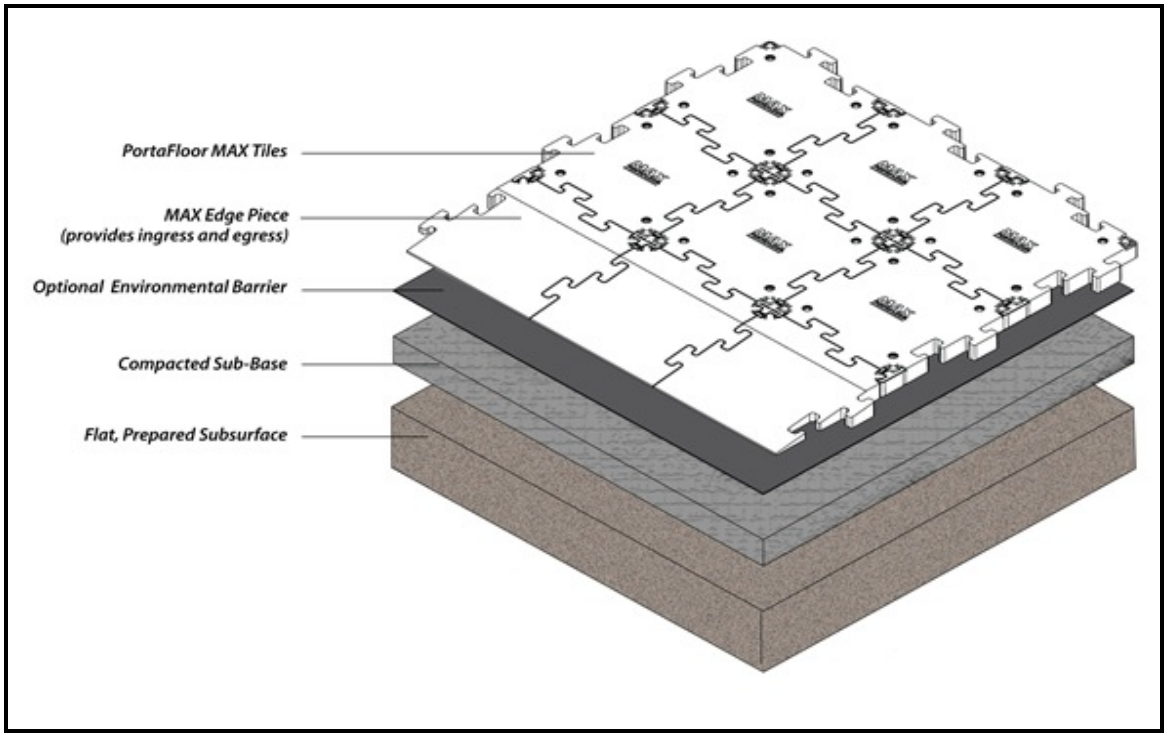
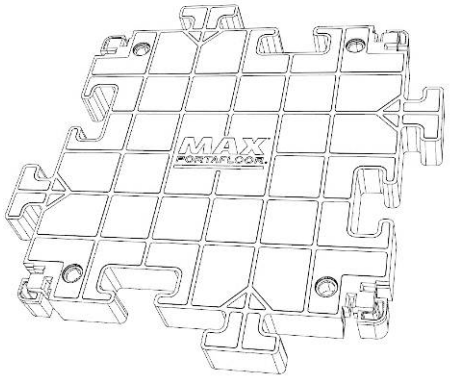
MAX™
PORTAFLOOR®

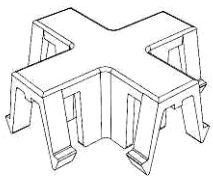
*Installation Instructions*

# Portafloor MAX™*

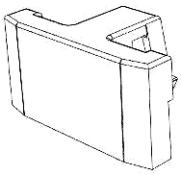


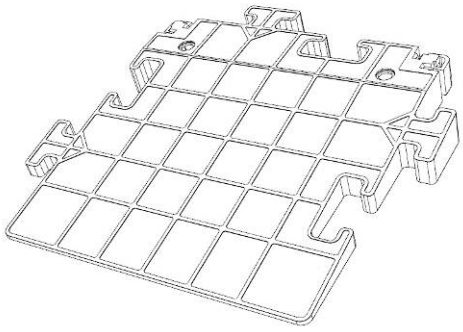

**PortaFloor MAX Tile**



**Corner Lock**



**Edge Lock**



**PortaFloor MAX Ramp Edge**

· Patent Pending

# Concrete Slab Replacement Prep

Portafloor MAX (PFMAX) may be installed above or below grade depending on the scope of the project and intended application.

