



The Cutting Edge of Building Technology

Polyurethane Foam Core with Patented Cam-Lock
System for Premium Performance

EPS Foam Core Provides High Quality,
Dependable Performance

Ideal for Most Green Building Projects

Highly Energy Efficient with Superior
Insulating Values

Excellent Structural Properties

Replaces Conventional Stud Framing



STRUCTURAL INSULATING PANELS

The Murus Company was founded in 1987 for the sole purpose of manufacturing the very best Structural Insulating Panels (SIPs) in the industry, while providing our clients with outstanding client services and support throughout the project term. The Murus manufacturing facility is located in Mansfield, Pennsylvania, and Murus SIPs are shipped throughout North America.

Murus SIPs are used for exterior wall, roof and floor applications in residential and light commercial construction. Murus SIPs replace conventional wood framing and provide insulated, finish-ready surfaces. Each panel consists of a rigid foam insulation core which is formed or bonded between two layers of sheathing, or "skins." Structural panels are manufactured with rated skins and are capable of supporting axial and transverse loads. Curtain wall panels are only intended to support transverse loads and must be attached to a structural frame. Oriented strand board (OSB) is the most widely used skin material for structural applications because it is relatively inexpensive and readily available.

Total Client Support Murus offers outstanding technical support and professional client services for the duration of the project, as outlined below:

Design and Engineering Murus provides support and technical information to professional specifiers regarding product specifications, structural capabilities, connections, and fastening requirements.

Technical Drawings Murus supports professionals by providing direction and details, or by providing panel layout drawings or shop drawings specific to each job.

Job-Specific Manufacturing Murus manufactures SIPs according to a particular project's specifications and requirements. Murus SIPs are available in two core materials and in numerous R-values, thicknesses, lengths, and finishes. Murus is here to assist with choosing the best panel system for each project.

Green Building Qualified Murus SIPs are ideal for sustainable building projects as recognized by and listed in the GreenSpec Directory, an independent agency specializing in qualifying green construction products. LEED credits available for Murus SIPs: EA Prerequisite 2—Minimum Energy Performance; EA Credit 1—Optimize Energy Performance.

Environmentally Responsible Because of their ability to significantly reduce heating and cooling loads, Murus SIPs decrease the consumption of fossil fuels, saving our limited resources and minimizing greenhouse gas emissions into the atmosphere.

Factory Pre-Cutting Murus SIPs can be pre-cut at our factory on our state-of-the-art computerized CNC equipment. The panels are then labeled to correspond with pre-cut drawings (included) for assembly and installation on site.

On-Site Technical Assistance Factory trained and experienced personnel are available for jobsite consultation and/or technical assistance to professional crews with respect to the proper installation of Murus SIPs. Comprehensive installation manuals are provided with every order.



OSB-2100PUR

cells that give the foam superior and uniform strength, as compared to elongated "rice-shaped" cells produced by polyisocyanurate lamination foams.

Cam-Lock System Murus's patented, high-impact plastic Cam-Lock system saves considerably on installation time over other SIP systems, and can offer even greater time savings over conventional stud wall construction. Cam-Locks are located every two feet up the length of the panel edge and are engaged using a provided Cam-Lock wrench. In conjunction with the standard tongue and groove edge profile, Cam-Locks aid in providing a positive seal between panels, helping to eliminate moisture and air infiltration and creating an exceptionally strong, superior building system.

Tongue and Groove Edge Profile The molded tongue and groove edge profile assures quick, proper alignment of panel-to-panel joints. Once installed and sealed with spray foam, the result is a continuous uniformity of insulation that is lacking in spline connection systems.

Electrical Chase A standard electrical chase is embedded horizontally in the foam core of the Murus SIP during manufacturing. Three standard chase height options are available. Additional chase heights can be added; for example, a dedicated chase for countertop receptacle switches or communication wiring.

Faster Construction Time The composite construction of Murus SIPs greatly reduces the amount of time to complete project shell-in.

Superior Energy Efficiency With superior R-values per inch of thickness and consistent insulation through composite construction, a Murus Polyurethane SIP building envelope will offer significant savings on heating and cooling energy, and perform better than other building systems in which air infiltration and thermal bridging and breaks are inherent.

