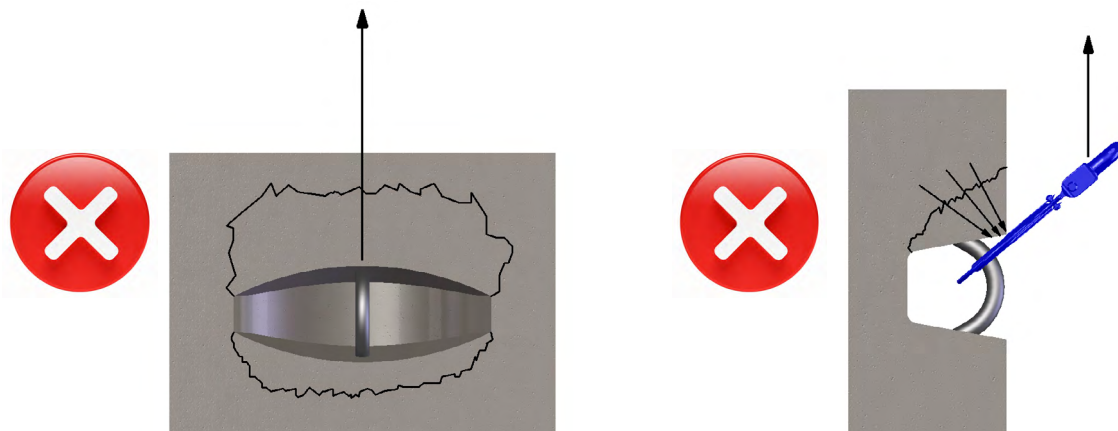
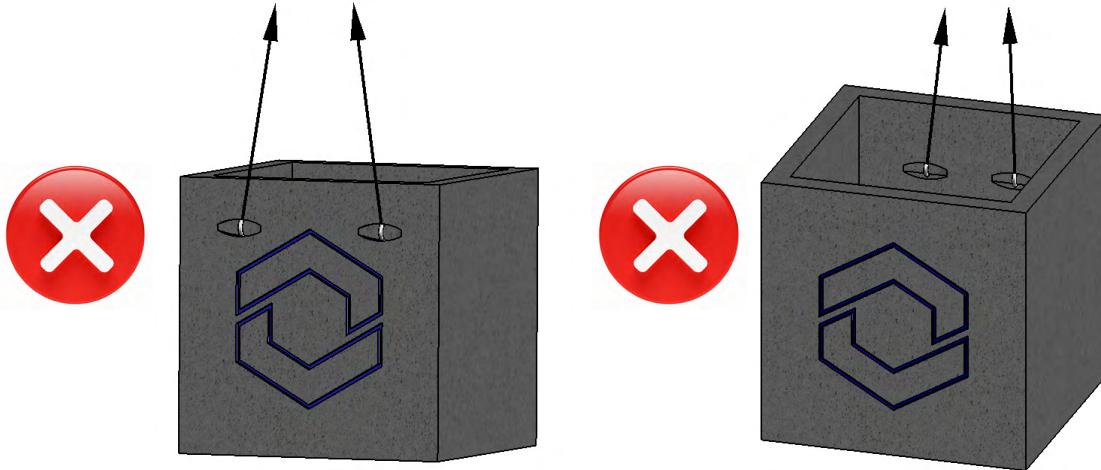
Proper Lifting With Utility Lift Anchors

To avoid spalling of the concrete or prying on the utility anchor, rigging must be oriented along the centerline of the utility anchor. There is a 10° tolerance for the rigging with respect to centerline of the anchor/void.



