

TUF-TRED® INDUSTRIAL PANEL

Product Description:

Tuf-Tred® is a skid-resistant, textured, poly-glass overlaid plywood with superior skid resistance, surface durability and weatherability

Panel Construction & Moisture Resistance:

Tuf-Tred® is construction of an Embossed Poly-glass overlay equivalent to 40 grit sandpaper on Douglas Fir/Hemlock plywood. It is produced in a 2 Step layup, has waterproof glue bond and meets APA PS 1-07 specifications. All Olympic Panel Products are made in the USA.



Features and Benefits:

- Superior skid resistance based off Brungraber Testing ASTM F1677
- Exceptional weather & wearability, light-stable, durable surface
- No further finishing required
- High strength, light weight
- Waterproof bond for water/high humidity resistance
- High Face/Edge screwholding
- Very low Formaldehyde - meets proposed CARB requirements

Working Faces/Treatment:

Tuf-Tred® is available with 1 working face & waterproof HDO backer. The poly-glass surface is sand colored, light-stable and will not peel or bubble. The skid resistant surface is equivalent to 40 grit sandpaper.

Working Edges/Treatment:

- Edges are factory sawn, without edge treatment.
- Tongue and grooved edges meeting volume limits are available.
- For interior applications requiring edge banding, do not edge seal, otherwise, seal all edges using clear or pigmented Pre-Form by Nox-Crete or equivalent. Pre-Form can not be over coated.

Applications:

- Dock, wharf & boat decks
- Wheelchair & truck ramps, walkways for portable classrooms
- Pool & Spa Decking, floating swim platforms
- Bleacher, stage decking, catwalks & factory floors

Structural/Load Performance

Shelf span tables are available at www.olypanel.com & Olympic sales.

Limitations:

Do not exceed design limitations imposed by the floor span or stair riser tables. Tuf-Tred® is not designed for repetitive heavy wheel loads. Tuf-Tred® is designed as a finished surface and should not be over coated or laminated.

Thicknesses & Sizes:

Tuf-Tred® is available in 5/8", 3/4", 1" & 1-1/8" thicknesses. Standard panel sizes are 4' X 8' only. Non standard thicknesses meeting volume requirements are available.

Product Grade

Standard & Special product are shipped allowing up to 10% Shop, identified & priced separately. Shipments of only shop may be available. Check with sales.

- Superior skid resistance - Brungraber Testing
- No further finishing required
- High strength, light weight
- Waterproof bond = water/humidity resistance

Technical Data Applicable Standards

All panels are manufactured by Olympic Panel Products per Product Standard PS1-07. This standard is available at www.apawood.org.

Physical Properties ¹	5/8"	3/4" to 1"
Modulus of Rupture ^{2,3}	6,402 psi	6,361 psi
Modulus of Elasticity ^{2,3}	953,304 psi	921,180 psi
Lineal Expansion ^{2,3}	.048%	0.048%
Thickness Swell	4.2%	4.2%
Water Absorption (24 Hours)	6.6%	6.6%
Internal Bond ²	171.3 psi	153.6 psi
Shelf Stiffness EI ASTM D-3043 C	244,738 lb-in ² /ft ⁶	773,248 lb-in ² /ft ⁶
Shelf Bending FbS ASTM D-3043 C	3,452 lb-in/ft ⁶	6,707 lb-in/ft ⁶
Face Screw holding ²	548 lbs	446 lbs
Edge Screw holding ²	400 lbs	365 lbs
Moisture Content ² ASTM D-1037	6-9%	6-9%
Specific Gravity ² ASTM D-1037	.615	.536
Density ² ASTM D-1037	38.4 lbs/ft ³	33.6 lbs/ft ³
Janka Hardness ² ASTM D-1037	1102 lbs	953 lbs
Slip Resistance ² ASTM F-1677	.94	.94
Flame Spread ASTM E-84	135	135
Smoke Developed ASTM E-84	75	75
Flame/Smoke spread rating E-84	Class B	
Formaldehyde level E-1333	< 0.02 parts/million	

Panel Tolerances ²	5/8 - 3/4"	1" & greater
Thickness Tolerance	+/- 1/32" (.032")	+/- 5%
Length & Width Tolerance	+0, -1/16" (.062")	+0, -1/16" (.062")
Squareness	1/16" (.062")	1/16" (.062")
Straightness	1/16" (.062")	1/16" (.062")

¹Panel Average. Product averages vary for individual thicknesses, consult sales or technical staff for exact properties.²All tolerances and specifications apply at the time of manufacture.

