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LIFTING SYSTEMS

SELLING POINT

DESIGN GUIDE

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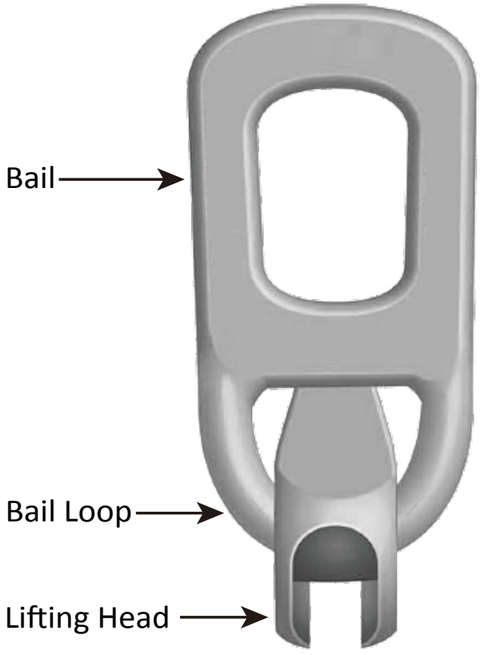
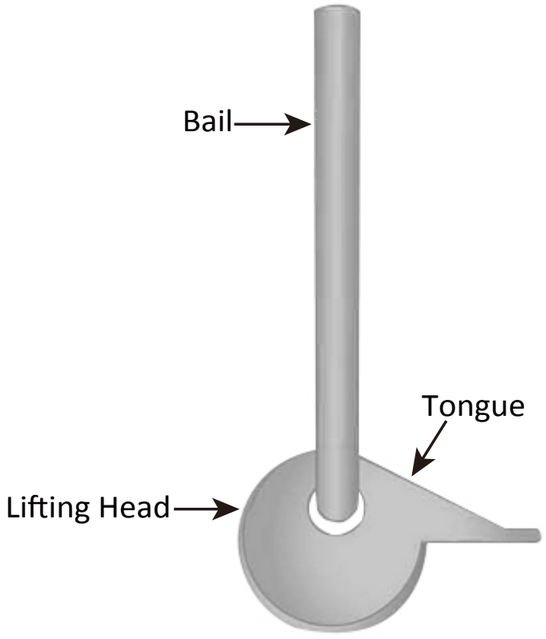
GME LIFTING EYE TERMINOLOGY