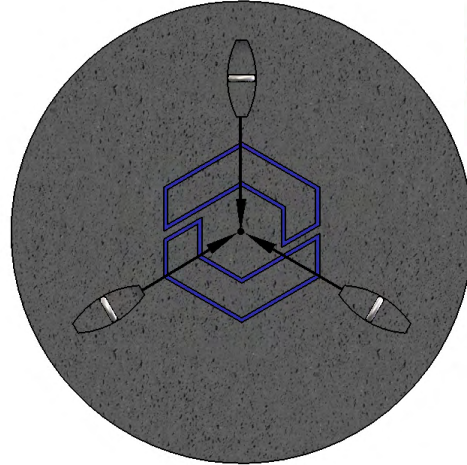
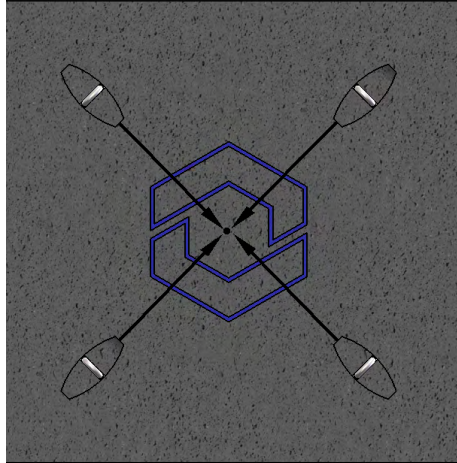
Utility Anchor
Lifting System

The utility anchor must NEVER be placed perpendicular to the direction of pull. This will unevenly load the utility anchor and result in excessive loading, bending, and in some cases premature failure. Concrete spalling and hook damage is also likely.



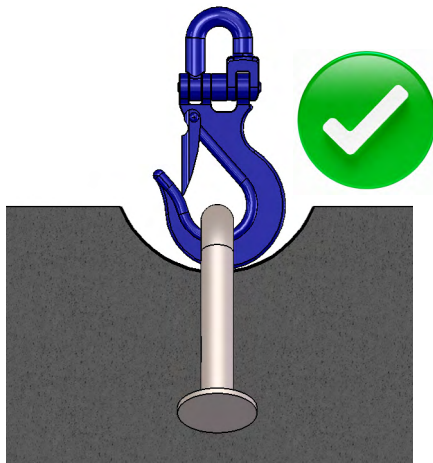
Proper Lifting With Utility Lift Anchors cont'd

Correct alignment of anchors:

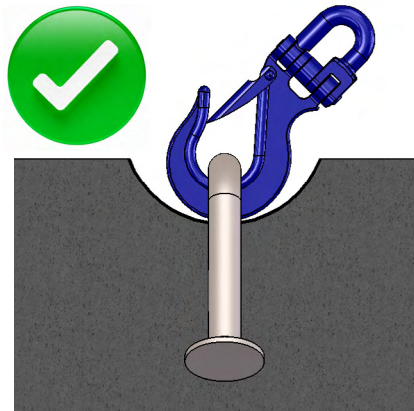


Always orient the void in the direction of loading.

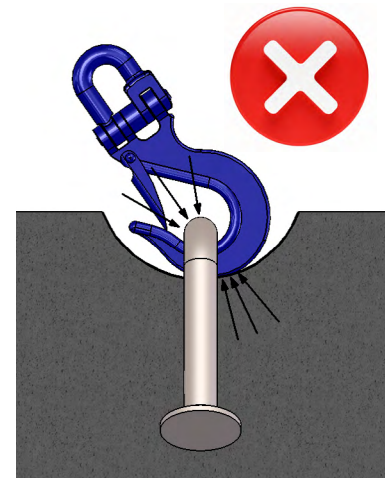
Utility Anchor
Lifting System



The hook must not contact the concrete element.



The latch or opening of the hook must be opposite of the direction of loading.



The hook must not contact the concrete beneath the anchor loop. This will result in a prying action and could cause premature failure.

P72 Block Wall Lifting Anchor

PRODUCT DESCRIPTION

P72 Block Wall Lifting Anchors are made of 5/8" diameter galvanized carbon steel wire..

PRODUCT APPLICATION:

P72 Block Wall Lifting Anchors are designed for lifting and handling of Stone Strong retaining wall blocks.