## At or Below Grade:

1. Excavation

   Remove existing pavement, turf, or existing soil to the proper depth. The proper depth will be the finished surface, with the PFMAX thickness and compacted base material. The amount of base material is often determined by local requirements or terrain and will depend on the ground's water retention, saturation, and expansion properties. Typical PFMAX thickness will range from 4 inches to 8 inches.

2. Compact Subgrade

   After excavation is down to the proper level, compact the subgrade. Depending on the type of soil, compaction may be done with a roller, rammer, or a vibraplate compactor to a minimum of 95% when replacing concrete; otherwise compact to the best of ability based on surroundings and application.

3. Install Forms

   Forms can be used if a perimeter area is required or when using PFMAX in place of concrete. Forms should be tall enough to accommodate the depth of the compacted base. Secure the forms around the perimeter of the court area using stakes to hold the forms upright. Make sure frames are square at each corner.

4. Install Base Material

   Select a base material that is granular and compacts easily. Suggested bases include any type of sand, 5/8" minus gravel, crusher fines, etc. Spread and compact the base in 4-inch lifts using a compactor. Screed the compacted base to level off the surface. For best results, use a powered roller-screed. Compact the surface a final time making sure the base material is level by filling in low spots and removing high spots.

5. Final finishing of the grading must produce a level surface that does not vary more than ¼ inch in height over a 12 foot radius, when the PFMAX panels are installed.

6. Install Environmental Barrier PortaGuard 6(Optional)

   Roll out environmental barrier across entire subsurface, overlapping each roll to ensure no gaps exist. Make sure geotextile fabric is smooth and contains no wrinkles. If fabric stakes are used, be sure to press them flush with the compacted base surface.

# Expeditionary Prep

1. Excavation

   Remove any existing shrubs, pavement, turf, or any existing obstructions. The amount of base material, if available, is often determined by local requirements or terrain and will depend on the ground's water retention, saturation, and expansion properties. Typical base thickness will range from 0 to 8 inches.

   The area receiving the PFMAX surface must be cleared, leveled, and rolled. The sub-base material must have a minimum compaction of 95%.

   If grading is required, the area must provide adequate drainage of water away from the field area.

   The soil in any area under the PFMAX panels, requiring installation of service, drainpipes, or other objects, must be backfilled and compacted.

   Small rocks and other debris must be removed to ensure flatness of the installed panels.

   Final finishing of the grading must produce a flat and level surface. For best performance and most stable surface, recommended finish should not vary more than ¼ inch in height over a 12 foot radius, when the PFMAX panels are installed.

   Installing PFMAX panels over existing concrete or asphalt surface may not require site preparation. Panels can be installed over existing hard surfaces.

2. Perimeter (Optional)

   Forms can be used if a perimeter area is required or when using PFMAX in place of concrete. Select forms tall enough to accommodate the depth of the compacted base. Secure the forms above the ground around the perimeter of the court area using stakes to stabilize the forms.

3. Install Weed or Environmental barrier Fabric PortaGuard 6(Optional)

   Roll out fabric across entire subsurface, overlapping each roll to ensure no gaps exist. Make sure fabric is smooth and contains no wrinkles.

## Guidelines for Installing Portafloor MAX

1. Begin installing PFMAX panels at any corner of the floor. Align the PFMAX corner with the corner of the subsurface. (Optional) Trim the puzzle piece connector off the tile to allow for a flush installation with the forms.
2. Install one row of PFMAX panels along the width of the floor, aligning the edge of the panels with the subsurface edge. Install panels by inter-locking the puzzle piece connections with the previous panel (see Figure 2). Pull each panel so that the gap between each is roughly 1/8". Install edge locks between each panel to help maintain the proper panel spacing (see Figure 1). PFMAX panels may overhang the edge of subsurface opposite from the starting location.
3. Install one column of PFMAX panels along the length of the floor, aligning the edge of the panels with the subsurface edge (see Figure 2). Pull each panel so that the gap between each is roughly 1/8". Install edge locks between each panel to help maintain the proper panel spacing (see Figure 1). Leave a gap of 3/8" – 1/2" between the panel edges and the inside edge of the compacted base form. PFMAX panels may overhang the edge of the subsurface opposite from the starting location.

