

DriftTrak® PTS w/ DTSLB-PTS

Slab Integrated Bypass - Post Tensioned Concrete Slabs



Description

DriftTrak® PTS saves the time and expense of installing DriftTrak after the Post-Tensioned Concrete Slab (PTS) has been poured by integrating it directly into the slab before pouring. The headed studs come preinstalled to the DriftTrak PTS and function as the embedded anchorage to the post-tensioned slab instead of anchoring to a steel edge angle or post-installing concrete anchors. The DriftTrak PTS is sized to fit above or below the high-strength tendon reinforcing at edges of slabs. Once concrete is poured, the DriftTrak PTS is ready to support exterior steel framing using DTSLB-PTS bypass clips to accommodate vertical deflection and lateral drift requirements.



US Patent #7,503,150 & Patent Pending

Material Composition

Track Material: ASTM A1003/A1003M Structural Grade 50 (340) Type H, ST50H (ST340H): 50ksi (340MPa) minimum yield strength, 65ksi (450MPa) minimum tensile strength, 97mil minimum thickness (12 gauge, 0.1017" design thickness) with ASTM A653/A653M G60 (Z180) hot dipped galvanized coating.

Headed Stud Material: ASTM A29/A108, Grades 1010 through 1020 or equivalent, 49ksi (340MPa) minimum yield strength, 61ksi (420MPa) minimum tensile strength, 3/8" diam. x 3 1/8" length with 3/4" head diameter.

DTSLB-PTS Clip Material: ASTM A1003/A1003M Structural Grade 50 (340) Type H, ST50H (ST340H): 50ksi (340MPa) minimum yield strength, 65ksi (450MPa) minimum tensile strength, 97mil minimum thickness (12 gauge, 0.1017" design thickness) with ASTM A653/A653M G90 (Z275) hot dipped galvanized coating.

DriftTrak PTS & DTSLB-PTS Connector Nomenclature

DriftTrak® PTS is manufactured in 10' or 12' lengths, with headed studs welded in a single row (see drawing below). DTSLB-PTS clip connectors are inserted and rotated into place inside the DriftTrak PTS to better facilitate panel installation while accommodating vertical deflection and lateral drift requirements in floor slab bypass conditions. Connectors are sold separately, and paired with DriftTrak PTS to support 6" and 8" stud framing. The connectors are classified by multiplying the stud depth by 100, followed by "PTS", then "-L" for a Left version or "-R" for a Right version.

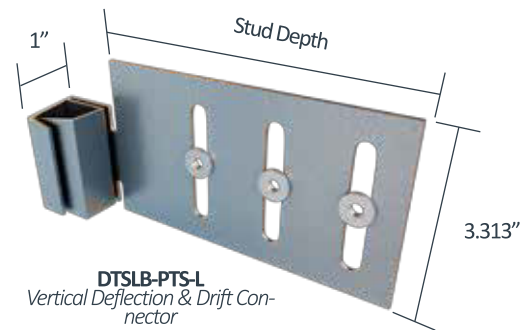
Example: Vertical Deflection required, left version required for installation with 6" stud

Designate: DriftTrak® PTS w/ DTSLB600-PTS-L

* Clip shown is left version of DTSLB-PTS.