³ANSI 208.1 test result

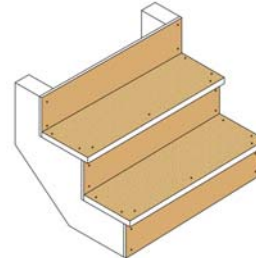
⁴Calculations based on test averages of along and across grain

⁵Shelving physical properties based on limited 5 panel average. See web site for load table

⁶Flame and Smoke spread properties based on engineering calculations

⁷Shelving stiffness/bending properties are based on a limited 5 panel average

Stair Tread & Risers



•Olympic Tuf-Tred® is ideal for interior or exterior stair applications where skid resistant surfaces are desirable.

•Tuf-Tred® may be used interchangeably with boards in systems which include closed risers.

•Minimum thickness is 5/8".

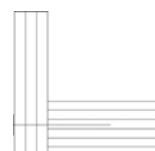
•Maximum span between risers is 42."

Tuf-Tred® Stair Part Minimum Thicknesses ¹		
Minimum Thickness (in.)		
	Nail Glued	Nailed Only
Tuf-Tred® / Treads	5/8	3/4

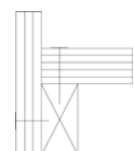
¹From APA The Engineering Wood Association's Engineering Wood Construction Guide, Form E30T, 2005, Table 15: APA Panel Stair Treads .

Field Fabrication

- Nail all edges of treads as indicated in details A and B. Detail B is preferred as it eliminates end grain nailing.
- Glue is recommended to improve stiffness of the connection and eliminate squeaks
- Apply construction adhesive meeting APA's performance specification AFG-01 or ASTM D3498 to all joints, with particular attention to the back riser/tread connection



Detail A



Detail B

Tuf-Tred® Floor Loads and Span Ratings

Tuf-Tred® Recommended Uniform Floor Live Load and Span Rating With Strength Axis Perpendicular to Supports								
Panel Thickness	Maximum Span (in)	Allowable Live Loads ² (lbs per Square foot)						
		12"	16"	20"	24"	32"	40"	48"
5/8"	20	270	150	100				
3/4"	24	430	240	160	100			
1"	32		430	295	185	100		
1-1/8"	48			460	290	160	100	55

¹From APA The Engineering Wood Association's Engineering Wood Construction Guide, Form E30T, 2005, Table 11: Recommended Uniform Floor Live Loads for APA Rated Sturd-I-Floor .

²10 psf dead load assumed, Live Load deflection limit is 1/360

Note: Complete fastener schedules for glue nailed and nailed only fasteners are available from ¹From APA The Engineering Wood Association's Engineering Wood Construction Guide, Form E30T, 2005, Table 10:

Application Instructions

1. Installation: Install Tuf-Tred® directly over framing. Install flat, do not crown the panel. Consult Load Span Tables for maximum spans and allowable uniform load per square foot. Panel faces and edges must not have continuous direct contact with water.

2. Fastening: Use only stainless steel or hot-dipped galvanized spiral or ring shank nails. Nail at least 3/8" from edge of panel to prevent surface cracking. For marine applications or other wet areas, use corrosion resistant bolts or screws. Pre-drill screw holes and countersink with caution, then fill the hole. Stainless or galvanized washers should be used to provide a greater bearing surface.

3. Edge Joints: Tongue and groove edges are available by special order. If caulking is desired, joints must provide enough room, such as a 3/16" groove or 5° back bevel, to apply a bead of caulk.