Fire Resistance

The Murus Polyurethane foam core has a Class 1 fire resistance rating—the best available for combustible materials.

Lifetime Warranty

The Murus lifetime warranty backs Murus Polyurethane SIPs against delamination between the foam core and the skins. Contact Murus for complete warranty information.

Listed with PFS, ICC, GreenSpec

Polyurethane

Polyurethane Foam Core Murus Polyurethane foam is safe to humans and the environment. It does not contain formaldehyde, CFC's, HCFC's or other ozone depleting compounds and is an organic material made from petroleum by-products and recycled materials. Murus Polyurethane foam provides the highest R-value per inch of thickness of any SIP foam core available.

Polyurethane SIP Manufacturing Process

The proprietary Murus manufacturing method, Uniform Dispersion Molding (UDM), is a key component in creating our Polyurethane panel's superior characteristics. The UDM method enhances the properties of the foam and creates the strongest possible bond between the skins. The liquid foam is uniformly dispersed throughout the mold; the foam expands, bonds and cures under 12-14 psi. UDM produces uniform foam density throughout the panel with spherical



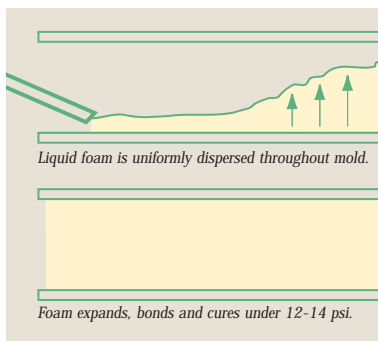
THE MURUS OSB-2100PUR STRUCTURAL INSULATING PANEL

Dimensions and Weights			
Series	2145	2155	2165
OVERALL THICKNESS:	4-5/8"	5-5/8"	6-5/8"
THICKNESS TOLERANCE:	+/- 1/8"	*	*
WIDTH:	48"	*	*
WIDTH TOLERANCE:	+0"; -1/8"	*	*
(Finish Size)			
STANDARD LENGTHS:	4', 6', 8', 9', 10', 12',	*	*
(Feet)	14', 16', 18', 20', 22', 24'	*	*
LENGTH TOLERANCE:	+/- 1/4"	*	*
WEIGHT:	3.95 lb./sq. ft.	4.15 lb./sq. ft.	4.35 lb./sq. ft.

Insulating Core			
TYPE:	Polyurethane Closed Cell Foam		
THICKNESS:	3-11/16"	4-11/16"	5-11/16"
DENSITY:	2.2 lb./cu. ft.	*	*
R-VALUE:	6.76 per in. thickness	*	*
System R-VALUE:	26	33	40

Insulating Core Properties	Design Values	
K FACTOR: (aged foam)	.148	ASTM C-518
COMPRESSIVE STRENGTH:	23 psi	ASTM D1621
COMPRESSIVE ¹ MOE:	682 psi	ASTM D1621
SHEAR STRENGTH:	31 psi	ASTM C-273
SHEAR MODULUS:	203 psi	ASTM C-273
FLEXURE ² MOR:	52 psi	ASTM C203
FLEXURE MODULUS (² MD):	587 psi	ASTM C203
TENSILE STRENGTH:	37 psi	ASTM D1623
TENSILE MODULUS:	611 psi	ASTM D1623
WVT / PERM INCHES:	1.0	ASTM E-96
FOAM FIRE RATING:	Class 1	**UL723
FLAME SPREAD:	20	**UL723
SMOKE DEVELOPED:	300	**UL723

¹MOE: Modulus of Elasticity ²MOR: Modulus of Rupture ³MD: Machine Direction.
⁴Design Values are mean derived from multiple specimens.
*Specification or value is the same as the OSB-2145 Panel.
**UL723 is not necessarily a representation of performance in an actual fire.
Class 1 is the highest rating available for combustible materials.