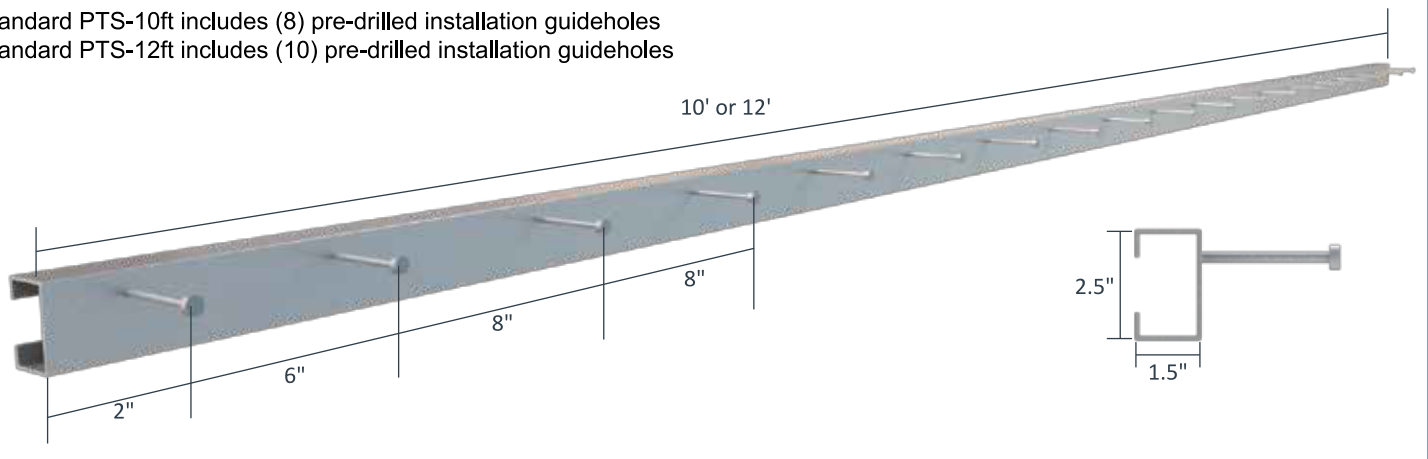
Right side version is available for order as standard parts.

** Clips and track sold separately.



DriftTrak® PTS: Dimensions, Layout and Stud Spacing

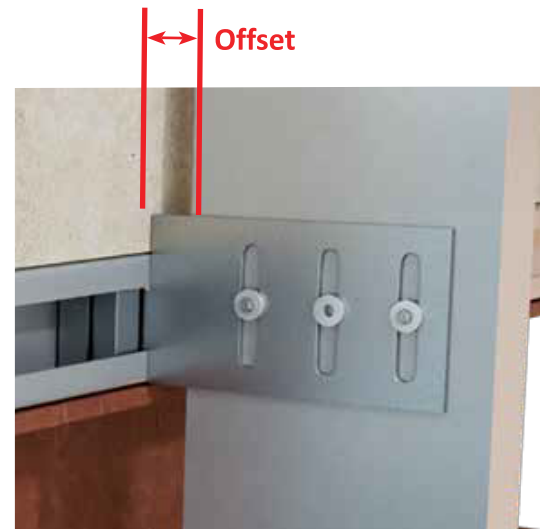
Standard PTS-10ft includes (8) pre-drilled installation guideholes
Standard PTS-12ft includes (10) pre-drilled installation guideholes



DriftTrak® PTS w/ DTSLB-PTS Allowable Loads

Screw Patterns with #12 Screws	F2 Load Direction			
	DTSLB600-PTS & DTSLB800-PTS Max. Offset = 1-7/8" for DTSLB600-PTS Max. Offset = 2-1/2" for DTSLB800-PTS			
	Bottom of Slab		Top of Slab	
	2 Screws	3 Screws	2 Screws	3 Screws
33mil (20ga), 33ksi stud	376	564	376	564
33mil (20ga), 50ksi stud	544	816	544	816
43mil (18ga), 33ksi stud	560	840	560	840
43mil (18ga), 50ksi stud	810	1,080	810	1,215
54mil (16ga), 33ksi stud	788	1,080	788	1,182
54mil (16ga), 50ksi stud	1,080	1,080	1,138	1,595
68mil (14ga), 50ksi stud	1,080	1,080	1,434	1,595
97mil (12ga), 50ksi stud	1,080	1,080	1,434	1,595
Max Allowable Clip Load	1,080		1,595	

