



SIP No. 2036

Subject: Load Design Charts 2 & 2A: Combined Axial and Transverse (Bending) Loading

Date: November 2007

Combined axial and transverse (bending) testing has been conducted on R-Control SIPs. The testing was performed as outlined in ASTM E 72, "Standard Test Methods of Conducting Strength Tests of Panels for Building Construction." The testing involved simultaneously loading the panel to both an axial load and a transverse load. The axial load was applied eccentrically to the panel at a location one-third of the panel thickness from the interior OSB facing. A uniform transverse load was applied to the exterior OSB facing.

R-Control SIPs can be designed to carry simultaneously both the maximum axial load and maximum transverse (bending) load in Load Design Chart #2 or #2A.

Wall - Combined Axial & Transverse Loading

Load Design Chart #2 (See Detail SIP-101)			
R-Control Structural Insulated Panels			
	Panel Height	SIP Thickness	
		4 1/2"	6 1/2"
Axial Load [PLF]	8'-0"	2200	2200
	10'-0"	2200	2200
Transverse (Bending) Load [PSF]	8'-0"	45	69
	10'-0"	33	38

[1] R-CONTROL SIPs CAN CARRY BOTH THE MAXIMUM AXIAL LOAD AND MAXIMUM TRANSVERSE (BENDING) LOAD SIMULTANEOUSLY.
(NO UNITY EQUATION ANALYSIS IS NEEDED)

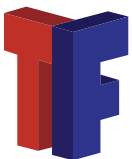
[2] DESIGN VALUES ARE LIMITED BY THE LOWER OF TRANSVERSE DEFLECTION OR ULTIMATE FAILURE LOAD DIVIDED BY A FACTOR OF SAFETY OF THREE (3).



Wall - Combined Axial & Transverse Loading

Load Design Chart #2A			
(See Detail SIP-108c)			
R-Control Structural Insulated Panels			
	Panel Height	SIP Thickness	
		4 1/2"	6 1/2"
Axial Load [PLF]	12'-0"	2200	2200
	16'-0"		2200
	20'-0"		2200
Transverse (Bending) Load [PSF]	12'-0"	27	66
	16'-0"		41
	20'-0"		20

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- [2] DESIGN VALUES ARE LIMITED BY THE LOWER OF TRANSVERSE DEFLECTION OR ULTIMATE FAILURE LOAD DIVIDED BY A FACTOR OF SAFETY OF THREE (3).



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