

## Grade XXX Paper Phenolic

Grade XXX Paper Phenolic is a machining grade phenolic with good electrical properties and good moisture resistance. It has low cold flow with good dimensional stability. It is designated by MIL-I-24768/22 Type PBE-P and the NEMA grade is XXXP.

Property	Units	Grade XXX Paper Phenolic
<b>Physical</b>		
Specific Gravity	-	1.38
Moisture Absorption (.062")	%	1.30
<b>Mechanical</b>		
Rockwell Hardness (.062")	M Scale	101
Flexural Strength (.062") LW	psi	20,000
CW	psi	15,000
Flexural Modulus (.062") LW	psi	1,300,000
CW	psi	1,050,000
Tensile Strength (.125") LW	psi	14,000
CW	psi	12,000
Izod Impact Strength E-48/50 (.500") LW	ft-lb/in	.55
CW	ft-lb/in	.45
Compressive Strength flatwise (.500")	psi	30,000
Bond Strength (.500")	lbs	1,000
Shear Strength (perpendicular) (.062")	psi	12,800
<b>Thermal</b>		
Maximum Operating Temperature	°F	266
Coefficient of Thermal Expansion (.062") X-axis	in/in/°F	$8.3 \times 10^{-6}$
Y-axis	in/in/°F	$10.5 \times 10^{-6}$
Flammability Rating - U. L. 94		HB
<b>Electrical</b>		
Permittivity (.062") Condition D-24/23	-	6.10
Dissipation Factor (.062") Condition D-24/23	-	.050
Breakdown Voltage Condition - A (.062") D-48/50	V	40,000 10,000
Electric Strength Condition - A (.062") D-48/50	V/mil	700 600
Arc Resistance (.125") D-495	sec	110
Comparative Tracking Index (.125") D3638	-	200

LW – Length Wise of the sheet, direction of manufacturing  
CW – Cross Wise, perpendicular to Length Wise

*NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. Contact us for manufacturers' complete material property datasheets. All values at 73°F (23°C) unless otherwise noted.*