

ICS Roof Panel OSB/OSB

TECHNICAL SPECIFICATIONS



ICS OSB/OSB Roof Panels are structural-grade stress skin panels for residential and commercial construction.

Using Oriented Strand Board (OSB) as the External and Internal Surfaces the OSB/OSB Panel provides you with a complete nail base roof panel.

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, energy efficient, high strength building component. Each roof panel contains a foam spline on each end that fits tightly into a foam pocket providing an airtight seal. This unique profile edge makes installation of the roof panels easy. The spline helps prevent panel racking when placing them together and also provides an excellent vapor barrier because it eliminates voids in the foam .

These injected urethane panels are stronger than standard construction methods. This remarkable strength is achieved through permanent bonding of structural panel components (OSB/OSB) on each side of a high-density urethane core. ICS's unique manufacturing technique provides additional strength by foaming into each panel spline components. Unique profile edges assure components fit together tightly. ICS uses standard construction materials making these roof panels architecturally compatible with existing standard construction. ICS urethane foam mixture provides a class 1 panel that does not contribute to flame spread making your structures safer.

Panel Options:

Foamed-in-place wood or metal spline to provide additional strength.

Foamed-in-place Steel "Cam-Locks" can be added to join the panels tightly creating an airtight roof.

Foamed-in-place headers

BENEFITS

- Energy savings
- Faster construction
- Stronger structures
- Quieter

Width: Maximum is 4'-0" (120 cm)

Height: Standard is 8'-0" (240 cm), 12'-0" (360 cm)

max 16'-0" (480 cm)

Thickness: 4 ½" (construction standard) R30 (11.3 cm)

6 ½" (construction standard) R42 (16.3 cm)

*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



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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/ft² 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/ft²hr°F) (aged 6 months)

Minimum R-Value 28 (Ft²hr°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.