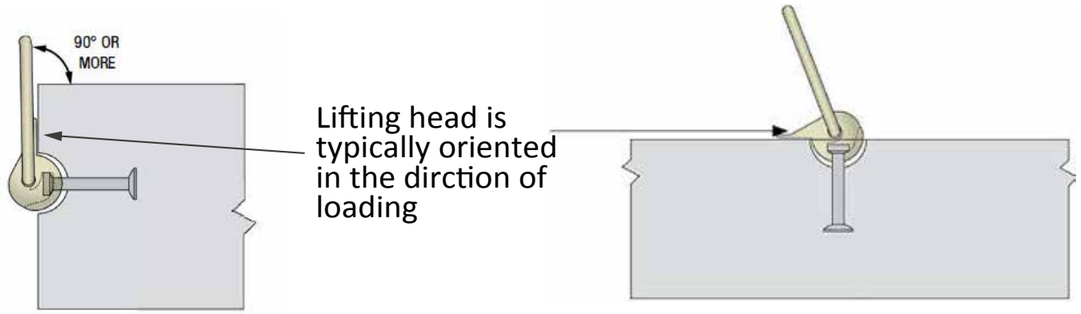


FRONT VIEW



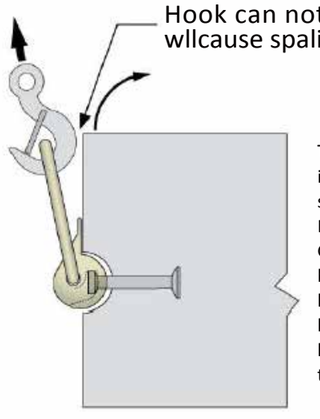
SIDE VIEW

GME LIFTING EYE GENERAL USE



EDGE LIFT ROTATING OF SLABS AND WALL PANELS

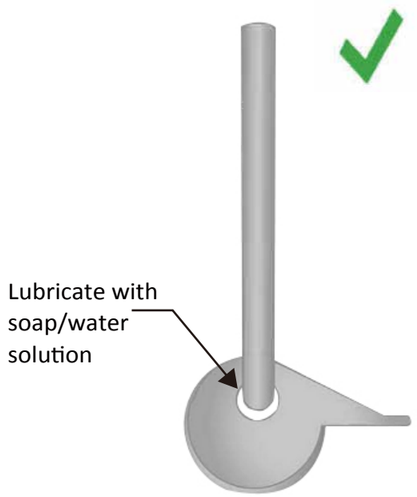
1



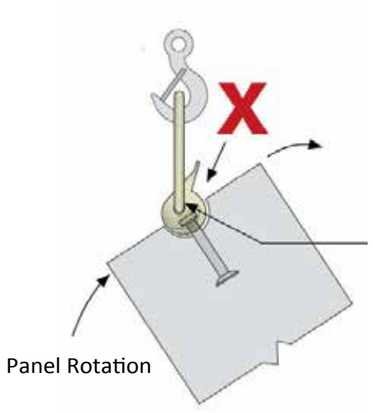
The Lifting Pin System is not typically recommended for lifting in the edge of thinwall panels or slabs due to the system's low shear capacity in that application. For thin panels, the GME Lifiting System should be used. In thicker panels and slabs, the GME Lifting Pin System can be used to rotate slabs or panels, but careful attention should be paid to the orientation of the lifting head in relation to the direction of load. Without proper lubrication of the lifing head, it can start to disengage from the lifting anchor as the panel is rotated up. This is due to the friction of the lifting head and the bail.

EDGE LIFT ROTATING OF SLABS AND WALL PANELS

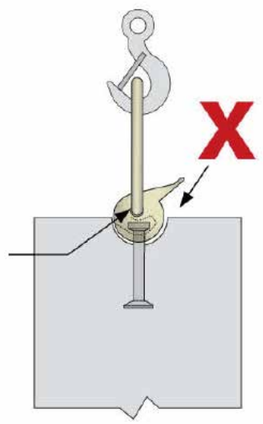
2



SIDE VIEW



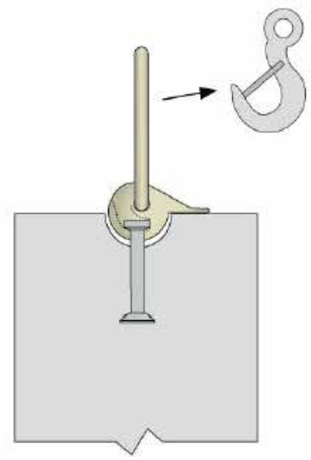
Without lubrication- between the lifting balil and the lifting- head, the lifting head has a tendency to rotate and open up during the rotation of the panel.



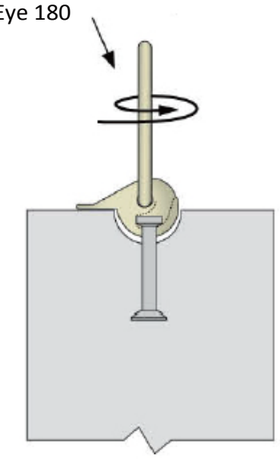
EDGE LIFT ROTATING OF SLABS AND WALL PANELS

3

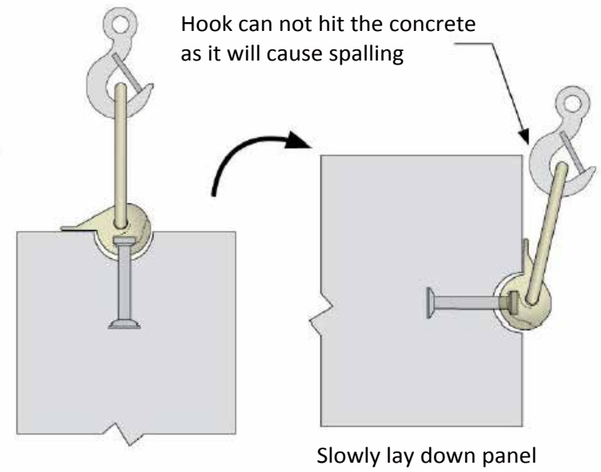
If laying panel down on opposite side follow these instructions



Rotate Lift Eye 180



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



Slowly lay down panel

MATERIALS & APPLICATION

Materials

The Spherical head lifting clutch is made of a resistant cast steel as well as forged steel. Its included claw supports an easy(un) coupling to anchor heads of the Spherical head anchor systems. The Spherical head lifting clutch surface is completely electro-galkanised.