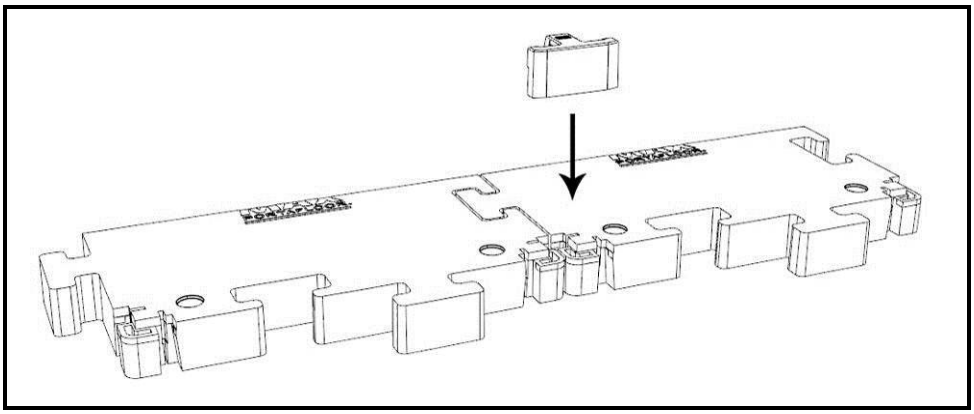


**Figure 1**

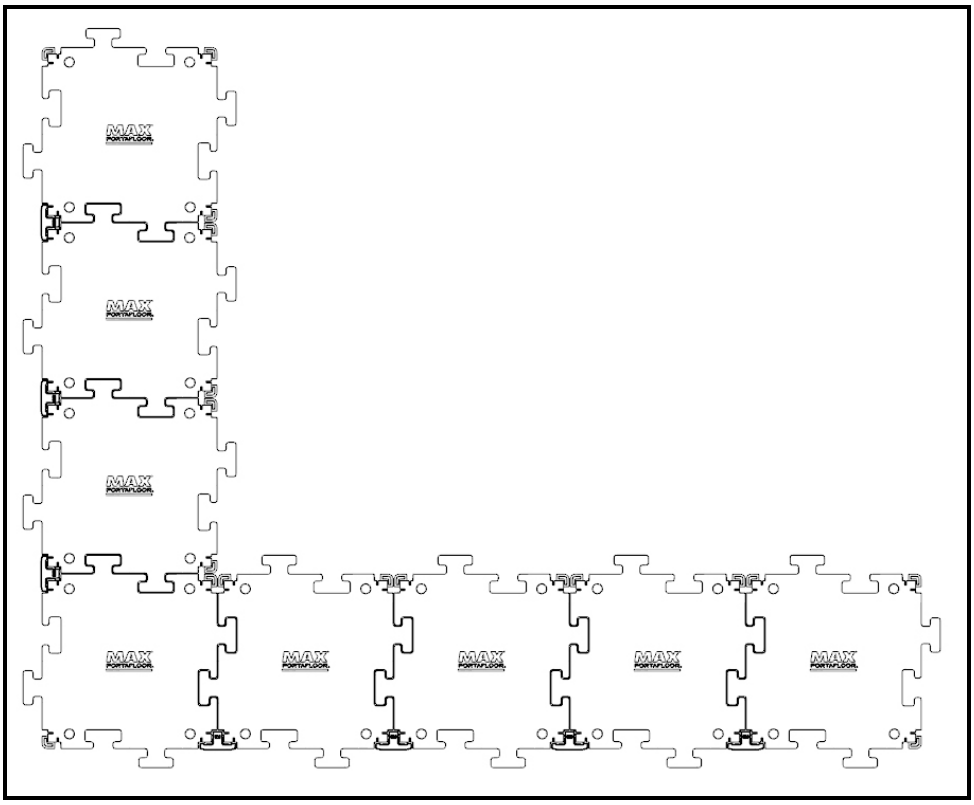


**Figure 2**

4. Once a row and column of panels has been installed, the rest of the PFMAX grid can be filled in. Install the next row of PFMAX panels along the width of the floor by inter-locking the puzzle piece features and setting the panel straight down. Pull the panels so that there is an even gap measuring roughly 1/8” between each of the panels.

