

## Grade X Paper Phenolic

Grade X Paper Phenolic is a paper based phenolic for mechanical applications. It has good tensile, compressive and flexural strength. It is primarily a machining material, but may be hot punched up to .093in thick. It is designated by MIL-I-24768/19 Type PBM-P and the NEMA grade is XP.

Property	Units	Grade X Paper Phenolic
<b>Physical</b>		
Specific Gravity	-	1.4
Moisture Absorption (.062")	%	1.8
<b>Mechanical</b>		
Rockwell Hardness (.062")	M Scale	105
Flexural Strength (.062") LW	psi	34,000
CW	psi	28,000
Flexural Modulus (.062") LW	psi	1,900,000
CW	psi	1,400,000
Tensile Strength (.125") LW	psi	20,000
CW	psi	16,000
Izod Impact Strength E-48/50 (.500") LW	ft-lb/in	.82
CW	ft-lb/in	.76
Compressive Strength flatwise (.500")	psi	35,000
Bond Strength (.500")	lbs	1,000
Shear Strength (perpendicular) (.062")	psi	15,000
<b>Thermal</b>		
Maximum Operating Temperature	°F	266
Coefficient of Thermal Expansion (.062") X-axis	in/in/°F	$7.2 \times 10^{-6}$
Y-axis	in/in/°F	$9.5 \times 10^{-6}$
Flammability Rating - U. L. 94		HB
<b>Electrical</b>		
Breakdown Voltage Condition – A (.062")	V	40,000
Electric Strength Condition – A (.062")	V/mil	600
Arc Resistance (.125") D-495	sec	90

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.*