Application

The Spherical head lifting clutch is used as a lifting device within the transport anchor system.A coupling and uncoupling of the spherical head lifting clutch is done quickly andeasily. It can be used for all lifting directions,i.e. axial, diagonal and lateral tension. In order to achieve an easy andsafe coupling the installation of Spherical head transport anchors requires the use of corresponding recess fomers.
Thus, the correct position of the anchors as well as the quick coupling is ensured.

SPHERICAL HEAD LIFTING CLUTCH

Corrosion protection

The corrosion protection of a Spherical head anchor can be increased by a recessed installation of the anchor. For this, the additional recess former must ensure a proper function-ing specified in this Application Instruction and must have minimum dimensions given in table 1.

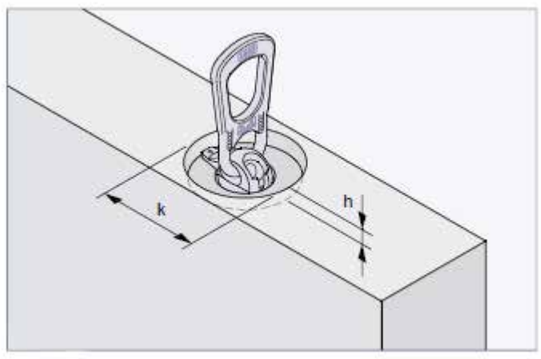
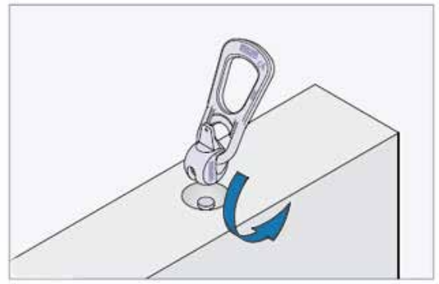


Table 1:Dimensions for installation in recessed position

Load class	k [mm]	h [mm]
1.3	∅115	30
2.5	∅150	30
5.0	∅210	30
10.0	∅265	30
20.0	∅360	30
32.0	∅490	30

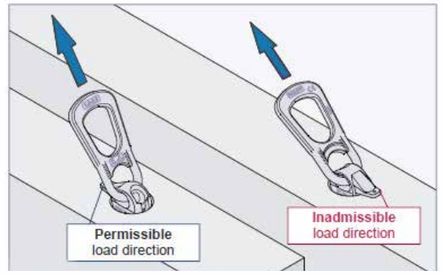
Coupling

The Spherical head lifting clutch is set above the anchor head with its opening showing downwards and coupled with the anchor by turning the lip



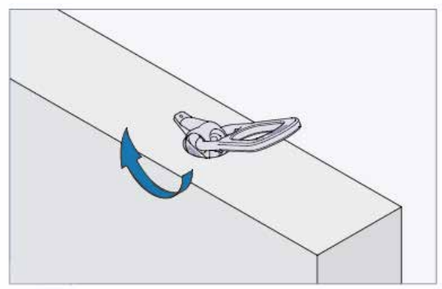
Lifting and turning

The Spherical head lifting clutch is designed in a way that an unintended uncoupling(even without any load on the lifting device) is not possible. When lifting attention must be paid that the lip is pointing to the direction of tension at all times.
For all load directions(axial, diagonal and lateral tension)
the Spherical head lifting device is suitable.
Especially during turning of elements attention must be paid that the lip must always point to the direction of tension.



