

# GENERAL PANEL CORP

## Union, MS Technical Data

### Testing

<b>Structural</b>	
ASTM-E72-80	Compressive Load-Wall, Transverse Load-Roof, Concentrated Load-Roof
ASTM-E695-79	Impact Load
ASTM-E564-76	Racking Resistance- Shear Value, PFS Report 84-116
<b>Fire Endurance</b>	
ASTM-E119-83	Fire Resistance Rating of 60 minutes when tested under imposed load of 1250/lb/lf SWR1 Report NO 01-8305-029
UL Subject 1256	30 minute test evaluating resistance of roof deck construction to internal fire exposure. SWR1 Report NO 01-8305-029
ASTM-D1929-77	Ignition & Flash Point Temperature of EPS and Waferboard Weyerhaeuser Fire Technology Unit Report dated Aug 15, 1985
ASTM-E84	Flame Spread and Smoke Developed Rating of EPS and Waferboard
<b>CODES</b>	SBCCI report 2231
	ICBO Report submitted & pending
	BOCA Research Report submitted & pending
	USHUD (HUD Bulletin 1123)

### Wall Panel OSB/OSB Allowable Axial Loads PFL wind load

As specified by our engineers, based upon lateral load as well as Axial load.

### Allowable roof/floor span OSB/OSB L/240 with SPF splines-

## weight/sq ft-R-Value

EPS Core Thickness	Deflection (inches)	Span (Ft)	Load (PSF)
3.5	L/360	8	25
3.5	L/240	8	40
3.5	L/360	10	19
3.5	L/240	10	29
5.5	L/360	12	35
5.5	L/240	12	60
5.5	L/360	14	25
5.5	L/240	14	38
5.5	L/360	16	17
5.5	L/240	16	26
5.5	L/360	18	12
5.5	L/240	18	18
Racking Shear- 185 plf			
48" header- 504 plf			

## Recommended Maximum Spans- OSB/OSB panels

	Spline type			
EPS Core thickness	Double osb	Single SPF	Double SPF	LVL
Roof/ Ceiling				
3 5/8"	2'	4'	6'	6'
5 5/8"	6'	12'	14'	16'
7 3/8"	8'	12'	16'	18'
9 3/8"	8'	12'	16'	18'

11 3/8"	8'	12'	16'	18'
<b>Floors</b>				
3 5/8"	N/A	4'	4'	6'
5 5/8"	4'	6'	7'	8'
7 3/8"	6'	8'	10'	12'
9 3/8"	6'	9'	11'	12'
11 3/8"	6'	9'	12'	14'

## Johnson City, TN Technical Data

### Testing

General Panel, Johnson City, TN does not subscribe to on-going third party testing and is no longer an Insulspan licensee, but has met the following testing criteria as a franchise licensee. (PFS Report 511, APA FAB SPEC SP-61-EXT)

<b>Structural</b>	
ASTM-E72-80	Compressive Load-Wall, Transverse Load-Roof, Concentrated Load-Roof
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<b>CODES (previously met)</b>	SBCCI report 93110 -lapsed
	BOCA (85-49) -lapsed
	Standard Codes (84102) -lapsed
	Public Safety Testing I evaluation Services, Inc. -lapsed
	USHUD (HUD Bulletin 1079 1/28/85) -lapsed
	State of Ohio (10/4/85) -lapsed

## Wall Panel OSB/OSB Allowable Axial Loads PFL wind load

EPS core thickness	Wall Height	15#	20#	25#	30#
3 5/8"	8'	5,106	4,730	4,388	3,465
3 5/8"	9'	4,737	4,301	3,327	1,976
3 5/8"	10'	4,349	3,497	1,985	472
3 5/8"	12'	2,975	1,156	N/A	N/A
5 5/8"	8'	5,839	5,602	5,375	5,155
5 5/8"	9'	5,631	5,335	5,060	4,792
5 5/8"	10'	5,400	5,049	4,717	4,404
5 5/8"	12'	4,874	4,404	3,968	3,511
5 5/8"	14'	4,280	3,698	2,416	294
5 5/8"	16'	3,644	2,013	N/A	N/A