5. As you proceed, install the corner locks at each intersection where four PFMAX panels come together (see Figure 3). **It is critical to install the corner locks as each PFMAX is laid down in order to allow for the correct spacing between each panel.**

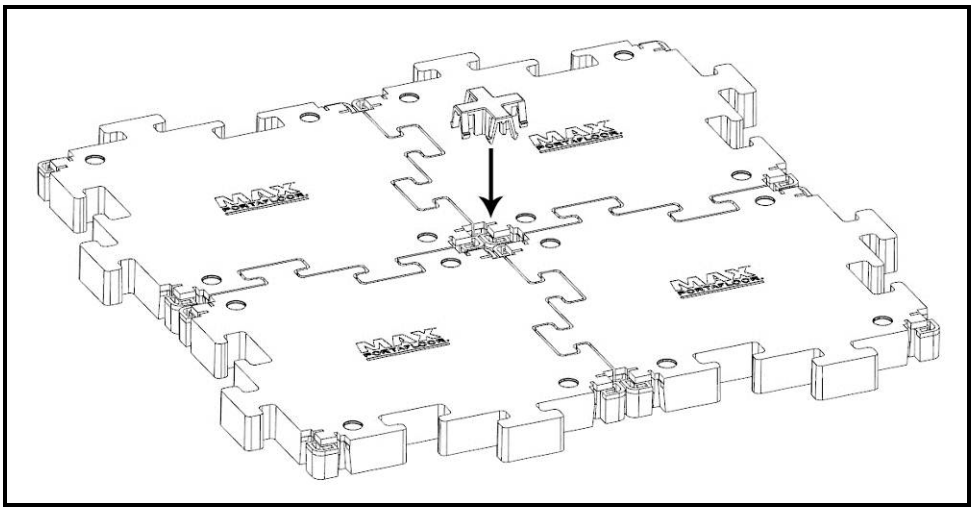


**Figure 3**

6. Continue installing the PFMAX panels and corner locks until the entire subsurface is covered.
7. Any panels overhanging the compacted subsurface must be trimmed 3/8”-1/2” from the edge of the compacted base forms. Snap a chalk-line along the length and width of the floor to indicate where to trim.
8. Use a circular saw, or other suitable cutting device, to trim the PFMAX panels.
9. (Optional) The male end puzzle piece may be trimmed off the PFMAX panel and inserted into the female puzzle piece to fill in the holes along the edge of the PFMAX surface (see Figure 4).

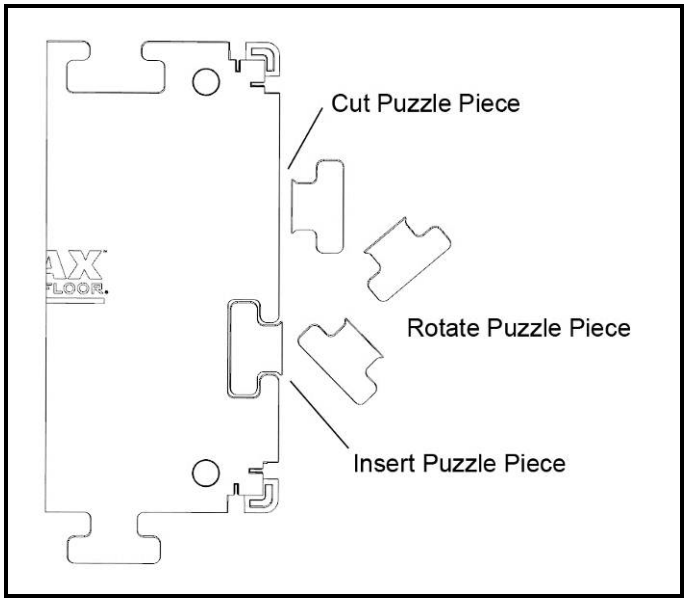



**Figure 4**

10. Once trimming is complete, install any remaining edge locks to secure the perimeter PFMAX panels (see Figure 1). Note: panels trimmed beyond the locking feature will not be compatible with the edge lock pieces.
11. (Optional) Use PFMAX Straight Edge Panels and Corners for a factory-finished perimeter.
12. (Optional) Once PFMAX panels are installed over the compacted subsurface, use a vibrating plate compactor to seat the PFMAX panels. Any high or low spots will require removal of PFMAX panel followed by leveling the surface.

## Disassembly

If any repairs to the subsurface need to happen or if a piece of PFMAX is damaged or if it is a temporary application PFMAX can be removed without disturbing the adjacent panels installed.