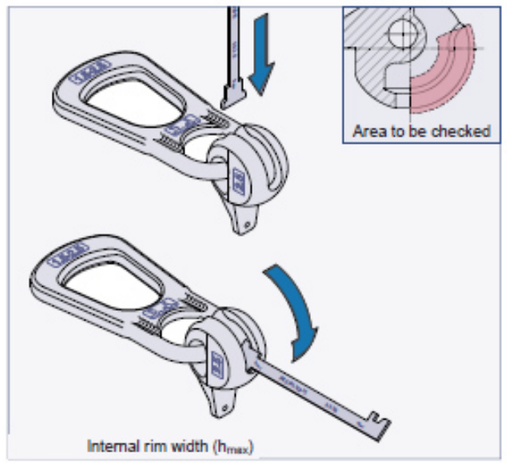
Uncoupling

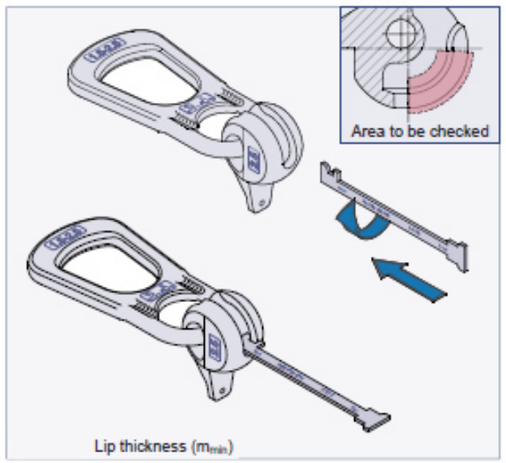
For uncoupling the load on the Spherical head lifting clutch must be released.
Then the liting clutch can be uncoupled from the anchor by simply tuming back the lip

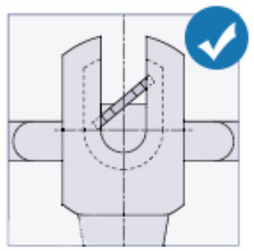


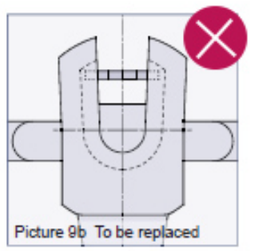
APPLICATION

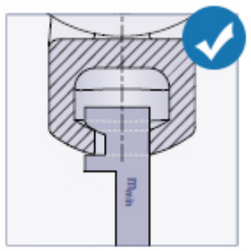
The intemal rim width is checked for the dimension as shown in picture 9. Insert the check gauge with the hmax marked side into the anchor chase of the sphere.A tum of the check gauge to a horizontal level in the anchor chase must not be possible. If this position is possible anyway, the Spherical head lifting clutch must be replaced and cannot be used anymore.For a check of the lip thickness use the mmn marked side of the check gauge. Here,a complete slip with the check gauge over of the lip should not be possible(Picture 10). If this can be done anyway(Picture 10b) the Spherical head lfting clutch must be replaced and cannot be used anymore.

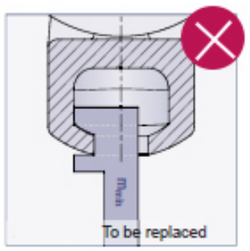










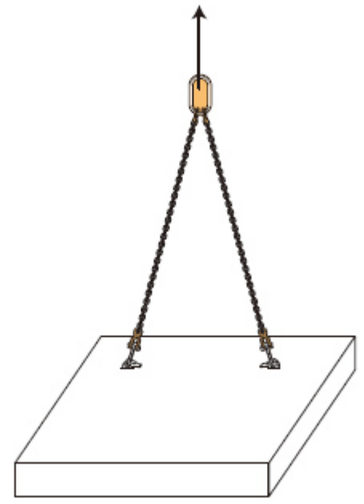


TYPES OF LIFT

There are two main types of lifts.

1.Face Lift

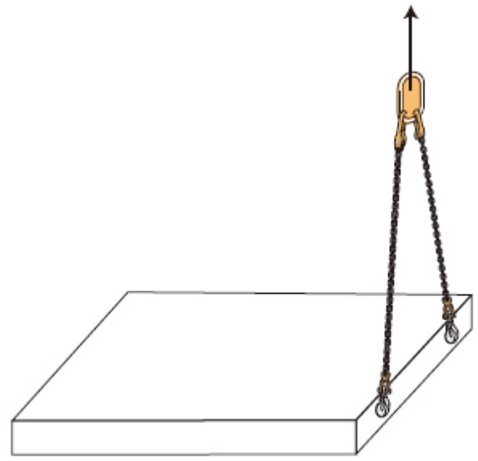
The initial lift is in line with the anchor.The initial liftputs the anchor in tension.



Face Lift

2.Edge Lift

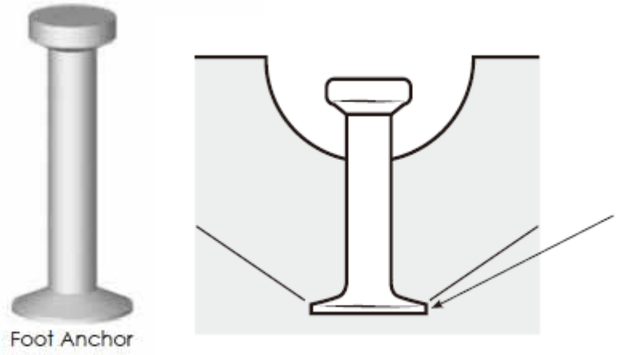
The initial lift is acrossthe anchor.The initial lift puts the anchor in shear.



