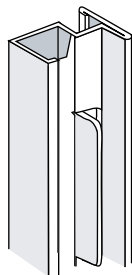
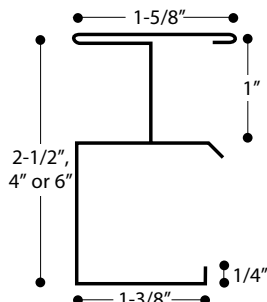


SHAFTWALL FRAMING

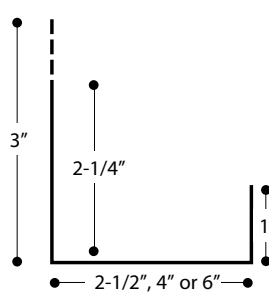
C-T Stud Detail



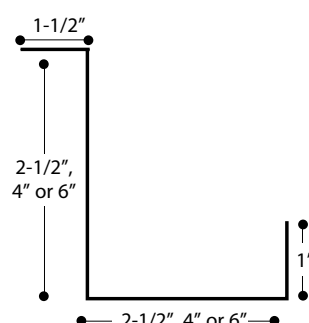
C-T Stud



J Track



J-L Corner



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, C-H or I studs 3/4" less than the height of the opening.
- Cut 1" DensGlass Ultra® 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, C-H or I studs or to plates secured behind or between layers of 1/2" ToughRock® Fireguard® C gypsum board. (See illustration on page 12.)
- 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.

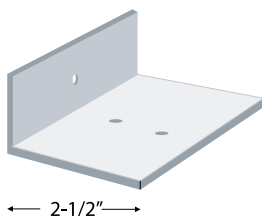
See page 8 for Shaftwall Framing Properties and Limiting Heights

AREA SEPARATION WALL FRAMING

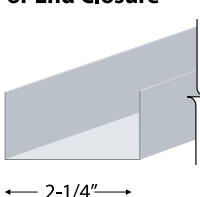
FIRE TESTING AND BUILDING CODE COMPLIANCE

The Georgia-Pacific Gypsum Area Separation Wall has been fire tested to ASTM E 119 and CAN/ULC S-101. The Georgia-Pacific Gypsum 2-hour fire-rated Area Separation Wall assembly, constructed using DensGlass Ultra Shaftliner panels, is listed by Underwriters Laboratory (UL), Underwriters Laboratories of Canada (ULC) and Warnock Hersey International (WHI/ITS) and meets the requirements of the 2006 International Building Code (IBC) Section 705 "Party Walls", and Section 705, "Fire Walls". The Georgia-Pacific Gypsum Area Separation Wall assembly is listed in the UL Fire Resistance Directory under UL Design U 373, the ULC Fire Resistance Directory ULC Design No. W 312 and the WHI Fire Resistance Directory under WHI GP/WA 120-04. For copies of these listings, please contact Georgia-Pacific Gypsum Technical Services at 1-800-225-6119.

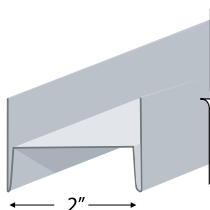
Aluminum Angle Clip



C-Track, Cap, Edge or End Closure



H-Stud, 25-Gauge



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SHAFTWALL FRAMING

MAXIMUM HORIZONTAL SPANS

When used as a horizontal membrane, the stud length should not exceed those in the following table.

C-T Stud	Nominal Gauge	Series 623/624/627 2-Hour	
		L/240	L/360
2-1/2"	25	8' - 1"	7' - 1"
2-1/2"	20	9' - 8"	8' - 5"
4"	25	11' - 6"	10' - 0"
4"	20	13' - 7"	11' - 10"
6"	25	15' - 7"	13' - 7"
6"	20	18' - 6"	16' - 2"

Span calculations based on stud properties. Use 20-gauge J track.

MAXIMUM SECTION PROPERTIES

Based on AISI Specifications for the Design of Cold-Formed Steel Structural Members.

C-T Stud Size	T	W	A	I _x	S _x (C)	S _x (T)
2-1/2"-25 gauge	0.0179	0.470	0.118	0.132	0.095	0.118
2-1/2"-20 gauge	0.0329	0.820	0.218	0.242	0.175	0.217
4"-25 gauge	0.0179	0.580	0.145	0.374	0.171	0.207
4"-20 gauge	0.0329	1.020	0.267	0.687	0.341	0.380
6"-25 gauge	0.0179	0.715	0.181	0.957	0.299	0.347
6"-20 gauge	0.0329	1.260	0.333	1.759	0.543	0.637

T = Minimum Uncoated Base Steel Thickness (inches)
W = Weight (pounds per linear foot)
A = Sectional Area (inches²)

