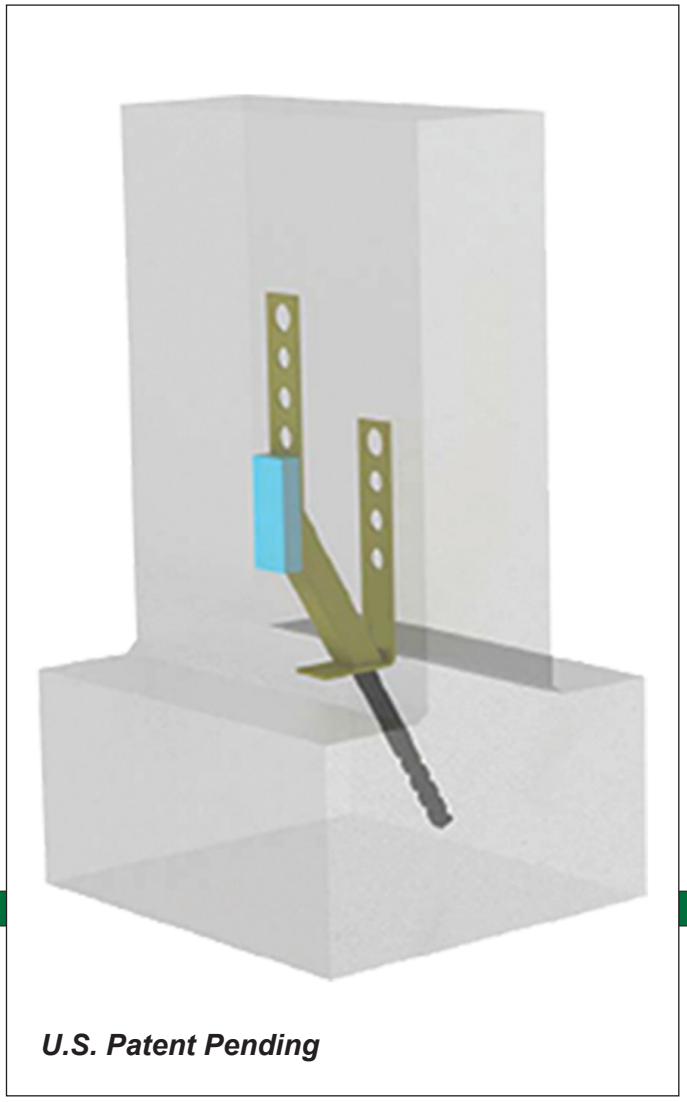
SureBuilT
Concrete Forms & Accessories

Slant Anchor

Approved and specified by engineers... preferred and installed by more contractors... saves up to 37% compared to typical embed methods.



U.S. Patent Pending

The Slant Anchor provides a load-rated panel connection and a 37% savings compared to typical embed welding or bolting.

Save with Slant Anchor!

Simple to position and nail
No embeds to match and weld
No welding certification needed
No welding inspection needed
Fewer components to buy
Faster installation time
Panel "locks" in place with grouting
Only a small opening to patch
No exposed parts, no corrosion
Documented field performance

**** U.S. Patent Pending***

Unique anchor provides simple panel-to-foundation connection without welding or bolting

The Slant Anchor* connects tilt-up or precast panels to the foundation. The assembly includes the load-rated Slant Anchor, Void Former, high-strength Ductile Bar and pre-packaged Grout.

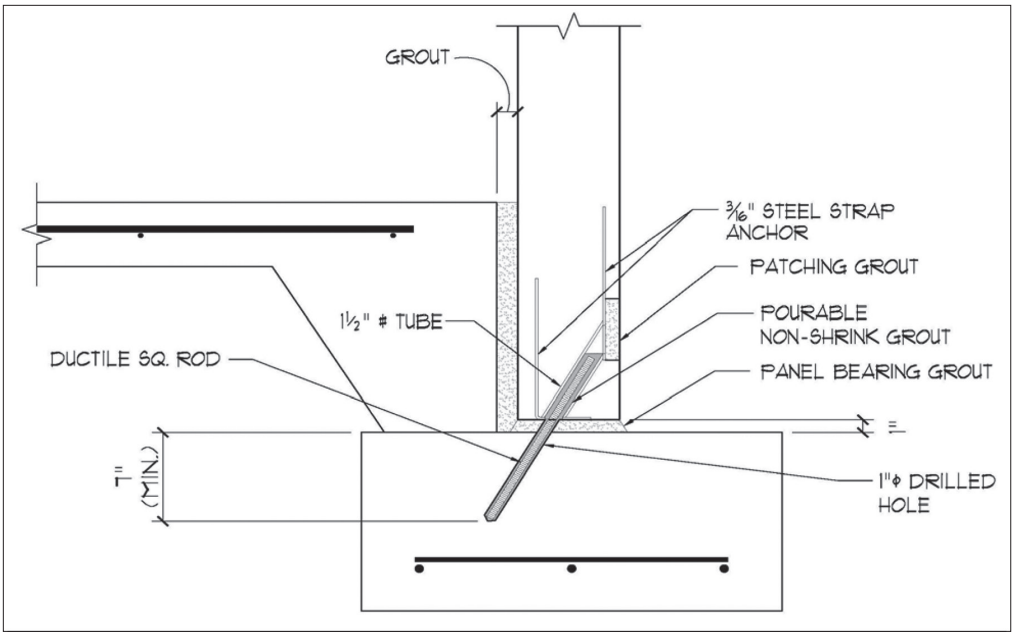
The Slant Anchor is integral to the panel design and planning. The anchor is positioned and reinforced in each panel during forming operations. The foam seals the connection sleeve during concrete placement.