1. Using the corner lock removal tool, slide the blade between PFMAX panels. Push the blade underneath the corner lock using your foot on the kickplate. Make sure it is pushed fully under the corner lock.
2. Rotate handle backwards to lift the corner lock removal blade up against the corner lock.
3. Continue rotating the handle until the corner lock disconnects from the panels (see Figure 5).

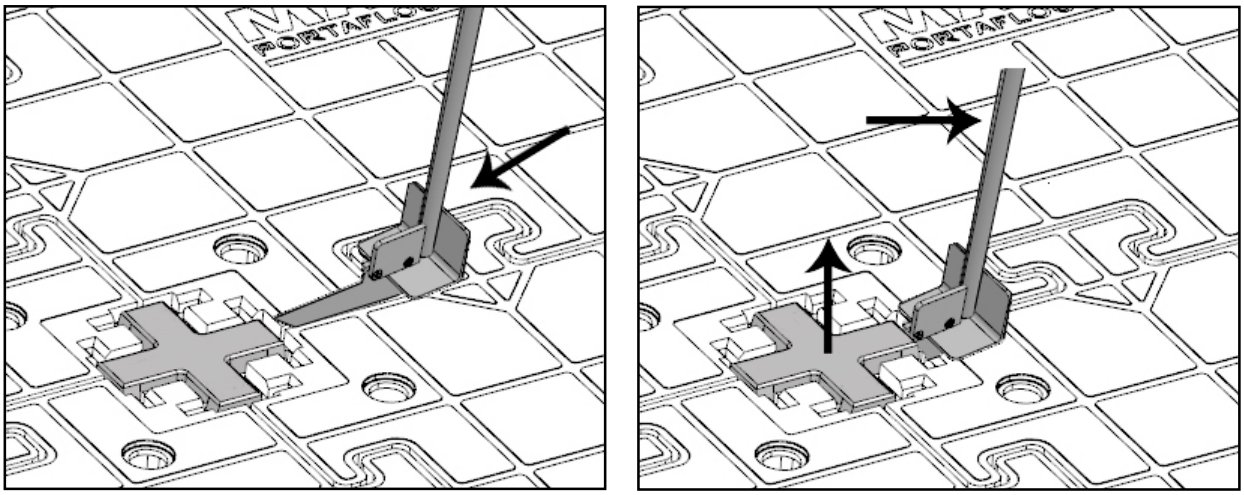


**Figure 5**

4. Repeat the previous steps on the corresponding corners to the PFMAX panel that needs to be removed.
5. Remove any PFMAX panels in areas that need repair or replacement.
6. Make any repairs to the compacted subsurface.
7. Install PFMAX panel and corner lock pieces.

## Ramp Edges (Optional)

Ramp edges can be used to transition from the ground level to the PFMAX surface. Other uses include providing access to the PFMAX surface for vehicles.

1. Install the PFMAX Ramp Edges by inter-locking the puzzle piece features with the previously installed PFMAX panels and setting the Ramp Edge straight down. Continue installing Ramp Edges in this manner along the desired length.
2. Install corner locks to connect the Ramp Edges to the PFMAX panels.

## Anchoring

Portafloor MAX panels may need to be anchored to prevent lifting and shifting when used with heavy loads or other situations where the surface is required to remain stationary.

1. Determine area that anchoring is required.
2. Insert drive-in stake into the anchor hole in PFMAX panels (see Figure 6).

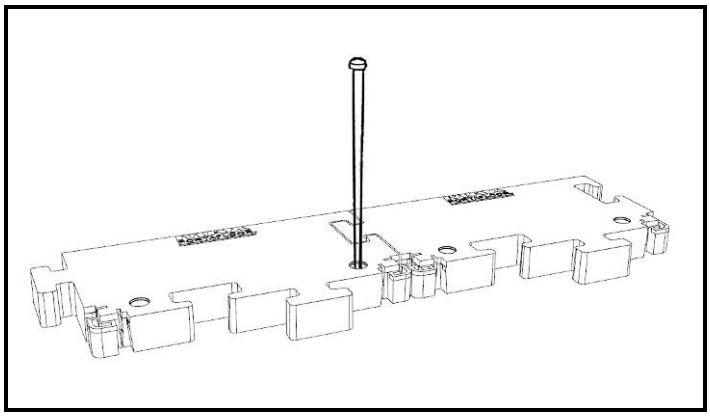


**Figure 6**

3. Drive in stake with a suitable hammer or a powered jack-hammer with a tent stake driver attachment.

### Alternative Perimeter Anchoring

Portafloor MAX panels can be secured along the perimeter with the use of a Z bracket and threaded anchors.