4. Caulking: Use a good quality caulk on all joints. Avoid oil-based caulks and glazing materials. Obtain caulking squeeze-out the full length of the joint. Caulked joints are not approved for roof applications or other applications where water-proofing is required.

5. Machining: Tuf-Tred® can be sawn, shaped, routed or jointed with ordinary methods, using high speed, professional quality power tools. Use carbide-tipped blades for cutting, adjusting arbor so that blade extends 1/2" through the panel. Feed material to saw slowly.

6. Drilling: If appearance on back is important, panel should be backed up to avoid chipping as drill bit breaks through. Do not drill closer than 1/4" to the edge of the panel.

7. Durability: Tuf-Tred® will provide years of service when installed properly. Wood, however, may decay when subjected to prolonged periods of moisture. Free air circulation around the panel is crucial for long life. Do not install over existing lumber or plywood decking in exterior applications. Joists and blocking members should be constructed with preservative treated or naturally decay-resistant wood species for maximum life in exterior applications. Contact Olympic Panel Products for preservative treatment recommendations.

Standard Packaging:

Thickness	Tuf-Tred® 1 Face, HDO Back Average* Weight lbs./SF	Tuf-Tred® 1 Face, HDO Back Average* Weight lbs./Panel	Pieces per Unit
5/8"	2.000	64.0	50
3/4"	2.350	75.2	44
1"	3.065	98.1	33
1-1/8"	3.450	110.4	30

Average product weights may vary +/- 10%

Suitability for Use and Warranty

Nothing herein constitutes a warranty express or implied, including any warranty of merchantability or fitness for use, nor is protection from any law or patent to be inferred. The exclusive remedy for all claims is replacement of materials. Contact the sales office for a copy of the complete Olympic Terms and Conditions of Sale.

Warehouse Storage and Handling

- Store in a dry, clean, well-ventilated area indoors.
- Avoid temperatures and moisture extremes. Allow panels to equalize for 72 hours or more before use.
- Pieces must not be stored in contact with the ground.
- Limit the stacking height to four or five units. Separate units with clean, dry spacers of uniform thicknesses, aligned carefully. Use three spacers for panels 8' long.

Environmental Impact

Olympic Panel produces overlaid softwood plywood from veneer peeled at the Olympic plant and from purchased veneer. All veneer and plywood panels are manufactured in accordance with the following principals:

- Logs and veneer originate in sustainable, secondary growth forests, which are managed according to Federal and State laws and regulations.
- Olympic Panel uses energy efficient, environmental control technology to reduce emissions to levels below federal and state guidelines.
- Olympic Panel uses process by-products to produce energy.
- Olympic's products are renewable, biodegradable and recyclable.

Warnings

This product contains 0.01 parts/million of residual formaldehyde from manufacturing. This product will generate wood dust from sawing, sanding, or shaping. Material Safety Data Sheets are available on Olympic's Web site at www.olypanel.com and upon request.

Structural panels (PS-1) are exempt from California Air Resources Board regulations, however, this product is below CARB limits for all uses.

INDUSTRIAL PANELS

- **DecraGuard®** - Polyester overlay for marine partitions, bulkheads & cabinets.
- **Cabinet Liner™** - Polyester overlay for cabinets, displays and fixtures.
- **Tuf-Tred®** - Skid-resistant, embossed, poly-glass overlay.
- **SkidGuard®** - Slip-resistant, screen embossed HDO.
- **Tempered Plyron®** - hardboard faced/veneer core, paintable, wear-resistant flooring panels.
- **Standard Plyron®** - paintable panels for furniture, cabinet, display, fixture & partitions.

Plyron® is a registered trademark of the APA, the Engineered Wood Association

Olympic Panel Technical/Sales Information

204 East Railroad Avenue; Shelton, WA 98584

Sales phone: 800-782-7265 Sales Fax: 360-432-5081

www.olypanel.com

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