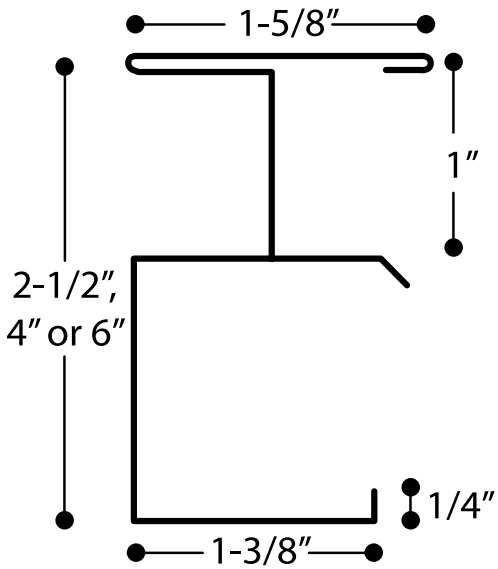
SHAFTWALL SYSTEMS

NON STRUCTURAL

Shaftwall Systems are used to aid in the construction of elevator shafts, mechanical shafts, stairwells, air return shafts and horizontal membranes. The system is designed to use with 1" gypsum board. Telling's Shaftwall is available in 2 1/2", 4", or 6" sizes. Shaftwall is available in 18, 33 and 40 mil thicknesses. Shaftwall design utilizes CT (also called CH) studs as referenced in the UL wall assembly U415.

C-T Stud



CT Stud Product Offering

Section	Web (in)	Min Base Steel Thickness (in)	Design Thickness (in)	Fy Yield Stress (ksi)
CT-18	2.5", 4.0", 6.0"	0.0179	0.0188	33
CT-33	2.5", 4.0", 6.0"	0.0329	0.0346	33
CT-40	2.5", 4.0", 6.0"	0.0380	0.0400	33

CT Stud Section Properties

Section	Min Thickness (in)	Design Thickness (in)	Fy (ksi)	Weight (lb/ft)	Area (in^2)	Ixx (in^4)	Sx(C) (in^4)	Sx(T) (in^4)
250CT-18	0.0179"	0.0188"	33	0.47	0.118	0.132	0.095	0.118
400CT-18	0.0179"	0.0188"	33	0.58	0.015	0.374	0.171	0.207
600CT-18	0.0179"	0.0188"	33	0.72	0.181	0.957	0.299	0.347
250CT-33	0.0329"	0.0346"	33	0.82	0.218	0.242	0.175	0.217
400CT-33	0.0329"	0.0346"	33	1.02	0.267	0.687	0.341	0.380
600CT-33	0.0329"	0.0346"	33	1.26	0.333	1.759	0.543	0.637
250CT-40	0.0380"	0.0400"	33	0.99	0.291	0.273	0.253	0.192
400CT-40	0.0380"	0.0400"	33	1.19	0.351	0.811	0.476	0.353
600CT-40	0.0380"	0.0400"	33	1.47	0.431	2.142	0.827	0.628

CT Stud & J Track Limiting Wall Heights

Limiting Wall Heights for CT Studs & J Track Shaftwall 1-Hour Fire Rated Assemblies

Section	Design Thickness (in)	5 psf				7.5 psf				10 psf			
		L/120	L/180	L/240	L/360	L/120	L/180	L/240	L/360	L/120	L/180	L/240	L/360
250CT-18	0.0188"	11'7"f	11'- 4"	10'- 6"	9'- 0"	9'- 5"f	9'5"f	8'11"		8'2"f	8'2"f	7'10"	
400CT-18	0.0188"	14'6"f	14'6"f	13 - 9	12 - 1	11-10 f	11-10 f	11-10f	10-5	9-3s	9-3s	9-3s	9-3s
600CT-18	0.0188"	16'11"f	16 - 11f	16 - 11f	16 - 3	13-10 f	13-10 f	13-10f	13-10f	12-0f	12-0f	12-0f	12-0f
250CT-33	0.0346"	15'9"	13 - 9	12 - 6	10 - 11	13 - 9	12-0	10-11	9-6	12-6	10-11		8-7
400CT-33	0.0346"	21'7"	18 - 10	17 - 2	15 - 0	18-9F	16-6	15-0	13-1	16-2f	15-0	13-7	11-10
600CT-33	0.0346"	27'10"f	25 - 3	22 - 11	20 - 1	22-9f	22-1	20-1	17-6	19-5f	19-5f	18-3	15-11
250CT-40	0.0400"	16'11"	14 - 9	13 - 5	11 - 9	14-9	12-11	11-9	10-2	13-5	11-9	10-7	9-2
400CT-40	0.0400"	23'4"	20 - 4	18 - 6	16 - 2	20-4	17-9	16-2	14-1	18-6	16-2	14-8	12-10
600CT-40	0.0400"	30'11"	27 - 1	24 - 8	21 - 7	27-1	23-9	21-7	18-11	24-7f	21-7	19-8	17-3

