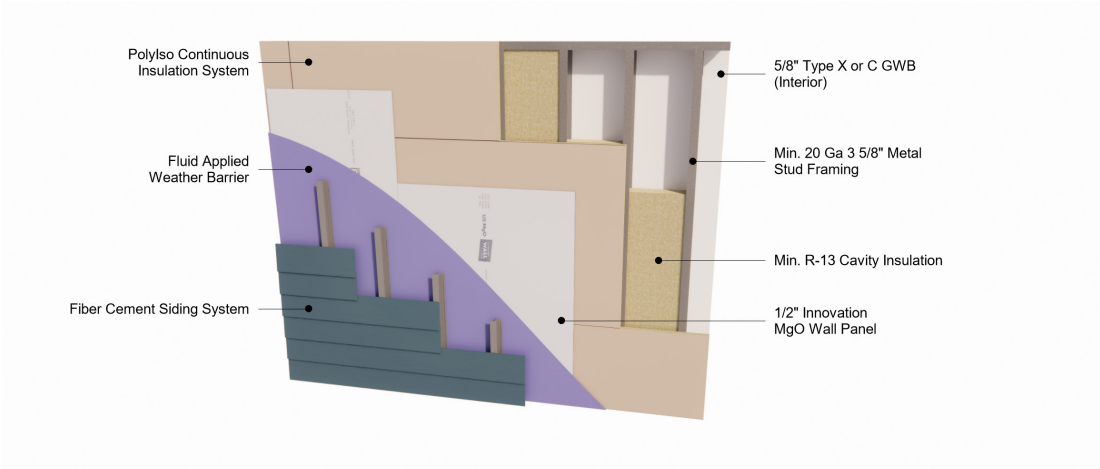
1/2" WALL PANELS

Innovation MgO 1/2" Wall Panels offer the design and construction industry an innovative sheathing panel that outperforms wood-based, gypsum-based, and Portland cement panels on technical performance and overall value. Comprised of a proprietary magnesium oxide (MgO) cement, Innovation MgO Wall Panels are naturally fire resistant, provide industry-leading flexural strength and dimensional stability, and provide high durability as they withstand weather conditions better than the alternatives.

Innovation MgO 1/2" Wall Panels are approved for exterior and interior use in all building types I, II, III, IV, & V and are easily installed using traditional tools and methods. One panel can be used in a multitude of exterior and interior wall applications and attaches easily to both metal and wood studs, reducing hassle, and saving both time and money.

Innovation MgO™ WALL Panels



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Physical Properties			
Material Composition	Magnesium Oxychloride (MOC) Cement	**Thickness**	Nominal 1/2" (12mm)
Weight (lbs/sf)	± 90 lbs (2.8)	**Thickness Deviation (ASTM C1185)**	< ± 1/16 in. (1.6mm)
Available Sizes	Nominal 48 in. (1220mm) x 96 in. (2440mm) x 1/2 in. (~12mm)	**Length, Width, and Diagonal Deviation (ASTM C1185)**	< ± 1/8 in. (3.2mm)
Density	≥ 1.09 g/cm3	**Unprotected Exposure**	180 days

