

Physical and Mechanical Properties

| | Test Method | Values | |
|---|--|--|---------------|
| Abrasion Resistance | ASTM D2394 | .01 wear/1000 revs. | |
| Hardness | ASTM D143 | 1124 lbs | |
| Self Ignition Temperature | ASTM D1929 | 743°F | |
| Flash Ignition Temperature | ASTM D1929 | 698°F | |
| Flame Spread (a) [Fire Defense™] | ASTM E84 | 80 [40] | |
| Water Absorption (sanded surface) 24 hr. immersion | ASTM D1037 | 4.3% | |
| Water Absorption (unsanded surface) 24 hr. immersion | ASTM D1037 | 1.7% | |
| Typical Trex® values for Coefficient of Thermal Expansion/Contraction (36" long samples) | | | |
| Thermal | Width Length | 35.2 x 10 ⁻⁶ to 42.7 x 10 ⁻⁶ (inch/inch/°F) 16.1 x 10 ⁻⁶ to 19.2 x 10 ⁻⁶ (inch/inch/°F) | |
| Moisture | Typical Trex values for Long Term Water Immersion (36" long samples) Width ~3% | Typical Trex values for Constant High Humidity (6" long samples) ~1% | |
| Nail Withdrawal (c) | ASTM D1761 | 163 lbs/in | |
| Screw Withdrawal (c) | ASTM D1761 | 558 lbs/in | |
| Static Coefficient of Friction - Dry (d) | ASTM D2047 | 0.53/0.55 | |
| Static Coefficient of Friction - Dry (d) | ASTM F1679 | 0.59/0.70 | |
| Static Coefficient of Friction - Wet (d) | ASTM F1679 | 0.70/0.75 | |
| Fungus Resistance (White & Brown Rot) | ASTM D1413 | rating = No Decay | |
| Termite Resistance (e) | AWPAE1-72 | rating = 9.6 | |
| Specific Gravity (typical) | ASTM D2395 | 0.91 to 0.95 | |
| | | Ultimate (typical) Values | Design Values |
| Compression Parallel (f)(g) | ASTM D198 | 1806 psi | 550 psi |
| Compression Perpendicular (f)(h) | ASTM D143 | 1944 psi | 625 psi |
| Tensile Strength (f) | ASTM D198 | 854 psi | 250 psi |
| Shear Strength (f) | ASTM D143 | 561 psi | 200 psi |
| Modulus of Rupture (f) | ASTM D4761 | 1423 psi | 250 psi |
| Modulus of Elasticity (f) | ASTM D4761 | 175,000 psi | 100,000 psi |
| Thermal Conductivity | ASTM C177 | 1.57 BTU-in/hr-ft @85°F | |
| Leachate (I) | TCLP-EPA 1311 | pass | |

Notes:

(a) Corresponding Smoke Developed Index is 285.

(b) Values shown are for reference only. These values should not be used to calculate gapping for Trex. Follow Trex installation literature for proper width to width and end to end gapping information.

(c) 8d common wire nail. No. 10 wood screw.

(d) ASTM D2047 test conducted on sanded/unsanded unweathered samples with leather surface. ASTM F1679 test conducted on sanded/unsanded weathered samples with neolite surface.

(e) Material weight loss was 0%.

(f) ultimate strength values are not meant for design analysis. Testing performed on a 2x6 cross section. Design values are for temperatures up to 130°F.

(g) Compressive strength parallel to the length.

(h) Compressive strength perpendicular to length.

(i) Leaching was below levels established by EPA for all constituent categories.