## Allowable roof span OSB/OSB L/240 with SPF splines-weight/sq ft-R-Value

EPS Core	4'	8'	10'	12'	14'	16'	lb/sq ft	R-value
3 5/8"	64	N/A	N/A	N/A	N/A	N/A	3.25	17
5 5/8"	106	53	43	38	28	20	3.32	25
7 3/8"	141	73	56	47	40	32	3.47	31

9 3/8"	181	90	71	60	52	45	3.63	38
11 3/8"	202	106	86	73	59	50	3.85	46

## Recommended Maximum Spans- OSB/OSB panels

	Spline type			
EPS Core thickness	Double osb	Single SPF	Double SPF	LVL
<b>Roof/ Ceiling</b>				
3 5/8"	2'	4'	6'	6'
5 5/8"	6'	12'	14'	16'
7 3/8"	8'	14'	16'	16'
9 3/8"	8'	16'	16'	16'
11 3/8"	8'	16'	16'	16'
<b>Floors</b>				
3 5/8"	N/A	4'	4'	6'
5 5/8"	4'	6'	7'	8'
7 3/8"	6'	8'	10'	12'
9 3/8"	6'	9'	11'	12'
11 3/8"	6'	9'	12'	14'

## Maximum Header loads

Awaiting test data

Meet standard loads (same as dimensional lumber) at 12" header height. Substantially stronger at 14" header height.



# GENERAL PANEL CORPORATON SPECIFICATIONS

## DIVISION 7 – THERMAL AND MOISTURE PROTECTION

### SECTION 07240 – EXTERIOR WALL INSULATION AND FINISH SYSTEM

#### PART 1 GENERAL

##### 1.01 DESCRIPTION:

A. Provide all materials to install General Panel Corporation Structural Insulated Panels (SIPs) as shown on the Drawings and specifications herein.

##### 1.02 RELATED WORK SPECIFIED ELSEWHERE: See architectural plans

##### 1.03 QUALITY ASSURANCE:

###### A. Third Party Inspection

1. General Panel SIPs shown on the drawings shall be manufactured in accordance with the listing program of a third party agency.

###### B. Model Code Listing

1. Each General Panel SIP type shown on the drawings shall be labeled indicating conformance to a model code program.

##### 1.04 APPLICATORS:

A. The SIP installer shall be an installer approved by General Panel Corporation and must be supervised by General Panel Technical Representative or Distributors Technical Representative. All work shall be performed in strict accordance with General Panel's instructions.

##### 1.05 SUBMITTALS:

A. Provide evidence of compliance with ICC-ES Evaluation Report: SBCCI – 2231 Legacy Report.

B. General Panel shall certify that panel assemblies provided for this project have been tested in accordance with the following ASTM, UL and UBC Standards:

ASTM E 72      ASTM D 1183      C ASTM E 695      ASTM C 297

ASTM E 455      UBC 26-3      UL 1256      ASTM E 119

C. Provide material data sheets for all the panel material components described in 2.01 of this specification.

D. When required, all shop drawings and calculations shall be reviewed by and bear the seal and signature of a registered PE and / or R.A.

## **1.06 PRODUCT DELIVERY, STORAGE AND HANDLING:**

- A. Immediately upon delivery to the job site, all General Panel Structural Insulated Panels shall be stored in a protected area and shall be supported in a manner to prevent contact with the ground and isolated from ground moisture.
- B. All General Panel SIPs shall be covered and protected prior to and / or after installation from prolonged exposure to moisture and / or sunlight.
- C. Protect General Panel SIPs from construction traffic.
- D. Remove damaged or otherwise unsuitable insulated panels, so ascertained by the owner, immediately from the job site.