I_x = Moment of Inertia (inches⁴)
S_x(C) = Section Modulus 'C' flange (inches³)
S_x(T) = Section Modulus 'T' flange (inches³)

SHAFTWALL LIMITING HEIGHTS FOR 1-, 2- AND 3-HOUR SYSTEMS

C-T Stud Depth	Stud & Track Gauge	Design Deflection Limit	Uniform Load (PSF)							
			For 1-hr.*				For 2- to 3-hr.**			
			5	7.5	10	15	5	7.5	10	15
2.5"	25	L/120	14' - 2"	12' - 5"	11 - 3"	9' - 4"	15' - 6"	13' - 3"	11' - 6"	9' - 5"
		L/180	12' - 5"	10' - 10"	9' - 10"	8' - 7"	13' - 7"	11' - 10"	10' - 9"	9' - 5"
		L/240	11' - 3"	9' - 10"	8' - 11"	7' - 10"	12' - 4"	10' - 9"	9' - 9"	8' - 6"
		L/360	9' - 10"	8' - 7"	7' - 10"	6' - 10"	10' - 9"	9' - 5"	8' - 6"	7' - 6"
2.5"	20	L/120	15' - 10"	13' - 10"	12' - 6"	10' - 11"	17' - 4"	15' - 1"	13' - 9"	12' - 0"
		L/180	13' - 10"	12' - 1"	10' - 11"	9' - 7"	15' - 1"	13' - 2"	12' - 0"	10' - 6"
		L/240	12' - 6"	10' - 11"	9' - 11"	8' - 8"	13' - 9"	12' - 0"	10' - 11"	9' - 6"
		L/360	10' - 11"	9' - 7"	8' - 8"	7' - 7"	12' - 0"	10' - 6"	9' - 6"	8' - 4"
4"	25	L/120	19' - 1"	15' - 11"	13' - 10"	11' - 3"	19' - 7"	15' - 11"	13' - 10"	11' - 3"
		L/180	16' - 8"	14' - 6"	13' - 2"	11' - 3"	18' - 3"	15' - 11"	13' - 10"	11' - 3"
		L/240	15' - 1"	13' - 2"	12' - 0"	10' - 6"	16' - 7"	14' - 5"	13' - 2"	11' - 3"
		L/360	13' - 2"	11' - 6"	10' - 6"	9' - 2"	14' - 5"	12' - 8"	11' - 6"	11' - 3"
4"	20	L/120	21' - 8"	18' - 11"	17' - 2"	15' - 0"	23' - 8"	20' - 8"	18' - 9"	15' - 6"
		L/180	18' - 11"	16' - 6"	15' - 0"	13' - 1"	20' - 8"	18' - 1"	16' - 5"	14' - 4"
		L/240	17' - 2"	15' - 0"	13' - 8"	11' - 11"	18' - 9"	16' - 5"	14' - 11"	13' - 0"
		L/360	15' - 0"	13' - 1"	11' - 11"	10' - 5"	16' - 5"	14' - 4"	13' - 0"	11' - 5"
6"	25	L/120	22' - 7"	18' - 9"	16' - 3"	12' - 0"	22' - 11"	18' - 9"	16' - 3"	12' - 0"
		L/180	19' - 9"	17' - 3"	15' - 8"	12' - 0"	21' - 8"	18' - 9"	16' - 3"	12' - 0"
		L/240	17' - 11"	15' - 8"	14' - 3"	12' - 0"	19' - 8"	17' - 2"	15' - 7"	12' - 0"
		L/360	15' - 8"	13' - 8"	12' - 5"	10' - 10"	17' - 2"	15' - 0"	13' - 8"	11' - 11"
6"	20	L/120	27' - 4"	23' - 11"	21' - 8"	19' - 0"	30' - 0"	26' - 2"	23' - 7"	19' - 3"
		L/180	23' - 11"	21' - 11"	19' - 0"	16' - 7"	26' - 2"	22' - 11"	20' - 9"	18' - 2"
		L/240	21' - 8"	19' - 0"	17' - 3"	15' - 1"	23' - 9"	20' - 9"	18' - 11"	16' - 6"
		L/360	19' - 0"	16' - 7"	15' - 1"	13' - 2"	20' - 9"	18' - 2"	16' - 6"	14' - 5"

* 1-Hr. Rated Series 622 ** 2-Hr. Rated Series 620 or 621 & 3-Hr. Rated Series 630 or 631.

Test Ref: WHI-495-TRL-0206/0225, issued August 4, 1995. C-T studs and J track are same gauge. Based on deflection limits with adjustment to conform to a minimum safety factor of 1.5 for ultimate bending strength and end reaction.

WHI = Warnock Hersey International Testing Laboratory

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