DriftTrak® DTH w/ DTSLB-HD

Slab Integrated Bypass

The Steel Network, Inc.
www.steelnetwork.com
1-888-474-4876

Description

DriftTrak® DTH (Headed Stud) w/ DTSLB-HD saves the time and expense of installing DriftTrak after the concrete slab has been poured, by integrating it directly into the slab before pouring. The headed studs come preinstalled to the DriftTrak DTH and function as the attachment to the post-tensioned slab instead of welding to the pour stop angle or use of PAF's or anchors. Once concrete is poured, the DriftTrak DTH is ready to support exterior steel framing using DTSLB-HD 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, 45ksi (310MPa) minimum yield strength, 55ksi (380MPa) minimum tensile strength, ⅜" diam. x 3 ⅛" length with ¾" head diameter.

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 DTH w/ DTSLB-HD Allowable Loads

DriftTrak® DTH w/ DTSLB-HD, Recommended Allowable Load (lbs): F2			
Screw Patterns with #12 Screws	F2 Load Direction		
	DTSLB362/400-HD *Max. Offset = 1-1/4" for DTSLB362/400-HD*	DTSLB600-HD & DTSLB800-HD *Max. Offset = 1-1/4" for DTSLB600-HD Max. Offset = 2-1/2" for DTSLB800-HD*	
	2 Screws	2 Screws	3 Screws
33mil (20ga), 33ksi stud	376	376	564
33mil (20ga), 50ksi stud	544	544	816
43mil (18ga), 33ksi stud	560	560	840
43mil (18ga), 50ksi stud	810	810	1,215
54mil (16ga), 33ksi stud	788	788	1,182
54mil (16ga), 50ksi stud	1,138	1,138	1,657
68mil (14ga), 50ksi stud	1,434	1,434	1,657
97mil (12ga), 50ksi stud	1,434	1,434	1,657
Max Allowable Clip Load	1,657		

Load Direction

Notes:

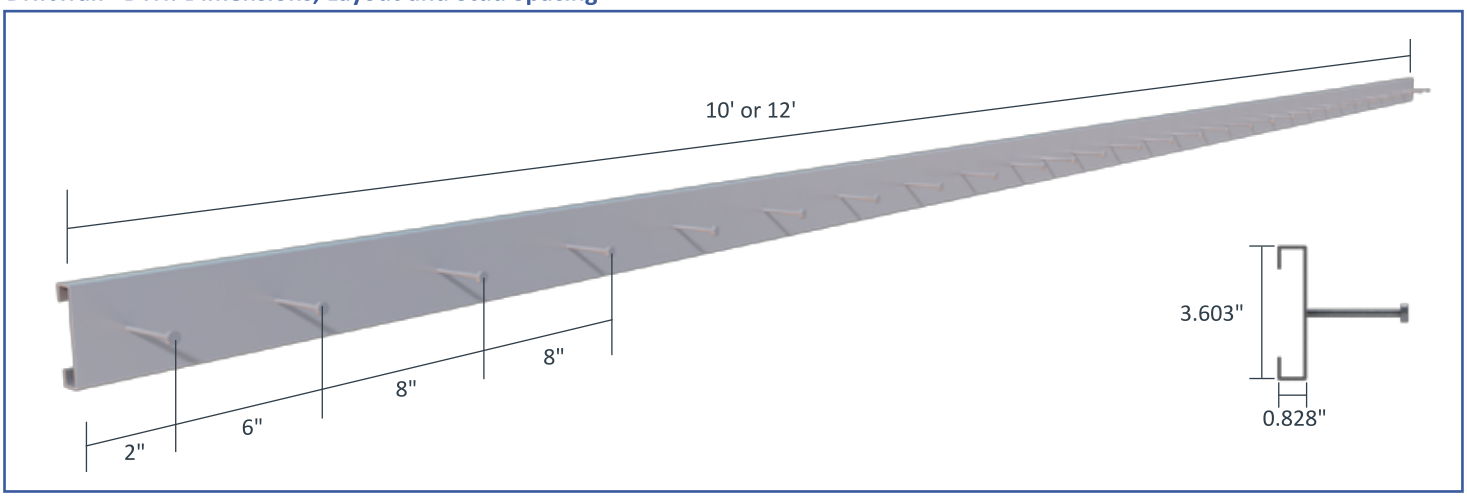
1. Design loads are for attachment of DriftTrak DTH w/ DTSLB-HD to stud and stud weld to track only.
2. Allowable loads have not been increased for wind, seismic, or other factors.
3. Clips are manufactured to fit into DriftTrak DTH. DriftTrak DTH w/ DTSLB-HD allows up to 2" of vertical deflection (1" 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 Suppot.
7. One row of bridging is recommended at a maximum distance of 18" from DriftTrak DTH w/ DTSLB-HD to resist torsional effects.
8. Standard offset of stud from the open face of the track should not exceed 1-1/4" for DriftTrak DTH w/ DTSLB362/400-HD or DTSLB600-HD clips.
9. Standard offset of stud from the open face of the track should not exceed 2-1/2" for DriftTrak DTH w/ DTSLB800-HD 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.

