



**Spaulding**  
COMPOSITES INC.

**ENGINEERING DATA SHEET**  
**GRADE: SPAULDITE® L-589 LAMINATE SHEET**

Reprint of: \_\_\_\_\_ Issued: 0506

Spaldite® Grade L-589 is a fine weave cotton fabric-base phenolic laminate specifically designed to meet the exacting and particular requirements for rotor blades used in air operated tools, compressors, pumps, etc. An ideal rotor blade material should be hard for good wear, well bonded, dimensionally stable under operating conditions, and machinable to close tolerances.

**MAJOR FEATURES**

- Good Mechanical Strength
- Excellent Wear Resistance
- Good Dimensional Stability
- Available as Finished Vanes

**APPLICATIONS**

Grade L-589 is used as rotor vanes in air tools, compressors and pumps.

**ELECTRIAL CHARACTERISTICS**

This grade is not recommended for electrical use.

**FABRICATION**

Supplied as fabricated vanes.  
Contact Spaulding Fabrication Division, Rochester, NH  
for prototypes or sample vanes.

**MECHANICAL CHARACTERISTICS**

STANDARD SHEET SIZE<sup>1</sup>: 48" X 36"  
48" X 48"

COLOR: NATRAUL BROWN

THICKNESS: .031" –3.000"

<sup>1</sup> Available in fabricated parts only.

*"To the best of our knowledge the information contained herein is accurate; however, Spaulding Composites Company, Inc. does not accept any liability regarding the accuracy or completeness of such information. Further, such information is based on standard base material and thus may change if the product ordered by purchaser requires further processing of base material by us and/or the purchaser. Purchaser has the sole responsibility in determining the suitability of any material described herein for the use contemplated and the processing of such material by purchaser."*


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**PROPERTY CHARACTERISTICS**

PROPERTY	ASTM TEST METHOD	CONDITIONING & TYPE OF TEST	THICKNESS INCHES	AVERAGE TYPICAL VALUES		INDUSTRY REQUIREMENTS	
				ENGLISH	SI	ENGLISH	SI
<b>MECHANICAL</b>							
Bonding Strength	D-229	A Lengthwise Crosswise	.500	2,180 lbs 2,080 lbs	9.70 kN 9.25 kN	≥1,600 lbs ≥1,600 lbs	≥7.1 kN ≥7.1 kN
Compressive Strength Flatwise	D-229	A	.125	47.8 ksi	329.4 MPa	≥35.0 ksi	≥241.3MPa
Flexural Strength Flatwise	D-229	A Lengthwise Crosswise	.125 .125	22.6 ksi 18.8 ksi	156.1 MPa 129.6 MPa	≥18.0 ksi ≥15.0 ksi	MPa ≥124.1 ≥103.4
Izod Impact Edgewise Notched	D-229	E-48/50 Lengthwise Crosswise	.125 .125	2.37 ft-lbs/in 2.24 ft-lbs/in	.126 J/mm .120 J/mm	≥1.8 ft-lbs/in ≥1.5 ft-lbs/in	≥.096 J/mm ≥.080 J/mm
Tensile Strength	D-229	A Lengthwise Crosswise	.125 .125	13.9 ksi 11.1 ksi	95.8 MPa 76.5 MPa	NR NR	NR NR
<b>PHYSICAL</b>							
Density	D-792	A	.125	.049 lbs/in <sup>3</sup>	1.36 g/cm <sup>3</sup>	≥.047 lbs/in <sup>3</sup>	≥1.3 g/cm <sup>3</sup>
Rockwell Hardness	D-229	A	.125	M-106	M-106	M100-115	M100-115
Water Absorption	D-229	E-1/105+ D1-24/23	.125	1.15%	1.15%	≤1.6%	≤1.6%

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