PRODUCT FEATURES AND BENEFITS:

- Made with Hot-Dipped Galvanized finish per ASTM A153
- Safe Working Load is 7,150 lbs based on ultimate anchor failure and 4,500 lbs based on anchor deflection with 4:1 Safety Factor in 4,000 psi normal weight concrete
- Ultimate mechanical strength of P72 Anchor is 28,850 lbs
- P72 Anchor is 11.5" wide and 16.5" deep



To Order:

Specify: (1) Quantity, (2) Name, (3) Product Code.

Example:

25, P72 Block Wall Lifting Anchor, 145552.

RELATED PARTS:

- P75R

Product Code	Description	Weight
145552	16.5" HOT DIPPED GALV.	3.6 LB

Utility Anchor Lifting System

P73SL Thin Slab Utility Anchor

PRODUCT DESCRIPTION:

The Dayton Superior Thin Slab Utility Anchor is hot forged from carbon steel. The formed head provides for lifting hardware, while a disc-shaped foot is embedded in the concrete. Available in two sizes.

Due to the anchor being forged, it does not depend on welds or thread engagement to develop its safe working load. Forging provides maximum safety with its advantageous material structure. This allows the anchor to easily meet the OSHA requirement of 4 to 1 factor of safety.

PRODUCT APPLICATION:

The P73 is installed in thin slab Precast concrete for tension lifting applications

PRODUCT FEATURES AND BENEFITS:

- Plain or galvanized finishes available, meets nonrusting requirements
- Can be placed in 4" and greater wall thicknesses (T)
- Forged design creates up to 33% higher load capacity than stamped anchors; can reduce the number of anchors required
- Forged material minimizes rust and can result in eliminating galvanizing requirement for some projects
- No special lifting equipment or hardware required. Uses standard Crosby Hook or Clevis
- Anchor ultimate mechanical strength is 40,000 lbs.

INSTALLATION:

The P73SL Thin Slab Utility Anchor is set in the form using the P76L Void Former.

RELATED PARTS:

- P76L Void Former – 139832
- Magnetic Setting Plate – 143067
- Holding Rod – FL131C



Utility Anchor
Lifting System

To Order:

Specify: (1) Quantity, (2) Name, (3) Product Code, (4) Finish

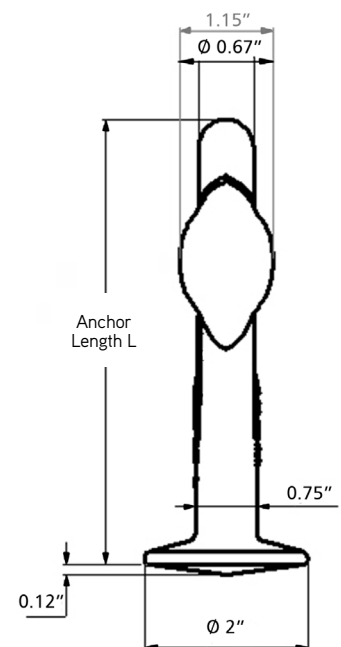
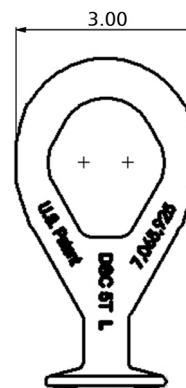
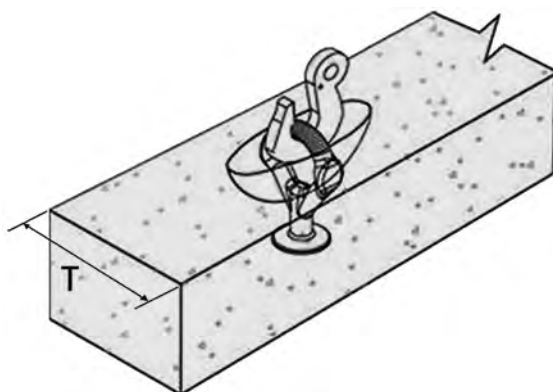
Example:

25, P73SL Thin Slab Utility Anchor, 139528, Galvanized

P73SL Thin Slab Utility Anchor Tension Load

Product Code	Finish	Length (L)	Width (W)	Panel Thickness (T)			
				4"	5"	6"	8"
139528	Galvanized	4.5"	3.00"	3,636 lbs	4,129 lbs	5,820 lbs	5,457 lbs

Safe Working Load provides an approximate factor of safety of 4:1 in 3,500 psi normal weight concrete.

