

# 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	35.2 x 10 <sup>-6</sup> to 42.7 x 10 <sup>-6</sup> (inch/inch/°F)	
	Length	16.1 x 10 <sup>-6</sup> to 19.2 x 10 <sup>-6</sup> (inch/inch/°F)	
Moisture	Typical Trex values for Long Term Water Immersion (36" long samples)	Typical Trex values for Constant High Humidity  (6" long samples)	
	Width ~3%	~1%	
Nail Withdrawal (c)	ASTM D1761	163 lbs/in	
Screw Withdrawal (c)	ASTM D1761	558 lbs/in	
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 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.