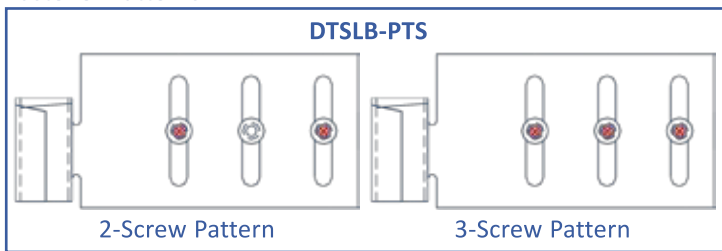
Load Direction



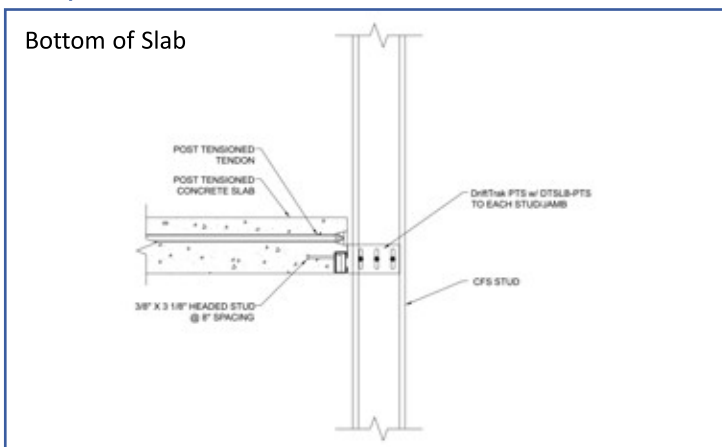
Notes:

1. Design loads are for attachment of DriftTrak PTS w/ DTSLB-PTS to stud and stud weld to track only.
2. Allowable loads have not been increased for wind, seismic, or other factors.
3. Clips are manufactured to fit into DriftTrak PTS. DriftTrak PTS w/ DTSLB-PTS allows up to 2" of vertical deflection (1" up and 1" down), and free lateral movement of the structure.
4. #12 screws are provided for each step bushing attachment to studs. Load requirements don't always justify use of a third screw.
5. Maximum tension on a single anchor should not exceed 1,600 lbs ASD. In tension, the strength of the anchor itself should be considered. The weld does not need to be considered in tension as the load table and 1,600 lbs ASD maximum tension value are inclusive of the strength of the welds.
6. Designers must check headed stud tension anchorage capacity into concrete per ACI 318 based on the actual headed stud edge distance an concrete compressive strength. For more information, call TSN Technical Support.
7. One row of bridging is recommended at a maximum distance of 18" from DriftTrak PTS w/ DTSLB-PTS to resist torsional effects.
8. Standard offset of stud from the open face of the track should not exceed 1-7/8" for DriftTrak PTS w/ DTSLB600-PTS clips.
9. Standard offset of stud from the open face of the track should not exceed 2-1/2" for DriftTrak PTS w/ DTSLB800-PTS clips.
10. Offset is measured from the open face of the track to the inside face of the stud.
11. For LRFD strengths contact TSN technical services.

