

DESIGN FEATURES

TamlynMgO[®] (MgO) Panels are durable, fire-rated, structural sheathing panels comprised of Magnesium Sulphate (MgSO₄) formulated cement. Panels are provided in 48" wide x 96" long panels with a straight/ square edge profile. Panel thickness is available in 1/4" (6mm), 1/2" (12mm) & 5/8" (16mm). Tamlyn MgO panels are approved for use as exterior wall sheathing, interior wall and ceiling panels as well as flooring underlayment and may be used in Type I, II, III, IV and V construction.

For exterior sheathing applications, Tamlyn MgO panels are an ideal replacement for fire-retardant-treated wood (FRTW) sheets, Portland cement, and gypsum-based panels. As exterior sheathing, Tamlyn MgO panels offer excellent structural properties, fire resistance and may be used as a structural base for the attachment of various finishes and cladding systems.

In interior applications, Tamlyn MgO panels offer advantages to wood and gypsum-based materials in basements, elevator shafts and stairwells, demising/common walls, common areas and can be used as an alternative to wet applied gypsum flooring underlayment.

CODE COMPLIANCE PER

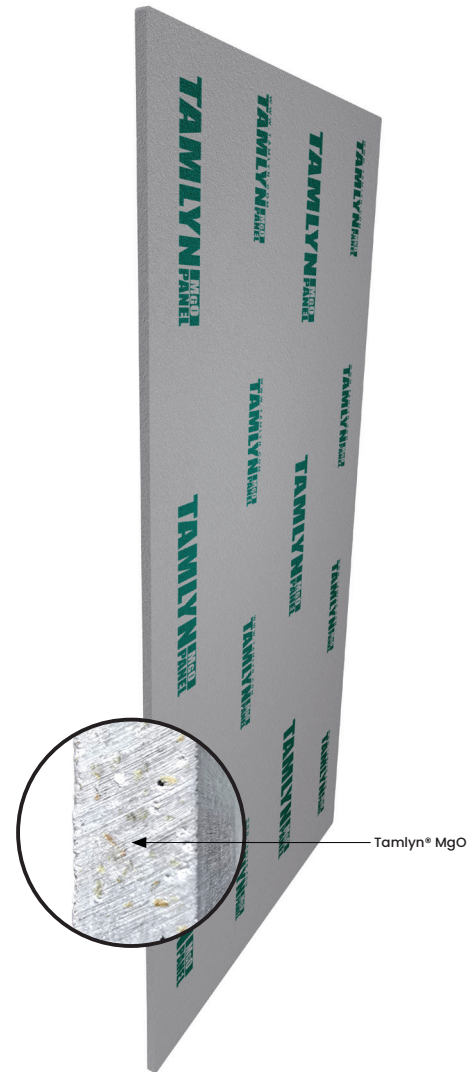
- ICC-ES AC-386
- ICC-ES AC-376
- ICC-ES AC-378
- Support Wildland-Urban Interface (WUI) Code

BENEFITS INCLUDE

- Non-combustible
- Structural performance
- Water resistant-will not swell, delaminate, weaken or decay
- Fungal resistant
- Termite resistant
- Non-toxic, no chemicals or additives with known adverse health concerns
- Fire resistant assemblies
- Chloride free* formula-Does NOT contain MgCl₂
- Environmentally safe**

*Generally accepted for <0.08% Chloride

**Natural ingredients, non-toxic, low energy manufacturing, durable



PHYSICAL PROPERTIES (1/2" THICK PANELS)

| | | |
|----------------------|--|------------|
| Dimensions | 4 ft x 8 ft (+/- 2mm) | |
| Thickness | 1/2" (12mm) (+/- 0.2mm) | |
| Edge Profile | Straight, square edge | |
| Unprotected Exposure | 180 Days | |
| Density | 75 #/ft ³ (1200 Kg/m ³) | ASTM C1185 |
| Expansion 90%RH | 0.1% Linear | ASTM D1037 |
| | 0.17% Thickness | ASTM D1037 |
| Thermal Expansion | 4.8 E-6 (in/in/F) | ASTM E228 |
| Vapor Permeability | 15 perms | ASTM E96 B |
| Moisture Absorption | 19.2% (48 hr) | ASTM C1185 |
| Moisture Movement | <0.18% Max | ASTM C1185 |
| Chloride Content | <0.07% | ASTM C871 |

| PANEL STRENGTH (1/2" THICK PANELS) | | |
|--|-------------------------|--------------|
| Racking Strength | 3000 lbf Max (Dry) | ASTM E72 |
| | 3000 lbf Max (Wet) | ASTM E72 |
| Planar Shear Strength (fastener @ 8" oc) | 504 lbf (Ultimate load) | ASTM D2718 B |
| | 115 psi (Max shear) | ASTM D2718 B |
| Flexural Strength | 2700 psi Dry | ASTM C1185 |
| | 2320 psi Wet | ASTM C1185 |

| SUPERIOR FASTENER HOLD VS. OSB (1/2" THICK PANELS) | | | | |
|--|------------------|-------------------------------|--------------|----------|
| Fastener Type | | Average Load (lbf) ASTM D1761 | | |
| | | Shear | Pull Through | Pull Out |
| 1/4"-14 screws | Tamlyn MgO Panel | 574 | 728 | 314 |
| | Structural OSB | 545 | 467 | 236 |
| #10-16 screws | Tamlyn MgO Panel | 420 | 627 | 292 |
| | Structural OSB | 387 | 383 | 223 |
| Nail Head Pull-Through | 562 lbf (2500 N) | ASTM D1037 | | |

| STRUCTURAL PERFORMANCE (1/2" THICK PANELS) | | | |
|--|----------------------------|------------------|---------------------------|
| ASTM E330 | | Deflection Limit | Allowable Design Pressure |
| Framing | Fastener Type (8" spacing) | | PSF |
| Wood 2x6 16" oc | 2" x 0.113 Ring shank nail | L/360 | -24 |
| | | L/240 | -35 |
| | | L/120 | -60 |
| Cold Form 16 ga 16" oc | #10-16 screw | L/360W | -35 |
| | | L/240 | -40 |
| | | L/120 | -60 |

| FIRE PERFORMANCE | | |
|------------------|------------------------|-----------|
| Flame Spread | 0 | ASTM E84 |
| Smoke Developed | 0 | ASTM E84 |
| Combustibility | Non-Combustible (Pass) | ASTM E136 |
| Fire Assembly | Up to 2 Hrs | ASTM E119 |
| | Pass | NFPA 285 |