## **PART 2 PRODUCTS**

### **2.01 MATERIAL DESCRIPTION**

- A. Structural Insulated Panels (SIPs) – Manufactured by General Panel Corporation, of Grenada, Mississippi or General Panel Corporation of Johnson City, TN. Alternate manufacturers must be identified and submitted for review prior to the bid date. No alternates will be considered after the bid date. The SIP is defined as a pressure laminated stress-skin panel consisting of the following:
  - 1. Expanded Polystyrene Core – minimum of .95 pcf Certified EPS complying with ASTM C 578-87a (higher densities may be specified). Insulation manufacturer must provide evidence of Third Party Inspection and certification with a listing agency.
  - 2. OSB – Exterior and / or interior skins – shall be identified on the insulated panel with an approved performance rating mark.
  - 3. Lamination Adhesive – Laminating adhesive with in-use temperature of –40 degrees F to +250 degrees F (-40 C to 121 C). Manufactured by Ashland Chemical
- B. Splines – Splines used in connection and / or joining the SIPs shall be supplied by General Panel or approved supplier
- C. Dimensional Lumber Splines – 2x framing splines used in connection panels shall be #2 grade (or better) and in accordance with Section 06100, supplied by the General Panel or approved supplier.
- D. Panel Fasteners – Shall be corrosion resistive screws as supplied by the General Panel.
- E. Spline and Lumber Fasteners – shall be galvanized screws, nails, or staples supplied SIP installer and installed per General Panel construction details.
- F. Foam Sealant – a sealant compatible with all components of the panel and adjacent materials as supplied by General Panel and installed per General Panel construction details.
- G. Construction Adhesive – compatible with all components of the panel and adjacent materials, supplied by the General Panel, and installed per construction details.

## **2.02 PERFORMANCE CHARACTERISTICS:**

- A. Panels to be sized as required and shown on the panel drawings provided by the manufacturer.
- B. Insulated panel tolerance shall comply with values listed in manufacturer's quality control manual.
- C. Structural Testing – Each panel type shown on the panel drawings shall meet or exceed the project design loads when tested in accordance with the following methods:
  - 1. *Axial Load* – test method ASTM E 72, Section 9
  - 2. *Compressive Load* – test method ASTM E 72, Section 9
  - 3. *Transverse Load* – test method ASTM E 72, Section 11
  - 4. *Concentrated Load* – test method ASTM E 72, Section 13
  - 5. *Racking Load* – test method ASTM E 72, Section 14
- D. Fire Testing – panel core shall have the following fire tests.
  - 1. ASTM Method E 84 – Surface burning characteristics conducted for interior and exterior skins of insulated building panels.
  - 2. ASTM Method E 84 – Surface burning characteristics conducted for rigid insulation core.
  - 3. UBC 26-3 – Room Fire Test Standard for Interior of Foam Plastic Systems.
  - 4. UL 1256 – Fire Test of Roof Deck Constructions (using 12.25" thick SIP Roof Assembly)
  - 5. ASTM Method E 119-00a – Fire Test of Building Construction and Materials for a fire endurance rating of 1-hour while bearing a load.

## **2.03 MANUFACTURER:**

- A. Approved SIPs manufacturer is:

General Panel Corporation  
P. O. Box 279  
Grenada, MS 38902  
Tel: 601-774-9999  
[www.generalpanel.com](http://www.generalpanel.com)

## **PART 3 EXECUTION**

### **3.01 GENERAL:**

- A. Preparation:

- 1. Inspect the area (substrate, grade and other) to determine that conditions are satisfactory for the installation of the insulated panels. The contractor shall report in writing to the general contractor and owner any defects or conditions, which may adversely influence completion or performance of specified work. Do not proceed with installation until adverse conditions are corrected.

**B. Installation:**

1. Before starting, the panel installer shall coordinate with the general contractor to discuss the procedures necessary for this work.
2. Installation shall be in strict accordance with General Panel construction details, instructions, panel drawings and contract documents. Any conflicts shall be resolved in writing.

**3.02 PROTECTION:**

- A. When SIPs are delivered to the site, do not allow the insulated panels to come in contact with the ground. Store the insulated panels so they will remain dry.
- B. The insulated panels are to be supported when stored. Improper storage of the insulated panels may cause installation and / or tolerance problems in the field.
- C. Insulated panels must be protected from weather by materials that will provide protection. Insulated panels with interior finished skins that can be damaged by weather shall be protected at the end of each day to avoid damage.
- D. Insulated panels that have become damaged and / or excessively wet shall be removed from the site and replaced with new panels.

**3.03 CLEAN-UP:**

- A. Upon completion of the work, remove unused insulated panels, material and equipment from the site.
- B. Keep premises free from accumulation of waste materials and rubbish and remove all debris from the site on a daily basis.