

DATA SHEET

PAPER BASE PHENOLIC NEMA GRADE X

<b>BASE MATERIAL</b>	Paper
<b>RESIN</b>	Phenolic
<b>MILITARY SPECIFICATION</b>	
<b>MIL-SPEC TYPE</b>	
<b>TENSIL STRENGTH</b>	
Lengthwise	20,000
Crosswise	16,000
<b>COMPREHENSIVE STRENGTH (psi)</b>	
Flatwise	36,000
Edgewise	19,000
<b>FLEXURAL STRENGTH, MIN FOR 1/8 -ILN SPECIMEN (psi)</b>	
Lengthwise	25,000
Crosswise	22,000
<b>MODULUS OF ELASTICITY, FLEXURAL</b>	
Lengthwise	1,800 m
Crosswise	1,300 m
<b>SHEAR STRENGTH (psi)</b>	1,000
<b>IZOD IMPACT, MIN (ft-lb per in.of notch)</b>	
Flatwise	.55
Edgewise	.50
<b>HARDNESS, ROCKWELL (M - scale)</b>	110
<b>SPECIFIC GRAVITY</b>	1.36
<b>COEFFICIENT OF THERMAL EXPANSION (per deg C)</b>	$2 \times 10^{-5}$
<b>WATER ABSORPTION, MAX IN 25HR (%)</b>	
1/16 in.	6
1/2 in.	1.1
<b>DIELECTRIC STRENGTH, PERPENDICULAR TO lamination, shor-time test (v-mil)</b>	
1/16 in.	700
1/8 in.	500
<b>DISSIPATION FACTOR, MAX 1 MC, ASTM D-150, Condition A</b>	.06
<b>DIELECTRIC CONSTANT, MAX 1 MC, ASTM D-150, Condition A</b>	6
<b>INSULATION RESISTANCE, 96 HR, 90 PERCENT RH, 95 (megohms)</b>	
<b>BONDING STRENGTH, MIN (lb)</b>	700
<b>THERMAL CONDUCTIVITY (cal-cm/sec-sq cm-deg C)</b>	$7 \times 10^{-4}$
<b>MAX. OPERATING TEMP. °F.</b>	285
Machine Design, June 16, 1966	



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