Outside Skins	
TYPE:	APA or equivalent rated oriented strand board (OSB)
GRADE:	Exposure-1
THICKNESS:	7/16"

Other Panel Systems Available:

CLAD-2100 (OSB/OSB/PC)	Exterior Skin. 7/16" Exposure-1, APA or equivalent rated oriented strandboard (OSB). Interior Skin (exposed). 3/4" Standard Grade (kiln dried), WP4-Eastern White Pine, T&G with V-groove face pattern.
PTP-2100 (PT/PT) (Subject to Availability)	Exterior and Interior Skins. 1/2" CA .10 - CDX Grade, APA or equivalent rated pressure treated plywood.
CB-2100 (CB/CB)	Exterior and Interior Skins. 10 mm (also available in 8 and 12 mm) Cement bonded particle board comprised of wood particles and cement.
BB-2100 (OSB/BB) (Roof Applications Only)	Exterior Skin. 7/16" Exposure-1, APA or equivalent rated oriented strandboard (OSB). Interior Skin. 1/2" Veneer Base (Blueboard) Gypsum Wall Board.
T-1-11-2100 (OSB/OSB/T-1-11)	Exterior Skin. 7/16" Exposure-1, APA or equivalent rated oriented strandboard (OSB). Interior Skin (exposed). 5/8" 303-6 Grade (8 in. on center face pattern), T-1-11 pine plywood.
FB-2100 (OSB/FB)	Exterior Skin. 7/16" Exposure-1, APA or equivalent rated oriented strandboard (OSB). Interior Skin. 1/2" Gypsum Wallboard - Fiber Reinforced.
PTP/FB-2100 (PT/FB) (Subject to Availability)	Exterior Skin. 1/2" CA .10 - CDX Grade, APA or equivalent rated pressure treated plywood. Interior Skin. 1/2" Gypsum Wallboard - Fiber Reinforced.
CP-2100 (OSB/SB)	Exterior Skin. 1/4" Oriented Strand Board (OSB)(7/16" Exposure-1 optional for nailbase). Interior Skin. 1/2" Low Density Wood Fiber Composite (Sound Board), Fiber Board Insulating Sheathing.

APPLICATION	SKINS	OSB-2100 (OSB/OSB)	CLAD-2100 (OSB/OSB/PC)	PTP-2100 (PT/PT)	CB-2100 (CB/CB)	BB-2100 (OSB/BB)	T-1-11-2100 (OSB/OSB/T-1-11)	FB-2100 (OSB/FB)	PTP/FB-2100 (PT/FB)	CP-2100 (OSB/SB)
LOAD BEARING		●		●						
CURTAIN WALL		●	●	●	●		●	●	●	
ROOF SPANS UP TO 4FT.		●	●	●	●	●	●	●	●	
ROOF SPANS OVER 4FT.		●	●	●	●		●			
RESIDENTIAL CONSTRUCTION		●	●	●						●
COMMERCIAL CONSTRUCTION		●	●	●	●		●	●	●	
STRUCTURAL STEEL FRAMING		●		●	●			●	●	
INSULATED GARAGES		●		●	●					
INSULATED WAREHOUSES		●		●	●			●	●	
TIMBER FRAME STRUCTURES		●	●	●		●	●	●	●	
HEAVY TIMBER RAFTER SYSTEMS		●	●	●		●	●	●	●	
GLUE LAMINATED STRUCTURES		●	●	●			●		●	
MANUFACTURED ROOF TRUSSES		●	●	●			●	●	●	●
TROPICAL CLIMATES				●	●				●	
POOL ENCLOSURES		●		●	●					

EPS Foam Core SIPs

Murus EPS SIPs are a high quality, competitively priced alternative to conventional construction, offering dependable performance and superior R-values.

Murus EPS SIPs are manufactured with the same strict attention to detail and concern for quality as are our Polyurethane SIPs. The EPS SIP manufacturing process differs from that for Polyurethane SIPs in that the foam core is first expanded into a large block, cut to the desired core thickness and then pressure laminated to the skin surfaces. An extremely durable one-part structural urethane adhesive is used which is reacted to set while under pressure. The resulting bond line is stronger than the material it laminates together. Separation of the foam core from the skins, or "delamination" is simply not an issue.

Murus EPS SIPs are installed using wooden key splines to join the panels together. Typical panel-to-panel connection is achieved using two (interior and exterior) plywood key splines. Panels are manufactured with core dimensions that allow dimensional lumber to be incorporated for additional load-bearing support.

