

# ICS-Performance Wall FC/OSB

**TECHNICAL SPECIFICATIONS**

**ICS Performance Wall is a structural-grade stress skin panel for use in residential and commercial construction.**

The Fiber Cement finish is a precisely blended combination of portland cement, sand, non-asbestos pulp fibers and special additives. It gives it an authentic wood grain look, superior strength and high resistance to freeze/thaw cycles. Impervious to wood boring insects, resists damaging effects of salt spray and UV rays, will not rot and comes with a 50 year limited transferable warranty.

Panels are manufactured by injecting a two part urethane foam into a frame press. The injected foam chemically reacts, creating heat and pressure, filling the core of the panel. The expanding foam bonds directly to the skins, cures and forms a solid, durable, efficient, high strength building component.



The injected urethane panels are stronger than a standard 2 x 4 wall system. This remarkable strength is achieved through permanent bonding of structural panel components (FC/OSB) on each side of a high-density urethane core. ICS's unique manufacturing technique provides additional strength by foaming into each panel structural components called splines adding stability and strength. Special steel "Cam-Locks" join the panels tightly together creating an airtight wall. Unique profile edges and foamed-in-place headers assure components fit together tightly. ICS urethane foam mixture provides a class 1 panel that does not contribute to flame spread making the structures safer. Electrical and cable chases can be imbedded inside the panels for ease of wiring. Doors and windows can be installed in the plant before shipping reducing construction costs and time. Or door and window openings can be placed in a panel for onsite installation.

## **BENEFITS**

- Energy savings
- Faster construction
- Stronger structures
- Quieter

Width: Maximum is 4'

Height: Standard is 8', 9', 10'

Thickness: 4 1/2" (construction standard) R28

6 1/2" (construction standard) R42

\*Special pricing is available for non-standard sizes.

## **Structural Panels Uses**

- Remote Offices
- In Plant Offices
- Environmental Rooms
- Garages
- Reduced Noise Offices
- Refrigeration Buildings
- Agricultural Buildings
- Storage Buildings
- Quick Lube Buildings
- Oil Change Buildings
- Electronic Equipment Protection
- Power Generation Site Shelters
- Recreational/Leisure Homes
- Residential Homes
- Roofs for Log Homes
- Curtain Wall
- Car Washes
- Utility Buildings



## **INSULATED COMPONENT STRUCTURES, INC.**

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# DIMENSIONS AND PHYSICAL PROPERTIES

**OUTER SURFACE:** 7/16 " (1.09 cm) Oriented Strand Board (OSB).

**INNER SURFACE:** 7/16 " (1.09 cm) Oriented Strand Board (OSB).

**INSULATION CORE:** 3-7/8" (9.67 cm) polyurethane, 2.50-lb/ft<sup>2</sup> density, Class 1, closed cell foam.  
 Note: This foam insulation contains no formaldehyde or formaldehyde-related chemicals.

**ADHESION:** A strong and durable bond exists between foam and skins. Heat and pressure created by the chemical reaction of the expanding foam forces complete adhesion of the foam core to the skins.

**DIMENSIONS AND WEIGHT:**

**Overall Thickness** 4-1/2" (11.3 cm)  
**Thickness Tolerance** ± 1/16" (.156 cm)  
**Standard Width** 4'-0" ±1/16" (120 cm)  
**Standard Lengths (ft)** 8'-0" (240 cm), 10'-0" (300 cm),  
 12'-0" (360 cm), 16'-0 (480 cm)  
**Length Tolerance** ±0/ -1/16" (.156 cm)  
**Weight (lb)** Varies-skin (Avg. 3.9#/ft)

**STRUCTURAL PROPERTIES OF FOAM:**

**Compressive Strength** 35 psi  
**Compressive Modulus** 790 psi  
**Tensile Strength** 16 psi  
**Tensile Modulus** 325 psi  
**Shear Strength** 26 psi  
**Shear Modulus** 325 psi

**THERMAL PERFORMANCE:**

**Conductivity of Foam** .13-.15 (Btu-in/ft<sup>2</sup>hr°F)  
 (aged 6 months)  
**Minimum R-Value** 28 (Ft<sup>2</sup>hr°F/Btu)  
 (aged 6 months)

**MOISTURE**

**Vapor Permeability:** 2 perm/in  
**Moisture Absorption:** 2.4%  
**Resistance to Solvents:** Excellent  
**Resistance to Mold/Mildew:** Excellent

**FIRE SAFETY:**

**Finish Rating:** Standard 15-minute finish rating w/Fiber Cement.  
 1/2 " (1.25 cm) Sheetrock facing required for OSB  
**Foam Fire Rating:** Class 1  
**Smoke Developed:** <400 (ASTM E-84)  
**Flame Spread:** <25 (ASTM E-84)

**STRUCTURAL INTEGRITY IN FIRE CONDITIONS:**

Polyurethane foam is a "thermo-set" plastic. It retains its structural integrity until completely consumed by fire. Melting does not occur.

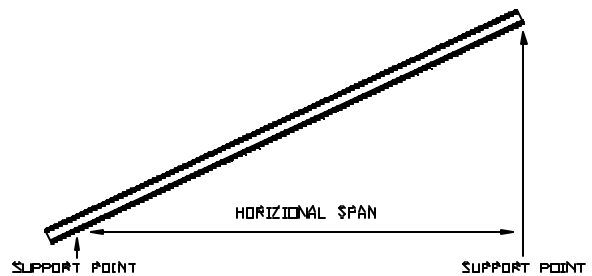
**TOXICITY OF COMBUSTION:**

Combustion products are similar to those produced by burning wood.

**OSB/OSB Panel ASTM E 72-98 Testing**

**WALL LOAD TABLE**  
 (ALLOWABLE AXIAL LOADS (psf))

WALL HEIGHT	13 PSF	16 PSF	20 PSF	23 PSF	25 PSF
4'	7800	7700	7600	7525	7475
5'	7525	7400	7225	7100	7025
6'	7150	6975	6725	6575	6475
7'	6675	6450	6150	5575*	5150*
8'	6150	5500*	4525*	3800*	3325*
9'	4875*	4050*	2950*	2125*	1575*
10'	3600*	2675*	1450*	550*	
11'	2425*	1400*	75*		
12'	1325*	225*			



**ROOF SPAN TABLE (FT/IN) HORIZ LOAD**  
 UNIFORM LOAD (LIVE PLUS DEAD LOAD)

DEFLECT LIMITS	20 PSI	30 PSI	40 PSI	50 PSI	60 PSI	70 PSI	80 PSI
L/180	12'4"	10'3"	9'0"	8'0"	7'3"	6'7"	6'1"
L/240	11'0"	9'2"	7'10"	6'10"	6'2"	5'7"	5'2"
L/360	9'0"	7'4"	6'3"	5'4"	4'9"	4'3"	
L/480	7'9"	6'2"	5'2"	4'5"			