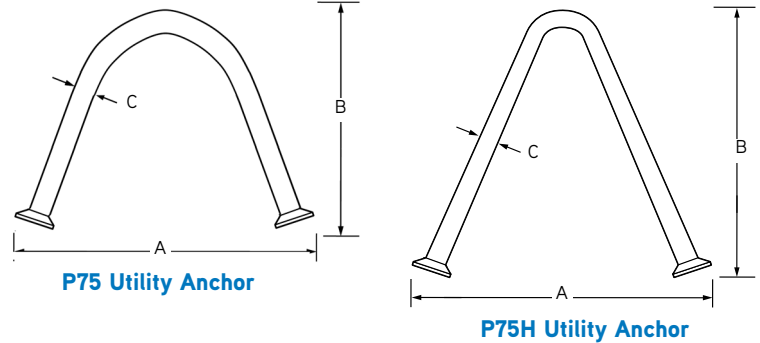


P75 and P75H Utility Anchor®

The Dayton Superior Utility Anchors are available in three diameters and a series of lengths for specific concrete thickness. The utility anchors can be set in either a 90° or a 45° anchor orientation using the appropriate setting plug. The P75H Utility Anchor can only be set in a 90° orientation.

To Order:
Specify: (1) quantity, (2) name, (3) product code.

Example:
200, P75 Utility Anchors, 5UA444.



Utility Anchor Lifting System

Anchor	Type	Product Code	Minimum Panel Thickness	Safe Working Load Tension 90	Safe Working Load Shear 90	Safe Working Load Tension/Shear 45	Minimum Edge Distance	A	B	C	End Shape
P75	4UA444	121877	4"	3,200	5,800	2,260	9"	5-1/4"	3-1/8"	0.444"	Swift Lift
	5UA444	123442	5"	3,860	7,710	2,730	10"	6"	3-3/4"		
	6UA444	121888	5-5/8"	4,460	9,460	3,150	12"	7-3/8"	4-3/4"		
	5UA671	123441	5"	4,560	8,430	3,220	10"	6-7/16"	3-3/4"	0.671"	
	6UA671	121889	5-5/8"	7,320	15,780	5,170	12"	7-3/8"	4-3/4"		
	8UA671	121891	7-5/8"	10,830	18,850	7,660	16"	9-3/4"	6-3/4"		
P75H	12UA875	124738	12"	24,000	24,000	N/A	30"	15-7/8"	11"	0.875"	

Note:

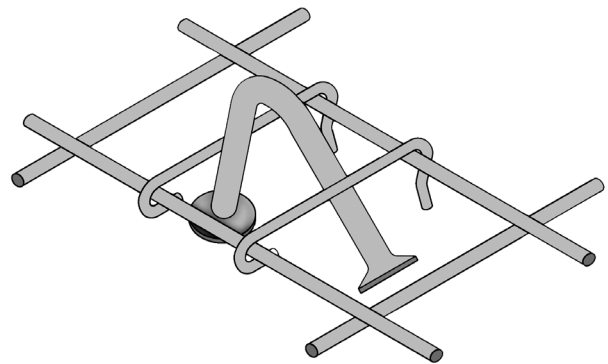
- Compressive strength of normal weight concrete to be 4,000 psi at time of initial lift.
- Safe working loads provide an approximate factor of safety of 4 to 1.
- Shear safe working loads are based on loading in the direction of the top of the precast concrete element.

P75C Utility Anchor® with Clip

The Dayton Superior Utility Anchor with Clip is designed to allow the Utility Anchor to be secured to the wire mesh cage. This product utilizes the P75 Utility Anchors with 2 wire clips welded to opposite legs of the anchor. These wire clips are positioned to hold the utility anchor with Void to the wire mesh in the proper position in the wall for lifting your precast product. Both the 5UA and 6UA anchors in 0.444 and 0.671 diameters for 9" wire spacing are in stock. Other anchor and wire spacing are readily available.