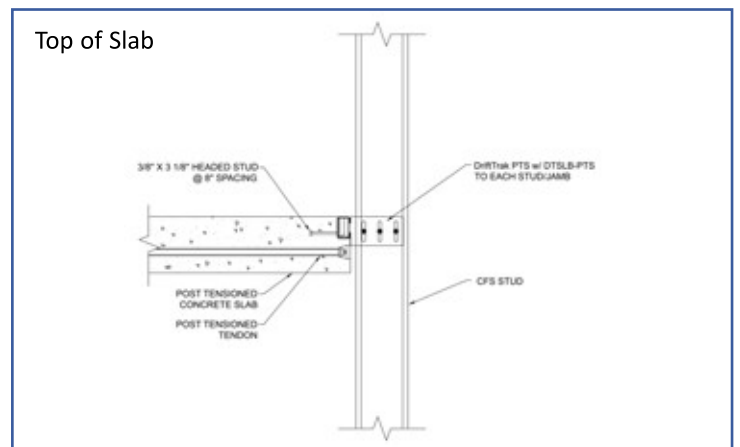
Fastener Patterns



Example Details



**DriftTrak® PTS w/ DTSLB-PTS:
Attachment to Post-Tensioned Concrete Slab**



**DriftTrak® PTS w/ DTSLB-PTS:
Attachment to Post-Tensioned Concrete Slab**

DriftTrak® PTS w/ DTLB-PTS

Slab Integrated Bypass - Post Tensioned Concrete Slabs



Description

DriftTrak® PTS saves the time and expense of installing DriftTrak after the Post-Tensioned Concrete Slab (PTS) has been poured by integrating it directly into the slab before pouring. The headed studs come preinstalled to the DriftTrak PTS and function as the embedded anchorage to the post-tensioned slab instead of anchoring to a steel edge angle or post-installing concrete anchors. The DriftTrak PTS is sized to fit above or below the high-strength tendon reinforcing at edges of slabs. Once concrete is poured, the DriftTrak PTS is ready to support exterior steel framing using DTLB-PTS bypass clips to accommodate vertical deflection, accommodate lateral drift requirements, and provide a rigid attachment to the floor slab.



US Patent #7,503,150 & Patent Pending

Material Composition

Track Material: ASTM A1003/A1003M Structural Grade 50 (340) Type H, ST50H (ST340H): 50ksi (340MPa) minimum yield strength, 65ksi (450MPa) minimum tensile strength, 97mil minimum thickness (12 gauge, 0.1017" design thickness) with ASTM A653/A653M G60 (Z180) hot dipped galvanized coating.

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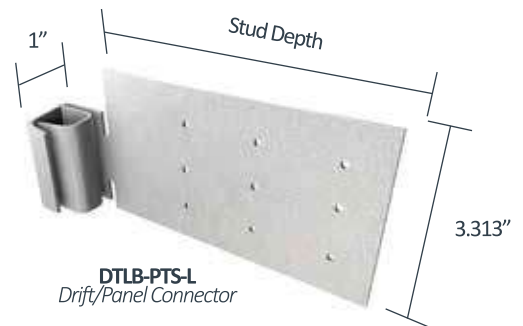
DTLB-PTS Clip Material: ASTM A1003/A1003M Structural Grade 50 (340) Type H, ST50H (ST340H): 50ksi (340MPa) minimum yield strength, 65ksi (450MPa) minimum tensile strength, 97mil minimum thickness (12 gauge, 0.1017" design thickness) with ASTM A653/A653M G90 (Z275) hot dipped galvanized coating.

DriftTrak PTS & DTLB-PTS Connector Nomenclature

DriftTrak® PTS is manufactured in 10' or 12' lengths, with headed studs welded in a single row (see drawing below). DTLB-PTS clip connectors are inserted and rotated into place inside the DriftTrak PTS to better facilitate panel installation while accommodating vertical deflection, accommodating lateral drift requirements, and providing a rigid attachment to the floor slab in bypass conditions. Connectors are sold separately, and paired with DriftTrak PTS to support 6" and 8" stud framing. The connectors are classified by multiplying the stud depth by 100, followed by "PTS", then "-L" for a Left version or "-R" for a Right version.

Example: Rigid connection required, left version required for installation with 6" stud

Designate: DriftTrak® PTS w/ DTLB600-PTS-L



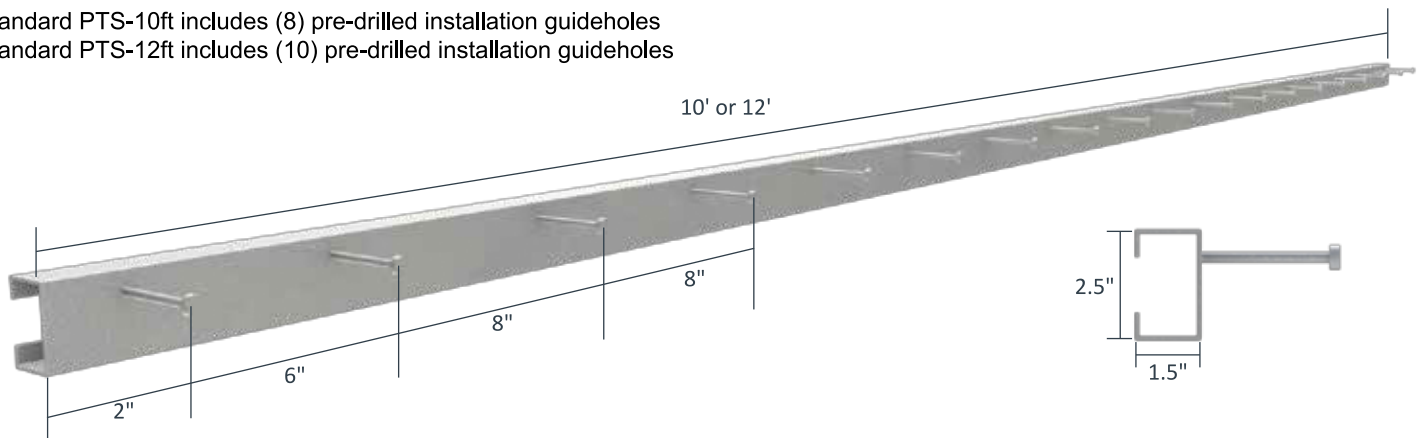
* Clip shown is left version of DTLB-PTS.