Factory Pre-cutting You may choose to have window and door openings pre-cut at our factory using our state-of-the-art CNC pre-cutting equipment, saving valuable field labor time and construction waste disposal expense.

Murus EPS SIPs are available in a variety of thicknesses and sizes up to 8' x 24'. Electrical wiring can be accommodated through the addition of an optional horizontal chase. Additional chase heights can be added; for example, a dedicated chase for countertop receptacle switches or communication wiring.

Fire Resistance The Murus EPS foam core has a Class 1 Fire Resistance rating-the best available for combustible materials.

Environmentally Responsible Murus EPS foam contains no CFC's, HCFC's, HFC's, or formaldehyde. The EPS core is recyclable, and the OSB skins are manufactured for the most part from plantation-raised timber.

Warranty Murus EPS SIPs carry a limited 10-year warranty against manufacturer's defects in materials and workmanship. Contact Murus for complete warranty information.

CALL US FOR MORE DETAILS: (570) 549-2100



OSB-2100EPS

THE MURUS OSB-2100EPS STRUCTURAL INSULATING PANEL

Dimensions and Weights						Insulating Core Properties			Design Values		
Series	2145EPS	2165EPS	2185EPS	21105EPS	21125EPS						
OVERALL THICKNESS:	4-1/2"	6-1/2"	8-1/4"	10-1/4"	12-1/4"	K FACTOR:			.26	ASTM C518	
THICKNESS TOLERANCE:	+/- 1/8"	*	*	*	*	COMPRESSIVE STRENGTH:			10 psi	ASTM D1621	
WIDTH:	48" or 96"	*	*	*	*	FLEXURAL STRENGTH:			25 psi minimum	ASTM C203	
WIDTH TOLERANCE:	+/- 1/8"	*	*	*	*	TENSILE STRENGTH:			28 psi minimum	ASTM C-297	
STANDARD LENGTHS:						SHEAR STRENGTH:			16 psi minimum	ASTM C-273	
(48" WIDTHS X):	8', 9', 10', 12', 14', 16', 18', 20', 22' & 24'	*	*	*	*	SHEAR MODULUS:			440 psi minimum	ASTM C-273	
(96" WIDTHS X):	24'	*	*	*	*	MODULUS OF ELASTICITY:			915 psi minimum	ASTM C-203	
LENGTH TOLERANCE:	+/- 1/4"	*	*	*	*	WVT/PERM INCH:			5.0 maximum	ASTM E96	
WEIGHT:	3.50 lb./sq. ft.	3.70 lb./sq. ft.	3.85 lb./sq. ft.	4.00 lb./sq. ft.	4.15 lb./sq. ft.	WATER ABSORPTION (by volume):			4% maximum	ASTM C272	
Insulating Core						MAXIMUM SERVICE TEMPERATURE:			167 F (long term)		
TYPE:	Expanded Polystyrene Foam					FOAM FIRE RATING:			Class 1	**ASTM E-84	
THICKNESS:	3-5/8"	5-5/8"	7-3/8"	9-3/8"	11-3/8"	FLAME SPREAD:			<25	**ASTM E-84	
DENSITY:	1 lb./cu. ft. (nominal)	*	*	*	*	SMOKE DEVELOPED:			<450	**ASTM E-84	
R-VALUE	3.85 per in. thickness	*	*	*	*	* Specification or value is the same as the OSB-2145EPS Panel.					
SYSTEM R-VALUE	16	23	30	38	45	**ASTM E-84 is not necessarily a representation of performance in an actual fire.					
						Class 1 is the highest rating available for combustible materials.					
Outside Skins						TYPE:					APA or equivalent rated oriented strand board (OSB)
						GRADE:					Exposure-1
						THICKNESS:					7/16"

Other Panel Systems Available: BB-2100EPS, CLAD-2100EPS, NB-2100EPS



The photography and illustrations within this brochure are for illustrative purposes only. Product information and specifications are as accurate as possible at the time of printing but are subject to change without notice. It is the responsibility of the owner, builder or independent architect, engineer, or designer to provide proper engineering in compliance with all applicable fire and building codes.

murusTM
STRUCTURAL INSULATING PANELS

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