



**R-CONTROL SIPs**

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**STRUCTURAL INSULATED PANELS**



**CONTROL,  
NOT COMPROMISE.**

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**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	<ul style="list-style-type: none"> <li>- Axial Load</li> <li>- Transverse Load</li> <li>- Racking Shear</li> </ul> <p><sup>1</sup> See R-Control SIP Load Design Charts for structural capacities</p>	<p><sup>1</sup> R-Control SIPs meet AC04 requirements</p> <p><sup>4</sup> See R-Control SIP ICC ES Code Report</p>	<p>Diaphragm design capacity up to 850 plf</p> <p><sup>1</sup> See R-Control SIP Load Design Charts</p>	<p>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.</p>	<p>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.</p>

**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	<p><sup>3</sup> EPS Core Flame Spread - 20 Smoke Development 150-300</p> <p><sup>3</sup> Interior of panel covered with 1/2" gypsum board Flame Spread - 10 Smoke Development-0</p> <p><sup>3</sup> Interior of panel covered With BlazeGuard<sup>6</sup> Flame Spread - 5 Smoke Development 10-35</p> <p><sup>3</sup> Exterior of panel covered with 3/8" plywood Flame Spread - 130-160 Smoke Development 95-190</p>	<p>Pass - Using 1/2" gypsum board on the interior of the R-Control SIP</p> <p>Pass - Using BlazeGuard<sup>6</sup> on the interior of the R-Control SIP</p>	<p>20 Min. Fire Resistant wall assembly</p> <p>5/8" gypsum board as interior finish</p>	<p><sup>2</sup> 60 Min. Fire Resistant wall assemblies</p> <p>2 layers 5/8" Type X gypsum board as fire side finish. Passed 30 PSI hose stream.</p> <p>Double 2X connection and 1 layer 5/8" Type C gypsum board as fire side finish. Passed 30 PSI hose stream.</p>	<p><sup>2,4</sup> 60 Min. Fire Resistant Roof/Ceiling Assemblies</p> <p>UL P517 2 layers 5/8" Type X gypsum board as interior finish</p> <p>UL P822 sprayed fire proofing as interior finish</p>

<sup>1,2,3,4,5,6</sup> See back for Notes

**Energy/Sound**

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

**Components**

COMPONENT	OSB	ADHESIVE	ADHESIVE	EPS CORE	EPS CORE
<b>TEST TITLE</b>	<b>WOOD-BASED STRUCTURAL PANELS</b>	<b>ADHESIVES FOR STRUCTURAL LAMINATED WOOD PRODUCTS</b>	<b>SANDWICH PANEL ADHESIVES</b>	<b>SPECIFICATION FOR POLYSTYRENE INSULATION</b>	<b>TERMITE EXPOSURE</b>
<b>STANDARD</b>	<b>DOC PS2-92</b>	<b>ASTM D 2559</b>	<b>ICC ES AC05</b>	<b>ASTM C578</b>	<b>ICC ES EG239</b>
<b>RESULTS</b>	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	Foam-Control EPS with Perform Guard core exceeds the minimum values in ASTM C578	<sup>2.5</sup> Foam-Control EPS with Perform Guard core recognized by ICC ES to be in compliance with Evaluation Guide 239

<sup>1,2,3,4,5,6</sup> See back for Notes

## Quality Assurance

R-Control SIPs are made to the standards of an industry leading Quality Control Program monitored by PFS Corporation and recognized by national codes agencies.



### Notes:

- <sup>1</sup> See R-Control SIP Load Design Charts for complete details.
- <sup>2</sup> See ICC ES report, contact your R-Control SIP supplier for current copy.
- <sup>3</sup> See AFM/PFS certificate for complete details.
- <sup>4</sup> For specific Fire Resistance, see Underwriters Laboratories Fire Resistance Directory.
- <sup>5</sup> See Foam-Control EPS with Perform Guard literature for complete details.
- <sup>5</sup> 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.

## Ready to take control? Start here.

If you're wondering how R-Control SIPs can work on your next project, just contact your nearest R-Control supplier. 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.r-control.com](http://www.r-control.com).



R-Control SIPs are made exclusively with Foam-Control EPS. R-Control SIPs and Foam-Control EPS are manufactured by AFM Corporation licensees.

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