To Order:
Specify: (1) quantity, (2) name, (3) product code (4) anchor size, (5) wire spacing (6) wall thickness.

Example:
200, P75C, #121443, 5UA444 anchor, 9" wire spacing, 5" wall.



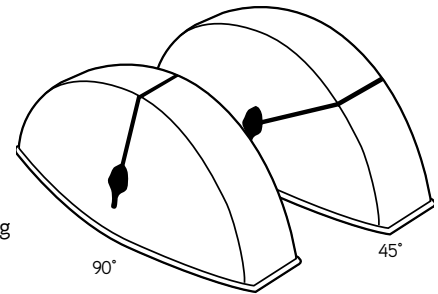
Product Code	Utility Anchor	Wire Clip Lengths	Wall Thickness
123443	5UA444	9"	5"
121890	5UA671	9"	5"
121892	6UA444	9"	6"
121893	6UA671	9"	6"
127446	8UA671	9"	8"

P76 Utility Anchor® Setting Plugs

Utility Anchor Setting Plugs are a polyurethane plastic in 90° and 45° orientation.

The reusable setting plug properly sets the anchor approximately 1/2" below the surface of the concrete and provides an adequate recess for easy sling attachment. After final positioning of the concrete element, the recess formed by the recess member can be easily grouted or conveniently covered by the Utility Anchor Cover/Patch.

The 90P875 Setting Plug used with the P75H 24,000 lb. anchor requires 2 each P101 holding rods to attach setting plug to the form. No holding plate or magnetic plate are available for this setting plug.



P76 Utility Anchor Setting Plugs

P76 Utility Anchor Setting Plug

Type	Product Code No.	Length	Depth	Width	Color
90P444	123175	8.00"	3.25"	3"	Blue
45P444	123176	8.00"	3.25"	3"	Blue
90P671	123177	8.00"	3.25"	3"	Orange
90P671	127786	9.00"	4.58"	3.35"	Orange
45P671	123178	8.00"	3.25"	3"	Orange
90P875	124685	15.00"	6.13"	5"	Blue

To Order:

Specify: (1) quantity, (2) name, (3) product code.

Example:

200, P76 Utility Anchor Setting Plugs, 90P444.

P76D Disposable Setting Plugs

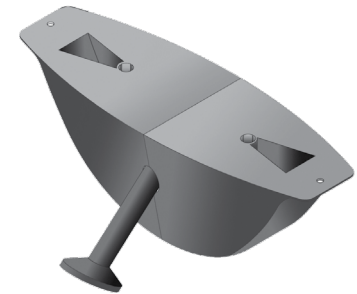
The Disposable Setting Plug is manufactured to offer the precastor an inexpensive alternate to urethane setting plugs. This 2 piece high density polyethylene plastic setting plug is used with the 0.671 Dayton Superior Utility Anchors. The two piece design snaps tightly together around the legs of the anchor eliminating concrete entering the void. The setting plug is installed to the formwork using nail holes on each end of the plug.

To Order:

Specify: (1) quantity, (2) name, (3) product code.

Example:

200, P76D, #126214.



P76D Disposable Utility Anchor Setting Plugs 0.671

P76C Utility Anchor Cover/Patch

The P76C Utility Anchor Cover/Patch installs over the back of the setting plug to protect the unit without the use of duct tape. The cover/patch can be installed on the setting plug/anchor assembly prior to setting the assembly in the form. This protects the assembly from concrete leakage through the concrete placement sequence. It can also be used later as a temporary or permanent cover for the recess. The P76C cover is gray in color and will blend with most concrete. It can be painted to match other color schemes.

Note: The P76C does not work with the P76 type 90P671 (PN: 127786) or 90P875 (PN: 124685) setting plugs.



P76C Utility Anchor Cover/Patch

P76P Single Use Void Former

The P76P Single Use Void Former is manufactured to offer the precastor an inexpensive alternative to urethane setting plugs.