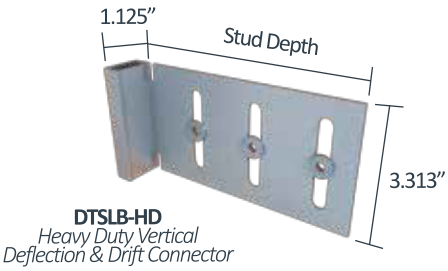
Nomenclature

DriftTrak DTH is manufactured in 10' or 12' lengths, with headed studs in a single centered row (See DriftTrak® DTH: Dimensions, Layout, and Stud Spacing figure. To specify DriftTrak DTH for a vertical deflection specify DriftTrak DTH and the clip size by multiplying the stud depth by 100.

Example: *Headed stud track, 6" stud depth, with an outward load (F2) of 1,000 lbs*
Designate: *DriftTrak DTH w/ DTSLB600-HD*

DriftTrak® DTH: Dimensions, Layout and Stud Spacing

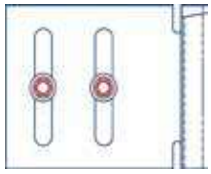




DTSLB-HD
Heavy Duty Vertical Deflection & Drift Connector

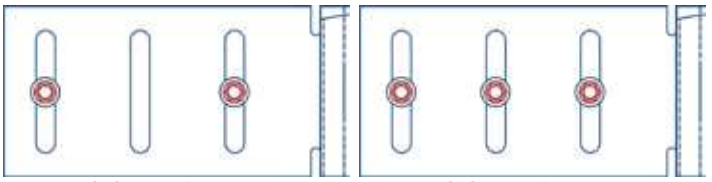
Fastener Patterns

DTSLB362/400-HD



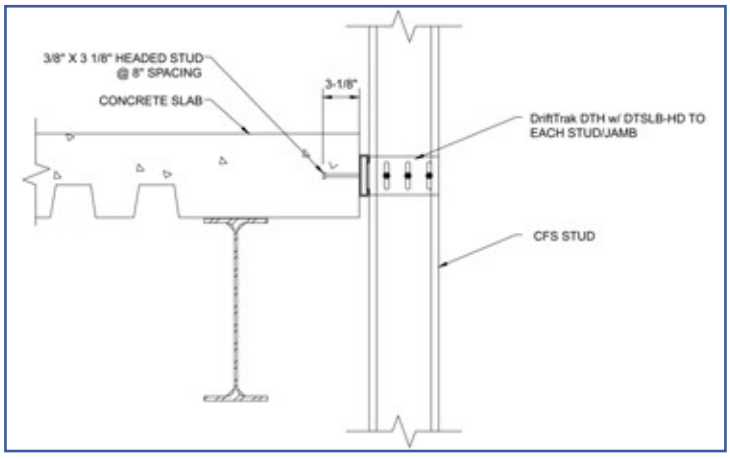
2-Screw Pattern

DTSLB600-HD and DTSLB800-HD



2-Screw Pattern 3-Screw Pattern

Example Details



DriftTrak® DTH w/ DTSLB-HD
Attachment to Slab on Metal Deck

DriftTrak® DTH w/ DTLB-HD

Slab Integrated Bypass

The Steel Network, Inc.
www.steelnetwork.com
1-888-474-4876

Description

DriftTrak® DTH (Headed Stud) w/ DTLB-HD saves the time and expense of installing DriftTrak after the concrete slab has been poured, by integrating it directly into the slab before pouring. The headed studs come preinstalled to the DriftTrak DTH and function as the attachment to the post-tensioned slab instead of welding to the pour stop angle or use of PAF's or anchors. Once concrete is poured, the DriftTrak DTH is ready to support exterior steel framing to accommodate vertical deflection and lateral drift requirements using DTLB-HD bypass clips to provide a rigid attachment and accommodate 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, 45ksi (310MPa) minimum yield strength, 55ksi (380MPa) minimum tensile strength, ⅜" diam. x 3 ⅛" length with ¾" head diameter.