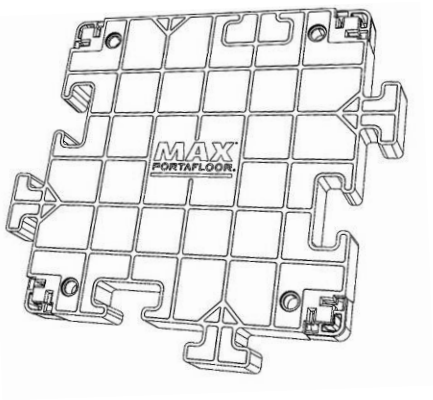
1. Determine the area that requires securing.
2. Insert lag bolt into the anchor hole in PFMAX panels.
3. Use a ½" drive and impact wrench or ratcheting T-handle driving tool.

### Alternative Perimeter Anchoring (Soft Soil Option)

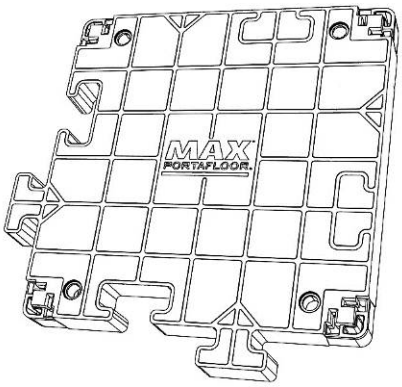
Portafloor MAX panels can be secured along the perimeter with the use of a Z bracket and threaded anchors.

4. Determine the area that requires securing.
5. Align the Z bracket on the edge of the PFMAX panel.
6. Insert threaded screw anchor into Z bracket hole on the ground.
7. Use a ½" drive and impact wrench or ratcheting T-handle driving tool.
8. (Optional) Fasten the Z bracket to the PFMAX panels with grabber screws.

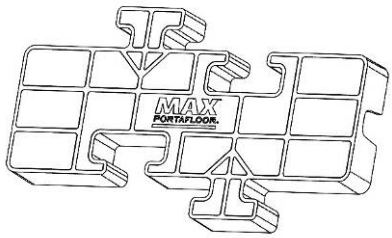
## Accessories




**PFMAX Straight Edge Panel**
Factory-finished straight edge for flooring perimeter

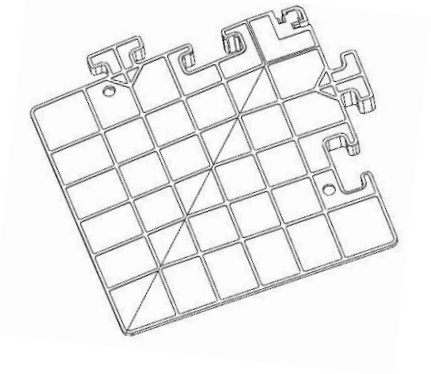



**PFMAX Straight Edge Corner Panel**
Factory-finished straight edge corner panel




**Conduit Panel**
PFMAX panel with conduit channel understructure to accommodate up to 1” diameter cabling

**Conduit Panel Filler**
Use at Conduit Panel intersections



**Ramp Edge Corner Panel**
Corner panel for ramp edges

**Corner Lock Removal Tool**

Custom designed tool to remove corner locks for replacement and repair
32” long, 5/8” diameter steel handle
Spring steel blade

**Corner Lock Removal Tool Replacement Blade**

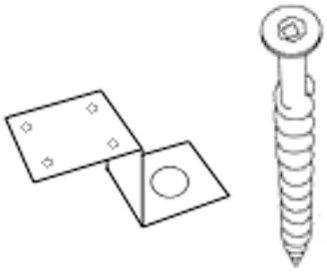
Spring steel and heat treated for strength and flexibility

**Optional Drive-in Stake**

Single head
24” length, ¾” diameter
High tensile steel for extra strength

**Optional Lag Bolt**

Single head
12” – 18”length, 5/8” diameter



**Optional Threaded Screw Anchor and Z Bracket**
18” length, ½” square drive flat head or 1” hex head
Reusable screw anchor
Lightweight heat treated aluminum