

The Steel Network, Inc.

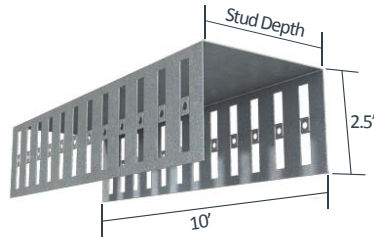
# VertiTrack® VT

Interior Head of Wall



### Material Composition

ASTM A1003/A1003M Structural Grade 50 (340) Type H, ST50H (ST340H): 50ksi (340MPa) minimum yield strength, 65ksi (450MPa) minimum tensile strength, 33mil minimum thickness (20 gauge, 0.0346" design thickness) with ASTM A653/A653M G60 (Z180) hot dipped galvanized coating.



US Patents # 8,181,419 & 8,683,770

### VertiTrak VT Allowable Loads & Limiting Heights

Section	Wall Stud Thickness	Uniform Lateral Load (psf) and Stud Spacing (in)									Allowable Lateral Load (lbs)
		5 psf			10 psf			15 psf			
		12" o.c.	16" o.c.	24" o.c.	12" o.c.	16" o.c.	24" o.c.	12" o.c.	16" o.c.	24" o.c.	
XXXVT250-33 (50 ksi)	18 mil-25 ga to 33 mil-20 ga (or EQ Studs)	46' 5"	34' 10"	23' 2"	23' 2"	17' 5"	11' 7"	15' 6"	11' 7"	N/A	116

### Table Notes:

- Allowable lateral load is based on lab tests with studs @ 12" from end of VertiTrack VT.
- Wall heights are calculated from allowable lateral load at top of the wall.
- Wall stud size should be determined independently. Wall heights based on stud strength and stiffness should be checked.
- Attach VertiTrack VT pieces together at splice locations with a piece of a stud.

### Material Analysis

VertiTrak® VT Section Properties																
Section	Design Thickness (in)	Yield Strength (ksi)	Gross Properties								Torsional Properties					
			Area (in <sup>2</sup> )	Weight (lbs/ft)	I <sub>x</sub> (in <sup>4</sup> )	S <sub>x</sub> (in <sup>3</sup> )	R <sub>x</sub> (in)	I <sub>y</sub> (in <sup>4</sup> )	S <sub>y</sub> (in <sup>3</sup> )	R <sub>y</sub> (in)	Jx1000 (in <sup>4</sup> )	C <sub>w</sub> (in <sup>6</sup> )	X <sub>o</sub> (in)	R <sub>o</sub> (in)	β	m (in)
250VT250-33	0.0346	50	0.259	0.883	0.339	0.256	1.144	0.178	0.107	0.827	0.103	0.212	-1.892	2.360	0.358	1.056
362VT250-33			0.298	1.015	0.740	0.392	1.575	0.200	0.113	0.820	0.119	0.482	-1.719	2.472	0.516	0.992
400VT250-33			0.311	1.059	0.914	0.441	1.714	0.207	0.115	0.815	0.124	0.602	-1.67	2.528	0.564	0.973
600VT250-33			0.380	1.295	2.236	0.728	2.424	0.233	0.121	0.783	0.152	1.520	-1.451	2.932	0.755	0.880

VertiTrak® VT Section Properties																				
Section	Design Thickness (in)	Yield Strength (ksi)	Effective Properties: Full Leg									Effective Properties: Net (Slotted) Leg								
			I <sub>x</sub> (in <sup>4</sup> )	S <sub>x</sub> (in <sup>3</sup> )	M <sub>x</sub> (k-in)	I <sub>y</sub> <sup>1</sup> (in <sup>4</sup> )	S <sub>y</sub> <sup>1</sup> (in <sup>3</sup> )	M <sub>y</sub> <sup>1</sup> (k-in)	I <sub>y</sub> <sup>2</sup> (in <sup>4</sup> )	S <sub>y</sub> <sup>2</sup> (in <sup>3</sup> )	M <sub>y</sub> <sup>2</sup> (k-in)	I <sub>x</sub> (in <sup>4</sup> )	S <sub>x</sub> (in <sup>3</sup> )	M <sub>x</sub> (k-in)	I <sub>y</sub> <sup>1</sup> (in <sup>4</sup> )	S <sub>y</sub> <sup>1</sup> (in <sup>3</sup> )	M <sub>y</sub> <sup>1</sup> (k-in)	I <sub>y</sub> <sup>2</sup> (in <sup>4</sup> )	S <sub>y</sub> <sup>2</sup> (in <sup>3</sup> )	M <sub>y</sub> <sup>2</sup> (k-in)
250VT250-33	0.0346	50	0.236	0.172	5.160	0.170	0.101	3.024	0.010	0.009	0.065	0.118	0.089	2.915	0.082	0.038	1.144	0.082	0.038	1.144
362VT250-33			0.528	0.272	8.131	0.177	0.102	3.067	0.010	0.009	0.067	0.287	0.152	4.973	0.085	0.038	1.152	0.085	0.038	1.150
400VT250-33			0.658	0.308	9.218	0.178	0.103	3.075	0.010	0.009	0.068	0.366	0.177	5.764	0.086	0.039	1.153	0.086	0.038	1.151
600VT250-33			1.669	0.448	13.421	0.183	0.104	3.104	0.011	0.01	0.071	1.024	0.286	8.560	0.089	0.039	1.159	0.088	0.039	1.153

### Notes:

- Section properties and capacities are calculated in accordance with AISI-S100-07 Specification.
- Tabulated gross properties are based on the full, unreduced cross section of the track away from slots.
- Effective section properties incorporate the strength increase from cold work of forming as applicable per AISI-S100-07, Sec. A7.2.
- Net effective section properties are calculated at a cross section through the slot.
- For deflection calculations, use the effective moment of inertia (I<sub>x</sub>). This effective moment of inertia is calculated at a stress 0.6 F<sub>y</sub> (service load level).
- Properties (I<sub>y</sub>, S<sub>y</sub> and M<sub>y</sub>)<sup>1</sup> are based on the web element in compression while (I<sub>y</sub>, S<sub>y</sub> and M<sub>y</sub>)<sup>2</sup> are based on the web element in tension.



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**Nomenclature**

VertiTrack VT is manufactured in 10 ft. lengths. It is designated by inside track dimension, followed by type (VT), then leg height (250) and thickness (33 mil).

*Example: 6" track*

*Designate: VertiTrack® 600VT250-33*



UL®-Classified Head of Wall Assemblies

HW-D-0043, HW-D-0044, HW-D-0054, HW-D-0088, HW-D-0099, HW-D-0154, HW-D-0184, HW-D-0194, HW-D-0218, HW-D-0252, HW-D-0259, HW-D-0264, HW-D-0324, HW-D-0363, HW-D-0377, HW-D-0388, HW-D-0456, HW-D-0538, HW-D-0539, HW-D-0540, HW-D-0548, HW-D-0606