Right side version is available for order as standard parts.

** Clips and track sold separately.

DriftTrak® PTS: Dimensions, Layout and Stud Spacing

Standard PTS-10ft includes (8) pre-drilled installation guideholes
Standard PTS-12ft includes (10) pre-drilled installation guideholes

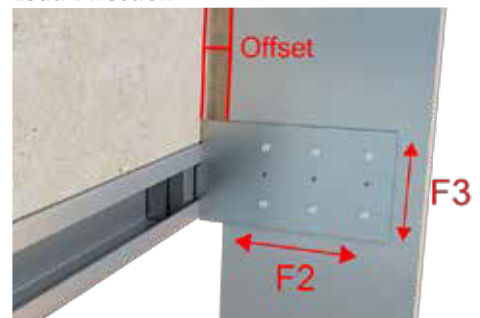


DriftTrak® PTS w/ DTLB-PTS Allowable Loads

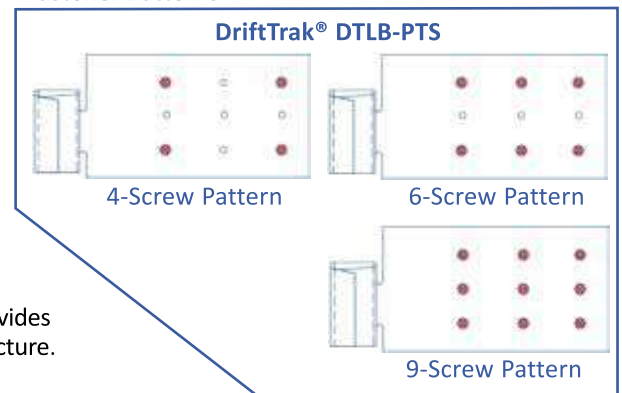
Screw Patterns with #12 Screws	F2 Direction											
	Bottom of Slab Installation						Top of Slab Installation					
	DTLB600-PTS Max. Offset = 1-7/8"			DTLB800-PTS Max. Offset = 2-1/2"			DTLB600-PTS Max. Offset = 1-7/8"			DTLB800-PTS Max. Offset = 2-1/2"		
	4 Screws	6 Screws	9 Screws	4 Screws	6 Screws	9 Screws	4 Screws	6 Screws	9 Screws	4 Screws	6 Screws	9 Screws
33mil (20ga), 33ksi stud	665	956	1,136	700	1,017	1,110	665	956	1,354	700	1,017	1,326
33mil (20ga), 50ksi stud	963	1,136	1,136	1,013	1,110	1,110	963	1,354	1,354	1,013	1,326	1,326
43mil (18ga), 33ksi stud	991	1,136	1,136	1,043	1,110	1,110	991	1,354	1,354	1,043	1,326	1,326
43mil (18ga), 50ksi stud	1,136	1,136	1,136	1,110	1,110	1,110	1,354	1,354	1,354	1,326	1,326	1,326
54mil (16ga), 33ksi stud	1,136	1,136	1,136	1,110	1,110	1,110	1,354	1,354	1,354	1,326	1,326	1,326
54mil (16ga), 50ksi stud	1,136	1,136	1,136	1,110	1,110	1,110	1,354	1,354	1,354	1,326	1,326	1,326
68mil (14ga), 50ksi stud	1,136	1,136	1,136	1,110	1,110	1,110	1,354	1,354	1,354	1,326	1,326	1,326
97mil (12ga), 50ksi stud	1,136	1,136	1,136	1,110	1,110	1,110	1,354	1,354	1,354	1,326	1,326	1,326
Max Allowable Clip Load	1,136			1,110			1,354			1,326		