Test Name	Test Method	Results	More Info / Minimum Acceptance Criteria
Code Acceptance			
Building Types	2018 and 2021 IBC and IRC; 2023 FBC; 2022 CBC and CRC; 2023 LABC and LARC	All Building Types (I, II, III, IV, V)	ESR-5418
Code Evaluations & Additional Listings	ASTM E84: Surface Burning Characteristics of Building Materials ASTM E119: Fire Tests of Building Construction and Materials ASTM E2768: Extended Duration Surface Burning Characteristics of Building Materials AC 386: Acceptance Criteria for Fiber-Reinforced Magnesium Oxide-Based Sheets		ESL-1596 ESL-1610 ESL-1632 ESR-5418
Fire & Thermal Resistance Properties			
Flame and Smoke Development	ASTM E84, ASTM E2768	Class A (Flame Spread Index 0-25; Smoke-Developed Index of 0-450)	ESL-1596
Combustibility	ASTM E136-19 Method A	Pass, Noncombustible	ESR-5418
Fire-Rated Wall Assemblies	ASTM E119 CAN/ULC-S101	1 & 2-Hour - See ESL-1610 (US) 1& 2-Hour - See ESL-1632 (Canada)	ESL-1610 ESL-1632
Structural Properties			
Allowable Stud Spacing	-	12 in. / 16 in. / 24 in. OC	Test Results at 24 in. OC
Compression Indentation	ASTM D2394	0.004 in.	Deformation at 1250 psi / Requirement to be less than 0.05 in.
Flexural Strength (Machine / Cross Direction)	ASTM C1185	Dry: 2,855 MD / 3,410 XD Wet: 2,980 MD / 3,049 XD	580 psi (4000 kPa) min average acceptance for both wet and dry
Humidified Deflection	ASTM C473	1/8 in.	48 hours at 90F and 90% RH / Required to be less than 1.25 in.
Falling Ball Impact	ASTM D1037	No damage to top or bottom from a 12" drop	-
Uniform Static Air Pressure	TAS 202-94	28.5 psf (L/360); 38.0 psf (L/240)	Max Wall Design Pressures
Cyclic Air Pressure	TAS 203-94	28.5 psf (L/360); 38.0 psf (L/240)	Max Wall Design Pressures

Allowable Transverse Wind Loads on Wood Studs

Nominal Panel Thickness	Maximum Support Spacing	Fastener Type	Fastener On-Center Spacing (Perimeter/Field)	Allowable Wind Load	
				Positive	Negative
1/2 in.	16 in.	0.113 in. x 2 in. galvanized ring shank nails	4 in. / 6 in.	80 psf	42 psf

For SI 1 inch = 25.4 mm; 1 psf = 47.88 Pa

Fastening Requirements & Allowable Shear Capacity on Wood Studs

Nominal Panel Thickness	Fastener Specifications	Panel Edge Distance	On-Center Spacing (Perimeter/Field)	Wall Height	Allowable Shear Capacity
1/2 in.	0.113 in. x 2 in. galvanized ring shank nails	3/8 in.	4 in. / 6 in.	8 ft.	207 plf

For SI 1 inch = 25.4 mm; 1 plf = 14.6 N/m

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Structural Properties (continued)				
			Transverse Load - Positive	**Transverse Load - Negative**
	Limit	**Deflection**	**Average Pressure**	**Average Pressure**
Sheathing Span Deflection Criteria (ASTM E72)	L/90 L/120 L/180 L/240 L/360 L/480 L/600	1.028 in. 0.771 in. 0.514 in. 0.385 in. 0.257 in. 0.193 in. 0.154 in.	112 psf 85 psf 59 psf 46 psf 32 psf 25 psf 21 psf	105 psf 81 psf 59 psf 47 psf 34 psf 27 psf 23 psf
Fastener & Adhesion Properties				
Dry-Set Cement Shear Bond Strength	ANSI A118.1/A118.4		86 psi	Min shear bond strength at 7-day curing of 50 psi
Latex Cement Shear Bond Strength	ANSI A118.1/A118.4		307 psi	Min shear bond strength at 7-day curing of 50 psi
Fastener Withdrawal	ASTM D1037		> 275 lbs. (max force)	#10-13 Pancake Head Screw
Nail Head Pull-Through	ASTM D1037		618 lbf	0.121 x 3" Roofing Nail - Resistance of 90 lbf
Moisture Properties				
Moisture Absorption	ASTM C1185		≤ 20%	48 Hour Submersion
Moisture Content	ASTM D4442		≤ 6.4	-
Water Vapor Permeability	ASTM E96 Water Method		11.5 perms	-
Moisture Movement Test	ASTM C1185		0.06% Machine Direction 0.11% Cross Direction	Increase of chamber from 30% Relative Humidity to 90% measured in both machine and cross direction