Edge Lift

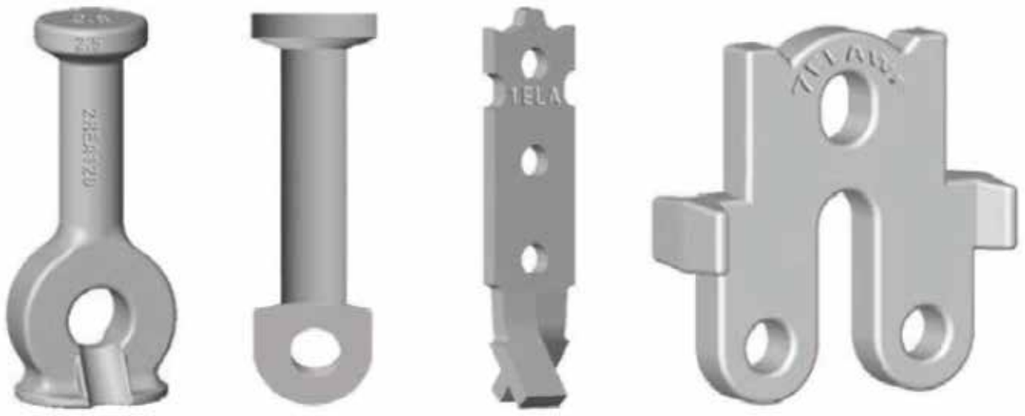
Facelift anchor-also named Foot Anchor Edgelift anchor-including Eye Anchor,Thin Panel Eye Anchor & Edge Lift Anchor

Facelift anchor

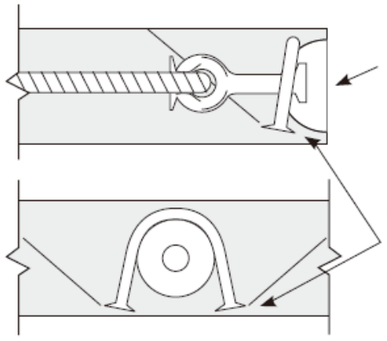


Face Anchors are cast into the face of the element with a recess former used to form the hollow into which the Clutch is placed to engage the head of the Anchor.
The foot of the Anchor holds into concrete by developing a pull out cone in the concrete.The diameter of the cone at the face of the concrete is about 6 times the depth of the Anchor.

Edgelift anchor



Eye Anchors Thin Panel Anchor Edgelift Anchor Edgelift Anchors



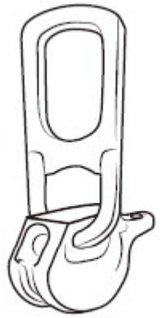
Edgelift Anchors are cast into the side of the element with a recess former used to form the hollow into which the Clutch is placed to engage the head of the Anchor.

The foot of the Shear Bar stops the lifter pulling out when tilting up the panel.Correct installation of the shear bar is critical for it to work.

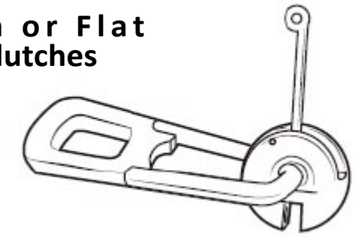
Lifting Eyes/Clutches

There are two main types of Lifting Clutches, or Eyes, which fasten to the head of the Anchor.

