Testing Summary

R-CONTROL SIPs
STRUCTURAL INSULATED PANELS

CONTROL,
NOT COMPROMISE.

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R SIPs Testing Summary

Structural

STANDARD	ASTM E72	ICC ES AC04	ASTM E455	ASTM E695	IBC Sec. 1607
TEST TITLE	STRENGTH TESTS OF PANELS FOR BUILDING CONSTRUCTION	ICC ES SANDWICH PANEL ACCEPTANCE CRITERIA	ROOF DIAPHRAGM CONSTRUCTIONS	RESISTANCE TO IMPACT LOADING	CONCENTRATED FLOOR LOAD
ALSO KNOWN AS:	ASTM E 1803				UBC Sec. 1607
RESULTS	- Axial Load - Transverse Load - Racking Shear [1] See R-Control SIP Load Design Charts for structural capacities	[1] R-Control SIPs meet AC04 requirements [3] See R-Control SIP ICC ES Code Report	Diaphragm design capacity up to 850 plf [1] See R-Control SIP Load Design Charts	Panel supported on short ends withstood repetitive impacts to the center of 90 ft. lbs., 240 ft. lbs., and 600 ft. lbs. with no deleterious effects.	Meets 2,000 lb. concentrated floor load requirement. Floor panels successfully supported 6,000 lbs placed on 30" x 30" area at various locations on the panel and panel joints.

Fire

STANDARD	ASTM E84	UL 1715	ASTM E119	ASTM E119	ASTM E119
TEST TITLE	SURFACE BURNING CHARACTERISTICS	CORNER ROOM BURN	FIRE TEST OF BUILDING CONSTRUCTION AND MATERIALS	FIRE TEST OF BUILDING CONSTRUCTION AND MATERIALS	FIRE TEST OF BUILDING CONSTRUCTION AND MATERIALS
ALSO KNOWN AS:	UL 723 UBC STAN. 8-1 NFPA 255	UBC 26-3	UL 263 UBC STAN. 7-1 NFPA 251	UL 263 UBC STAN. 7-1 NFPA 251	UL 263 UBC STAN. 7-1 NFPA 251
RESULTS	EPS Core Flame Spread - 20 Smoke Development 150-300 Interior of panel covered with 1/2" gypsum board Flame Spread - 10 Smoke Development-0 Interior of panel covered With BlazeGuard[5] Flame Spread - 5 Smoke Development 10-35 Exterior of panel covered with 3/8" plywood Flame Spread - 130-160 Smoke Development 95-190	Pass - Using 1/2" gypsum board on the interior of the R-Control SIP Pass - Using BlazeGuard[5] on the interior of the R-Control SIP	20 Min. Fire Resistant wall assembly 5/8" gypsum board as interior finish	[2] 60 Min. Fire Resistant wall assemblies 2 layers 5/8" Type X gypsum board as fire side finish. Passed 30 PSI hose stream. Double 2X connection and 1 layer 5/8" Type C gypsum board as fire side finish. Passed 30 PSI hose stream.	[2, 3] 60 Min. Fire Resistant Roof/Ceiling Assemblies UL P517 2 layers 5/8" Type X gypsum board as interior finish UL P822 sprayed fire proofing as interior finish

[1,2,3,4,5] See back for Notes

Energy/Sound

STANDARD	ORNL	ASTM C236	ORNL	ASTM E90	ASTM C423
TEST TITLE	STEADY STATE THERMAL PERFORMANCE OF BUILDING ASSEMBLIES	STEADY STATE THERMAL PERFORMANCE OF BUILDING PANELS BY GUARDED HOT BOX	BLOWER DOOR	SOUND TRANSMISSION CLASS (STC)	SOUND ABSORPTION
ALSO KNOWN AS:	WHOLE WALL R-VALUE	R-VALUE	AIR INFILTRATION		
RESULTS	4 1/2" R-Control SIP with 1/2" gypsum board and plywood siding R=14.1 2 x 4 and batt insulation with 1/2" gypsum board and plywood siding R=9.6 2 x 6 and batt insulation with 1/2" gypsum board and plywood siding R=13.7	6 1/2" R-Control SIP & 1/2" gypsum board mechanically fastened to the interior of the panel R=21.2 Typical 2 x 6 construction using fiberglass batts tested under same standard. R = 17.2	Controlled room built with 4 1/2" R-Control SIP 9 cfm air leakage Typical 2 x 6 construction using fiberglass batts tested under same configuration. 126 cfm air leakage	R-Control SIP and one layer 1/2" gypsum board STC = 29 R-Control SIP and one layer 1/2" gypsum board using resilient channels and 1/2" fiberglass STC = 39 R-Control SIP and two layers 5/8" Type X gypsum board on one side. Two layers 5/8" Type X gypsum board separated using 1 1/2" Z-furring channels and 1" sound attenuating fiberglass batt opposite side STC = 51	6 1/2" R-Control SIP Noise Reduction Coefficient = 0.15 Sound Absorption average = 0.17

Components

COMPONENT	OSB	ADHESIVE	ADHESIVE	EPS CORE	EPS CORE
TEST TITLE	WOOD-BASED STRUCTURAL PANELS	ADHESIVES FOR STRUCTURAL LAMINATED WOOD PRODUCTS	SANDWICH PANEL ADHESIVES	SPECIFICATION FOR POLYSTYRENE INSULATION	TERMITE EXPOSURE
STANDARD	DOC PS2-92	ASTM D 2559	ICC ES ACO5	ASTM C578	ICC ES EG239
RESULTS	OSB meets Exposure I 24/16 span rating	Adhesive meets strength requirements of Class 2 Type II adhesive	Adhesive used in R-Control SIP manufacture meets ICC ES Acceptance Criteria for sandwich panel adhesive	R-Control EPS with Perform Guard core exceeds the minimum values in ASTM C578	[2,4] R-Control EPS with Perform Guard core recognized by ICC ES to be in compliance with Evaluation Guide 239

[1,2,3,4,5] See back for Notes

Quality Assurance

R-Control SIPs are made to the standards of an industry leading Quality Control Program monitored by International Code Council Evaluation Service.

Ready to take control? Start here.

If you're wondering how R-Control SIPs can work on your next project, just contact ThermaFoam R-Control. They'll be happy to collaborate on design, walk you through R-Control SIP installation, provide test data, pricing, and answers to all your questions. Start by visiting our web site: www.thermafoamrcontrol.com.

Notes:

[1] See R-Control SIP Load Design Charts for complete details.
[2] See ICC ES report, contact your R-Control SIP supplier for current copy.
[3] For specific Fire Resistance, see Underwriters Laboratories Fire Resistance Directory.
[4] See R-Control EPS with Perform Guard literature for complete details.
[5] Contact your R-Control SIP supplier for more information on BlazeGuard.

Abbreviations:

ASTM = American Society for Testing and Materials
IBC= International Building Code
ICC ES= International Code Council Evaluation Service
NFPA= National Fire Protection Association
UBC= Uniform Building Code
UL= Underwriters Laboratories Inc.

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