Features

- The two-piece design snaps tightly together around the legs of the anchor preventing concrete from entering the void
- The setting plug is installed to the formwork using nail holes on each end of the plug

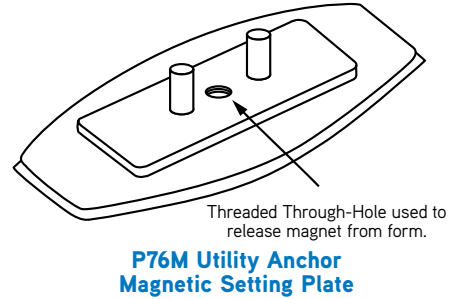


P76P Single Use Void Former

P76M Utility Anchor® Magnetic Setting Plate

The Dayton Superior P76M Utility Anchor Magnetic Setting Plates are available for easy setting of utility anchors in steel precast forms.

Use 3/8" P101 Holding Rod in threaded through hole to strip magnet from steel form.



To Order:

Specify: (1) quantity, (2) name.

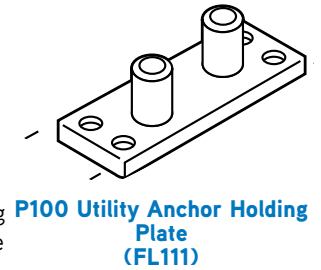
Example:

200, P76M Utility Anchor Magnetic Setting Plates.

P100 Utility Anchor® Holding Plate P101 Utility Anchor® Holding Rod

The Dayton Superior P100 Utility Anchor Holding Plate and P101 Holding Rod are used in various applications to install Utility Anchors in the form. The Holding Plate can be nailed, screwed, welded or double-face taped to the form. The setting plug/anchor assembly is pushed onto the projecting studs of the plate and held firmly in place through the concrete placement.

The Holding Rod is placed through a predrilled hole in the form and into the threaded insert in the setting plug. After fully seating the holding rod in the setting plug, the setting plug can be pulled up tightly to the form with the holding rod's free-running wing nut.

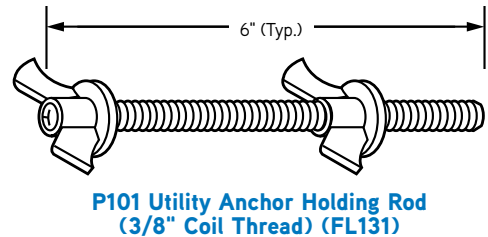


To Order:

Specify: (1) quantity, (2) name, (3) anchor diameter.

Example:

200, P100 Utility Anchor Holding Plates, 0.671 anchor diameter.



P104U One Piece Magnetic Utility Anchor® Recess

The Dayton Superior P104U One Piece Magnetic Utility Anchor Recess allows installation of Utility Anchors in a metal face form using a one piece rubber recess with Magnet imbedded in the top of the recess. Available for 0.444 or 0.671 Utility Anchors.

To Order:

Specify: (1) quantity, (2) name.

Example:

200, P104 One Piece Magnetic Utility Anchor Recess.



Utility Anchor Lifting System

Anchor Placement

Placement of the Utility Anchor is dependent on the structural shape of the precast unit and/or the manufacturer's preference. The Utility 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. Refer to edge distance chart.

In-Form setting:

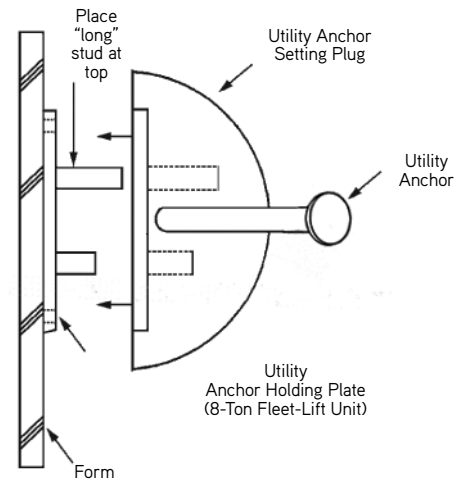
1. Assemble setting plug and anchor.
2. Affix holding plate (nail, weld, magnetic setting plate, double-face tape) to the form.
3. Push the setting plug/anchor assembly onto the holding plate and firmly against the form.