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.

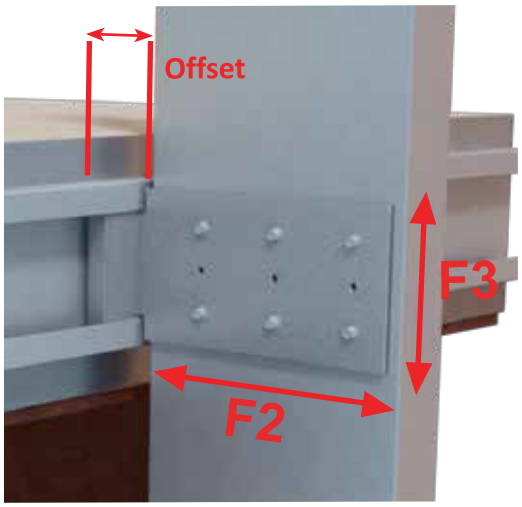
DriftTrak Headed Stud Allowable Loads

DriftTrak® Headed Studs with DTLB-HD, Recommended Allowable Load (lbs): F2 & F3													
	F2 Load Direction					F3 Load Direction							
	DTLB362/400-HD *Max. Offset = 1" for DTLB362/400-HD*		DTLB600-HD or DTLB800-HD *Max. Offset = 1" for DTLB600-HD Max. Offset = 1" for DTLB800-HD*			DTLB362/400-HD *Max. Offset = 1" for DTLB362/400-HD*		DTLB600-HD *Max. Offset = 1" for DTLB600-HD*			DTLB800-HD *Max. Offset = 1" for DTLB800-HD*		
Screw Patterns with #12 Screws	4 Screws	6 Screws	4 Screws	6 Screws	9 Screws	4 Screws	6 Screws	4 Screws	6 Screws	9 Screws	4 Screws	6 Screws	9 Screws
33mil (20ga), 33ksi stud	752	1,128	752	1,128	1,657	228	309	258	309	433	226	264	375
33mil (20ga), 50ksi stud	1,088	1,632	1,088	1,632	1,657	330	448	373	447	627	327	382	543
43mil (18ga), 33ksi stud	1,120	1,657	1,120	1,657	1,657	340	461	384	460	645	337	393	559
43mil (18ga), 50ksi stud	1,620	1,657	1,620	1,657	1,657	492	667	555	666	933	487	568	809
54mil (16ga), 33ksi stud	1,576	1,657	1,576	1,657	1,657	478	649	540	648	908	474	553	787
54mil (16ga), 50ksi stud	1,657	1,657	1,657	1,657	1,657	691	937	780	936	1,312	685	799	1,136
68mil (14ga), 50ksi stud	1,657	1,657	1,657	1,657	1,657	870	1,163	1,065	1,278	1,791	863	1,006	1,272
97mil (12ga), 50ksi stud	1,657	1,657	1,657	1,657	1,657	870	1,163	1,065	1,278	1,791	863	1,006	1,272
Max Allowable Clip Load	1,657		1,657			1,163		1,908			1,272		

