

## MECHANICAL PROPERTIES TABLE

### TUFF-TIE COMPOSITE TIES

<b>Mechanical Properties/ Test Method</b>	<b>Tuff-Ties Typical Value</b>	<b>Size of Test Specimen</b>
Specific Gravity ASTM D6111-97	1.32 <sup>(1)</sup>	7½" x 9"
Density ASTM D6111-97	82.6 lbs. per cu. ft. <sup>(1)</sup>	7½" x 9"
Coefficient of Thermal Expansion ASTM D696-98	0.000068 in./in. per °F <sup>(2)</sup>	7" x 9"
Compressive Strength ASTM D6108-97 (Compression Parallel to Grain)	>4,000 psi <sup>(1)</sup>	7½" x 9"
Compressive Strength ASTM D6108-97 Rail Seat Compression (Compression Perpendicular to Grain)	>4,000 psi <sup>(1)</sup>	7½" x 9"
Modulus of Elasticity (Compression) ASTM D6108-97	317,800 psi <sup>(1)</sup>	7½" x 9"
Flexural Strength ASTM D6109-97	2,950 psi <sup>(1)</sup>	7½" x 9"
Modulus of Elasticity (Flexure) ASTM D6109-97	203,900 psi <sup>(1)</sup>	7½" x 9"
Mechanical Fastener ASTM D6117-97 Cut Spike Withdrawal	6,500-7,500 lbs. <sup>(2)</sup>	7" x 9"

(1) Certified tests performed by Construction Technology Laboratories, Inc., Skokie, IL

(2) Certified tests performed by Scientific Testing Laboratories, Inc., Baton Rouge, LA