Through-Form Setting

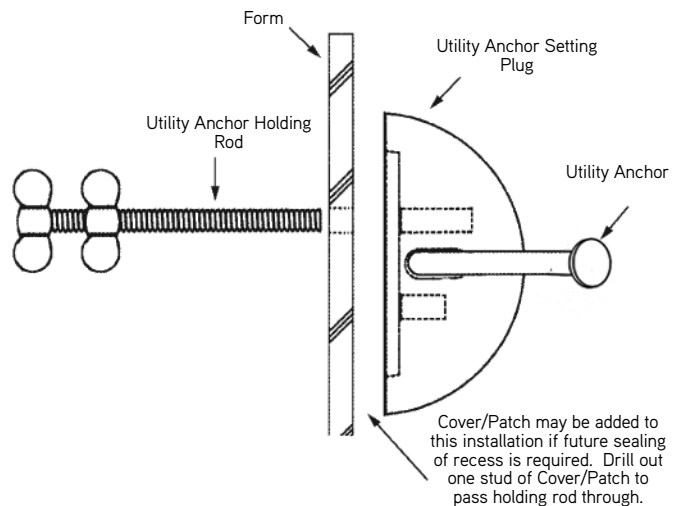
1. Assemble setting plug and anchor.
2. Insert holding rod through form and line up setting plug.
3. Finger-tighten holding rod and lock assembly in place with the running wing nut.

Wet Setting

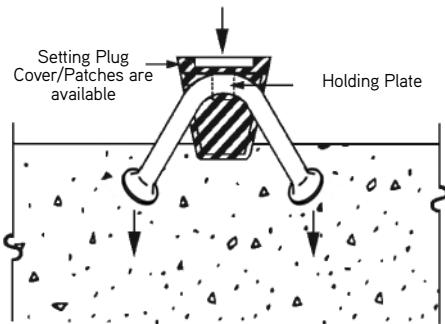
1. Assemble setting plug holding plate and anchor.
2. Use cover/patch or duct tape to seal setting plug cavities.
3. Work the assembly down into the wet concrete until the top surface of the plug is flush with the surface of the concrete.



In-Form Setting



Through-Form Setting



"Wet" Setting

Utility Anchor Lifting System

P76 Utility Anchor® and Double Tee Anchor Setting Plug

The new P76 Setting Plug is a re-usable polyurethane setting plug designed to provide a larger recess in the concrete for the 0.671 Utility Anchors and the Double Tee Anchors. This setting plug is 9.0" in length, 4.5" in width across the top, and 3.3" in depth. This recess member positions the anchor at a 90 degree angle to the surface of the concrete product. The reusable setting plug sets the anchor approximately 1/2" below the top of the concrete. The setting plug is attached to the form with the P101 Holding Rod and/or the P100 Holding Plate. The P76 Setting Plug is stripped from the concrete by placing two 3/8" dia. rods into the holes provided in the plug and using a 'scissor action' to strip the plug from the anchor.



To Order:

Specify: (1) quantity, (2) name, (3) product code.

Example:

200, P76 Utility Anchor and Double Tee Anchor Setting Plug, #127786.

P110 Wire Rope Lifting System™

The Wire Rope Lifting System is an economical lifting loop for utility type structures. It is used in face lift 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 its 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:

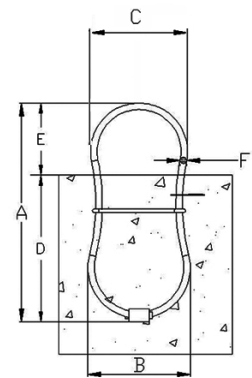
- 9 standard sizes – handles most precast applications up to 20,000 lb SWL
- Mucked into surface – no recess members required by the precaster
- Uses standard jobsite Crosby Hooks – no hardware purchases required by precaster.
- Galvanized wire rope – reduces rusting of the anchor
- Can be cut off or left exposed – reduces labor cost for precaster
- Economical – for the cost conscious precaster

To Order:

Specify: (1) quantity, (2) name, (3) product code.