Swiftlift Clutches



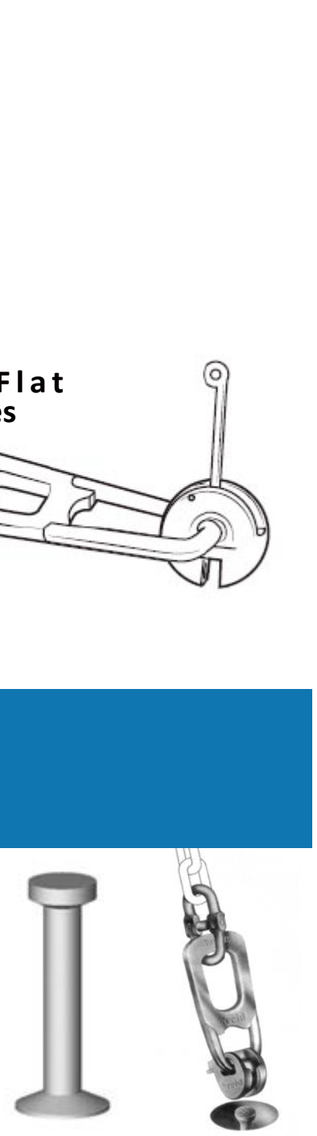
Hairpin or Flat Anchor Clutches



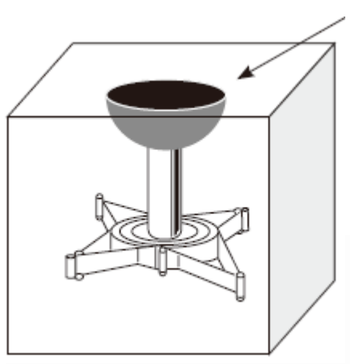
ANCHOR INSTALLATION

Installing Swiftlift Foot Anchors

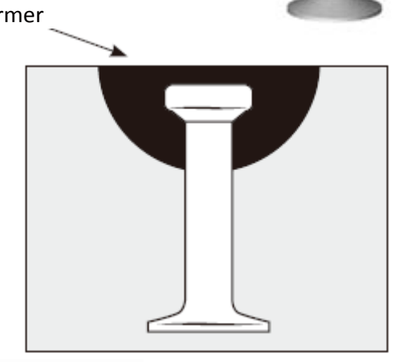
Swiftlift Anchors are cast into the concrete with recess formers to create the void in the concrete permitting the lifting clutch to attach to the head of the anchor. Figure below shows the two main Foot Anchor installations. Recess formers may be plastic, steel, or rubber depending on application or casting process.



Recess Former

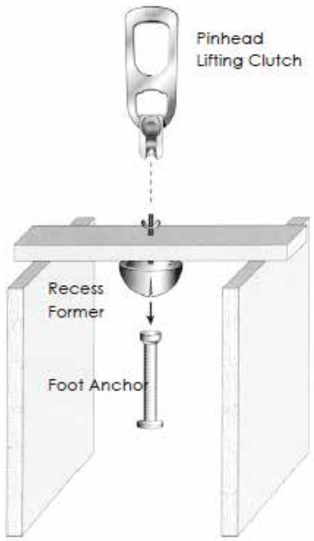


PCHAIRS-installed prior to casting concrete.

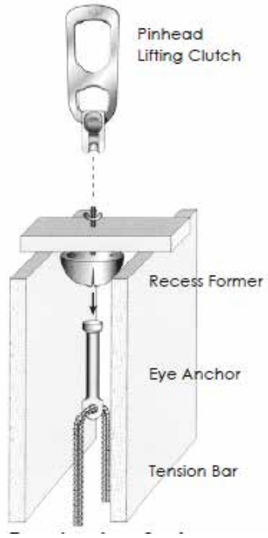


Puddle in-placed as the concrete is cast and worked.

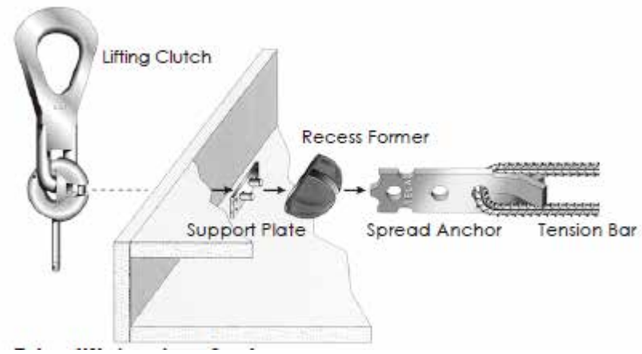
Foot Anchor Installation



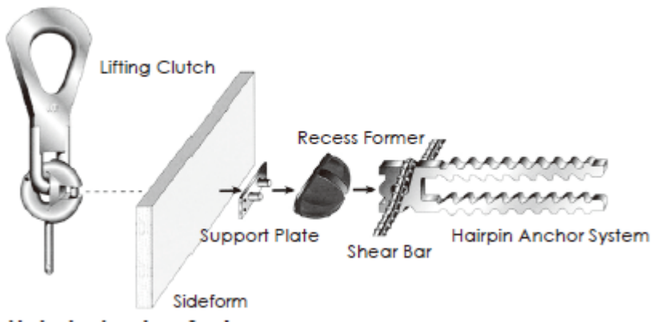
Foot Anchor System



Eye Anchor System



Foot Anchor System



Foot Anchor System