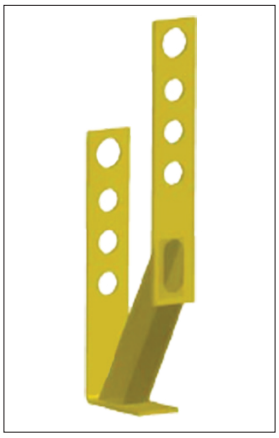
Once a completed tilt-up or precast panel is ready for installation, the foam is removed. The opening for the connection sleeve is now visible and accessible for anchoring.

Each panel is positioned on the foundation and braced. A hole is drilled into the foundation footing using the connection sleeve as a guide. This puts the load path near the center line of the panel.

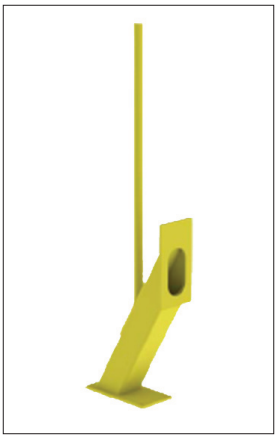
The hole is then partially grouted, the Ductile Bar inserted, and the remaining grout used to fill the sleeve. This grouted connection anchors the panel without welding or bolting.

***Note:** The installation meets ACI-318-14 16.2.4.3 (b). tensile strength of 10,000 lbs for panel-to-foundation connections. The Safe Working Load of the Slant Anchor is 9,000 lbs for uplift, horizontal and shear forces, base on a 3:1 safety factor.*





*Slant Anchor**
Standard Type



*Slant Anchor**
Slim Type

Slant Anchor*			
Part No.	**Type**	**Panel Width**	**Finish**
SBTSAC	Standard	7” minimum	Painted
SBPSAC	Slim	5-1/2” to 7”	Painted

** Optional galvanized finish on request.*

Slant Anchor Capacity*				
Part No.	**Type**	**Uplift**	**Horizontal**	**Shear**
SBTSAC	Standard	9,000 lbs	9,000 lbs	9,000 lbs
SBPSAC	Slim	9,000 lbs	9,000 lbs	9,000 lbs

** Safe Working Load (SWL) based on 3:1 safety factor.*

Ductile Bar

Slant Anchor Installation Guidelines

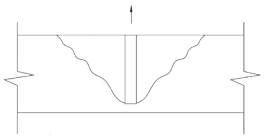
1. Position and secure the Slant Anchor before casting panel.
2. Erect panel, brace and install bearing grout as required.
3. Locate and remove foam Void Former from connection face.
4. Drill 1” diameter hole into the foundation using the sleeve as a guide.
5. Remove dust from hole using compressed air, vacuum and/or bottle brush.
6. Mix Flowable Grout and pour into the connection cavity until half full.
7. Place Ductile Bar into sleeve and foundation immediately after grouting.
8. Add additional grout to cover the bar and fill the cavity.
9. Allow grout to cure before patching/finishing the panel face.

Calculations and Testing

Anchor Straps
Allowable Tension: 0.6 Fy Ag = (2 straps) (0.6) (36 ksi) (2”) (3/16”) = 16.2
Allowable Tension: 0.5 Fu Ae = (2 straps) (0.5) (58 ksi) (2”-1”) (3/16”) = 10.8 controlling factor

Anchor Rod
Allowable Tension: 0.6 Fy Ag = (0.6) (45 ksi) (0.39 in^2) = 10.5K
Allowable Shear: 0.6 Fy Ag = (0.6) (45 ksi) (0.39 in^2) = 10.5K
Pullout: 30k (.90) with 3:1 safety factor = 9K controlling factor
Pullout based on deformed bar in nonshrink grout (8,000 psi).

Concrete Breakout (shear cone analysis)
Shear load perpendicular to panel = 17K ultimate load (11.3K service load).



Slant Anchor Testing*		
Type	**Load**	**Failure**
Tension (uplift)	24,978 lbs	Bar failed (5/8” rebar)
Tension (uplift)	31,494 lbs	Bar failed (5/8” ductile)
Tension (uplift)	30,408 lbs	Bar failed (5/8” ductile)
Tension (uplift)	31,494 lbs	Bar failed (5/8” ductile)
Shear parallel to wall	27,150 lbs	Bar failed (5/8” rebar)
Shear parallel to wall	22,806 lbs	Bar failed (5/8” rebar)
Shear perpendicular to wall	30,408 lbs	Bar failed (5/8” rebar)

1. All tests conducted using nonshrink cementitious grout (8,000 psi).
2. Ductile bar is 5/8” square ASTM-A36 Grade 50 with deformation.
3. All tests supervised by a professional engineer.

SureBuilT
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