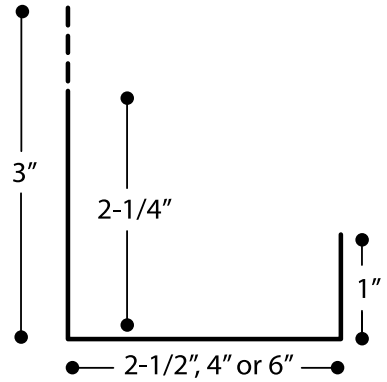
NOTES:

1. Allowable composite limiting heights are calculated using ICC-ES-AC86-2012
2. "f" indicates flexural stress controls the allowable wall height
3. "s" indicates the end reaction controls the allowable wall height
4. Wall Construction was: Type X 5/8" thick Gypsum board, & #6 screws
5. Stud Spacing was 24" on center
6. 600CT-33 and 600CT-40 assemblies require a 6 in screw spacing for the gypsum board along the top & bottom track.

SHAFTWALL SYSTEMS

NON STRUCTURAL

SHAFTWALL SYSTEM: J TRACK



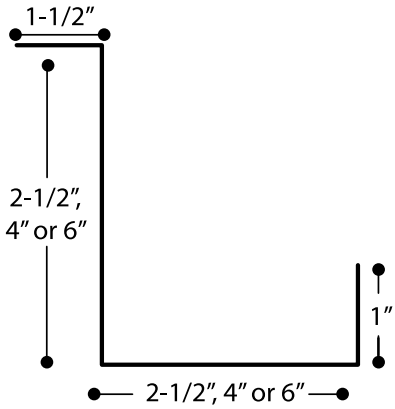
J Track Product Offering

Section	Web (in)	Flange (in)	Min Thickness (in)	Design Thickness (in)	Fy (ksi)
JT-18	2.5″, 4.0″, 6.0″	2.25″ & 3.0″	0.0179	0.0188	33
JT-33	2.5″, 4.0″, 6.0″	2.25″ & 3.0″	0.0329	0.0346	33

J Track Sectional Properties

Section	Min Thickness (in)	Design Thickness (in)	Fy Yield Stress (ksi)	Weight (lb/ft)	Area (in^2)	Ixx (in^4)	Rx (in)	Iyy (in^4)	Ry (in)
250JT225-18	0.0179	0.0188″	33	0.3681	0.1082	0.1193	1.05	0.0471	0.6601
400JT225-18	0.0179	0.0188″	33	0.464	0.1364	0.3404	1.5799	0.0532	0.6247
600JT225-18	0.0179	0.0188″	33	0.592	0.174	0.878	2.2466	0.0583	0.5787
250JT300-18	0.0179	0.0188″	33	0.4161	0.1223	0.1322	1.0399	0.1025	0.9155
400JT300-18	0.0179	0.0188″	33	0.512	0.1505	0.3772	1.5834	0.1158	0.8774
600JT300-18	0.0179	0.0188″	33	0.64	0.1881	0.9689	2.2697	0.1274	0.823
250JT225-33	0.0329	0.0346″	33	0.6765	0.1988	0.22	1.052	0.086	0.6575
400JT225-33	0.0329	0.0346″	33	0.8531	0.2507	0.6269	1.5813	0.097	0.622
600JT225-33	0.0329	0.0346″	33	1.0886	0.3199	1.6159	2.2474	0.1061	0.576
250JT300-33	0.0329	0.0346″	33	0.7648	0.2248	0.244	1.0419	0.1874	0.9131
400JT300-33	0.0329	0.0346″	33	0.9414	0.2767	0.695	1.5849	0.2117	0.8748
600JT300-33	0.0329	0.0346″	33	1.1769	0.3459	1.7835	2.2708	0.2328	0.8204

SHAFTWALL SYSTEM: JL CORNER



J-L Corner Product Offering

Section	Web (in)	Flange (in)	Min Base Steel Thickness (in)	Design Thickness (in)	Fy Yield Stress (ksi)	Notes
JL-18	2.5″, 4.0″, 6.0″	2.5″, 4.0″, 6.0″	0.0179″	0.0188″	33	12′ max length
JL-33	2.5″, 4.0″, 6.0″	2.5″, 4.0″, 6.0″	0.0329″	0.0346″	33	12′ max length
JL-40	2.5″, 4.0″, 6.0″	2.5″, 4.0″, 6.0″	0.0400″	0.0380″	33	12′ max length

Recommendations

- Use a fastening plate to secure the J track whenever fasteners are closer than 4″ to the edge. Setting the plate at the time of concrete construction will avoid spalling by mechanical fasteners.
- Cut C-T studs 3/4″ less than the height of the opening.
- Cut 1″ shaftliner panel 3/4″ less than the height of the opening.
- In structural steel-frame construction, install J track sections before applying spray-on fireproofing.
- Items to be anchored to the wall (cabinets, sinks, handrails, etc.) should be fastened to the C-T or to plates secured behind or between layers of 1/2″ Type C gypsum board.
- Joint compounds should be applied at ambient temperatures above 50°F (10°C) with adequate ventilation.
- Use Type S screws for 25-gauge steel framing. Use Type S-12 screws for 20-gauge (or heavier) steel framing.
- It is important that the job structural engineer approves the type, size and maximum spacing of track fasteners to meet the design load requirements.