Example:

200, P110 Wire Rope Lifting System #127327.



Part #	Description	Safe Working Load	A	B	C	D	E	F
#127326	0.8 T	1,600#	8.07"	3.7"	3.3"	5.7	2	0.24
#127327	1.2 T	2,400#	9.06"	3.9"	3.5"	6.6	2.50	0.275
#127328	1.6 T	3,200#	9.84"	5.1"	4.9"	7.1	2.75	0.313
#127329	2.0 T	4,000#	11.81"	5.3"	4.9"	8.7	3.13	0.375
#127330	2.5 T	5,000#	12.80"	5.5"	4.9"	9.4	3.38	0.375
#127331	3.8 T	7,600#	14.57"	6.5"	5.7"	10.7	3.88	0.473
#127332	5.0 T	10,000#	14.96"	7.6"	5.7"	11.1	3.80	0.630
#101443	6.3T	12,600#	15.35"	8.2"	5.7"	11.4	3.9"	0.630
#101444	10T	20,000#	20.47"	10.8"	8.1"	15.3"	5.1"	0.780

NOTE: SWL is 4:1 SF in 3000 psi concrete

Tag Color: White = 0.8T, Red = 1.2T, Pink = 1.6T, Light Green = 2.0T, Dark Green = 2.5T, Emerald Green = 3.8T, Light Yellow = 5.0T, Blue = 6.3T, Orange = 10T

Wire Loop Parallel To Wall Thickness

Anchor Tonnage	Minimum Wall Thickness	Overall Length	Embedment Depth	Minimum Edge Distance	Minimum Corner Distance	SWL @ 3000 psi	Concrete Strength For maximum SWL	Maximum SWL
0.8 ton	4.0"	8.0625"	5.7"	2.0"	8.75"	1,600 lbs	3,000 psi	1,600 lbs.
1.2 ton	4.5"	9.375"	6.5"	2.25"	9.75"	2,400 lbs	3,000 psi	2,400 lbs
1.6 ton	4.75"	9.8125"	7"	2.375"	10.5"	2,841 lbs	4,000 psi	3,200 lbs
2.0 ton	6"	11.8125"	8.7"	3"	13.25"	3,547 lbs	4,000 psi	4,000 lbs
2.5 ton	7.0"	12.34"	9.4"	3.5"	14.25"	4,898 lbs	3,500 psi	5,000 lbs
3.8 ton	9.0"	14.5"	10.7"	4.5"	16.25"	6,796 lbs	4,000 psi	7,600 lbs
5.0 ton	12"	14.9375"	11.1"	6"	16.75"	9,539 lbs	3,500 psi	10,000 lbs

Wire Loop Perpendicular To Wall Thickness

Anchor Tonnage	Minimum Wall Thickness	Overall Length	Embedment Depth	Minimum Edge Distance	Minimum Corner Distance	SWL @ 3000 psi	Concrete Strength For maximum SWL	Maximum SWL
0.8 ton	5.5"	8.0625"	5.7"	2.75"	8.75"	1,600 lbs	3,000 psi	1,600 lbs.
1.2 ton	6"	9.375"	6.5"	3"	9.75"	2,400 lbs	3,000 psi	2,400 lbs
1.6 ton	6.5"	9.8125"	7"	3.25"	10.5"	2,700 lbs	4,500 psi	3,200 lbs
2.0 ton	7"	11.8125"	8.7"	3.5"	13.25"	3,474 lbs	4,000 psi	4,000 lbs
2.5 ton	7.5"	12.34"	9.4"	3.75"	14.25"	4,251 lbs	4,500 psi	5,000 lbs
3.8 ton	9.0"	14.5"	10.7"	4.5"	16.25"	5,468 lbs	6,000 psi	7,600 lbs
5.0 ton	12"	14.9375"	11.1"	6"	16.75"	7,739 lbs	5,000 psi	10,000 lbs