Notes:

1. Design loads are for attachment of DriftTrak DTH w/ DTLB-HD to stud only.
2. Allowable loads have not been increased for wind, seismic, or other factors.
3. Clips are manufactured to fit into DriftTrak DTH. DriftTrak DTH w/ DTLB-HD provides a rigid connection to the stud while allowing free lateral movement of the structure.
4. 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.
5. 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.
6. 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.
7. 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 Suppot.
8. One row of bridging is recommended at a maximum distance of 18" from DriftTrak DTH w/ DTLB-HD if no other stud lateral restraint is present.
9. Standard offset of stud from the open face of the track should not exceed 1" for DriftTrak DTH w/ DTLB362/400-HD, DTLB600-HD, or DTLB800-HD 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.

Load Direction

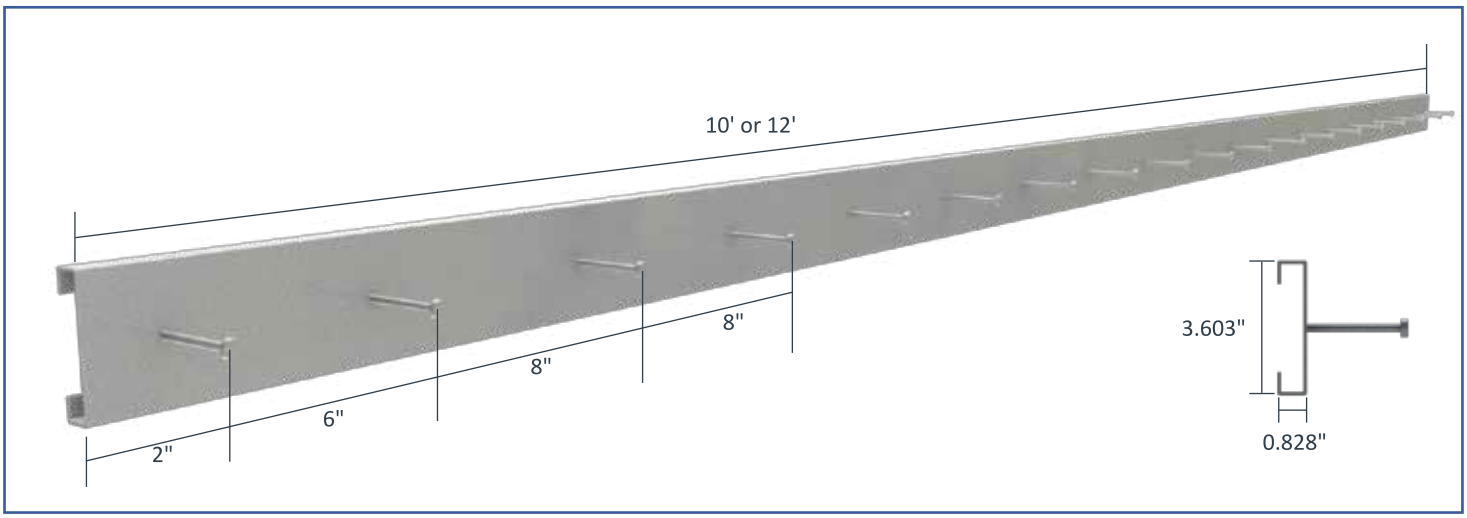


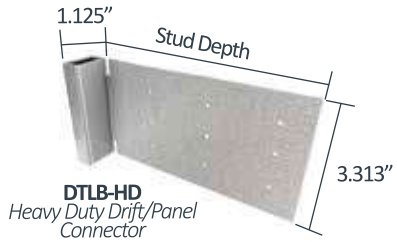
Nomenclature

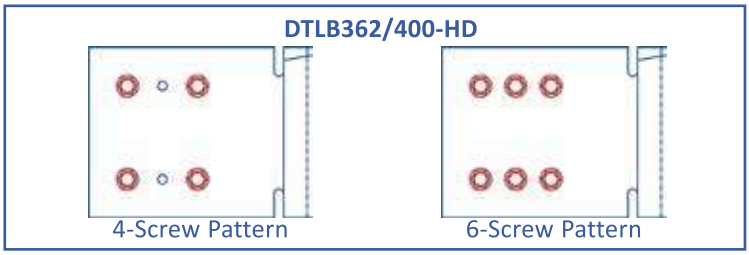
DriftTrak DTH is manufactured in 10' or 12' lengths, with headed studs in a single centered row (See DriftTrak® DTH: Dimensions, Layout, and Stud Spacing figure. To specify DriftTrak DTH for rigid connections specify DriftTrak DTH and the clip size by multiplying the stud depth by 100.

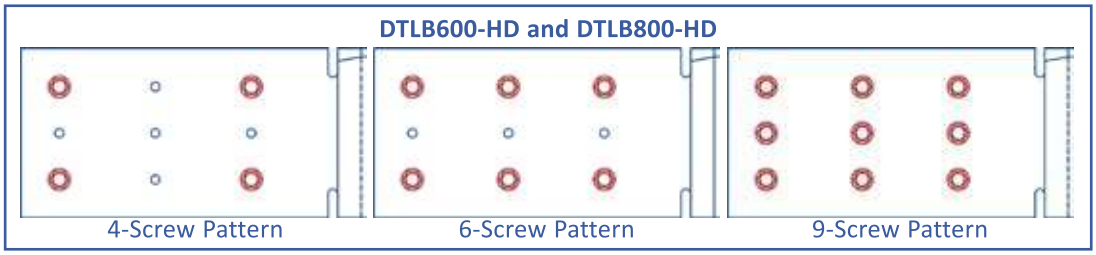
Example: *Track fastened at 8", 6" stud depth, with an outward load (F2) of 1,000 lbs and a gravity load (F3) of 400 lbs*
Designate: *DriftTrak DT w/ DTLB600-HD*

DriftTrak® DTH: Dimensions, Layout and Stud Spacing

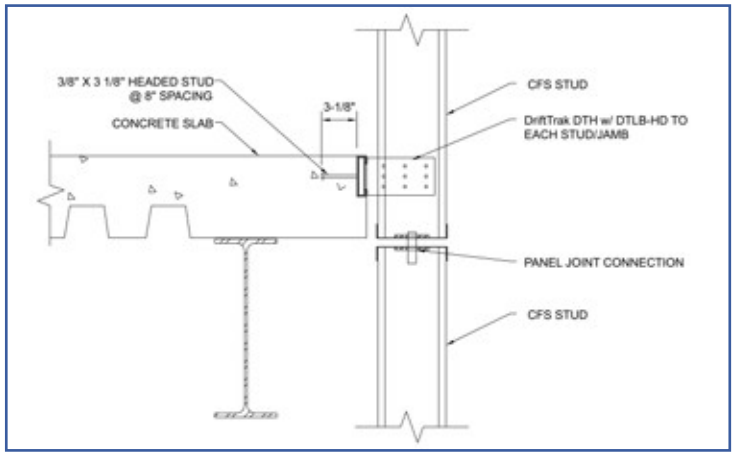








Example Details



DriftTrak® DTH w/ DTLB-HD
Top Attachment - Slab Insert