Screw Patterns with #12 Screws	F3 Direction					
	Bottom and Top of Slab Installation					
	DTLB600-PTS Max. Offset = 1-7/8"			DTLB800-PTS Max. Offset = 2-1/2"		
	4 Screws	6 Screws	9 Screws	4 Screws	6 Screws	9 Screws
33mil (20ga), 33ksi stud	202	243	331	210	243	345
33mil (20ga), 50ksi stud	293	351	479	303	352	500
43mil (18ga), 33ksi stud	301	362	493	312	362	514
43mil (18ga), 50ksi stud	436	523	713	452	523	744
54mil (16ga), 33ksi stud	424	509	693	439	509	724
54mil (16ga), 50ksi stud	613	735	1,001	635	735	1,000
68mil (14ga), 50ksi stud	772	926	1,064	800	927	1,000
97mil (12ga), 50ksi stud	772	926	1,064	800	927	1,000
Max Allowable Clip Load	1,064			1,000		

Load Direction



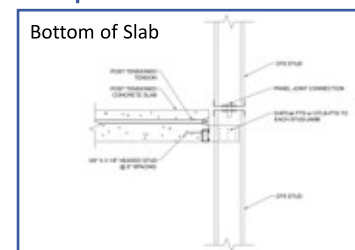
Fastener Patterns



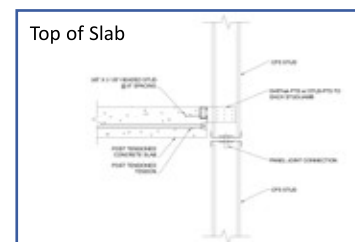
Notes:

- Design loads are for attachment of DriftTrak PTS w/ DTLB-PTS to stud and stud weld to track only.
- Allowable loads have not been increased for wind, seismic, or other factors.
- Clips are manufactured to fit into DriftTrak PTS. DriftTrak PTS w/ DTLB-PTS provides a rigid connection to the stud while allowing free lateral movement of the structure.
- Torsional effects are considered on screw group for F3 allowable loads. It is assumed that all of the torsional moment is taken by the connection to the stud.
- Loads listed reflect force in a single direction. When multiple loads act on the connection, it is the responsibility of the designer to check the interaction of forces.
- Maximum tension on a single anchor should not exceed 1,600 lbs ASD. In tension, the strength of the anchor itself should be considered. The weld does not need to be considered in tension as the load table and 1,600 lbs ASD maximum tension value are inclusive of the strength of the welds.
- Designers must check headed stud tension anchorage capacity into concrete per ACI 318 based on the actual headed stud edge distance an concrete compressive strength. For more information, call TSN Technical Support.
- One row of bridging is recommended at a maximum distance of 18" from DriftTrak PTS w/ DTLB-PTS if no other stud lateral restraint is present.
- Standard offset of stud from the open face of the track should not exceed 1-7/8" for DriftTrak PTS w/ DTLB600-PTS clips.
- Standard offset of stud from the open face of the track should not exceed 2-1/2" for DriftTrak PTS w/ DTLB800-PTS clips.
- Offset is measured from the open face of the track to the inside face of the stud.
- For LRFD strengths contact TSN technical services.

Example Details



DriftTrak® DTLB-PTS with Headed Studs: Attachment to Post-Tensioned Concrete Slab



DriftTrak® DTLB-PTS with Headed Studs: Attachment to Post-Tensioned Concrete Slab