



## Laminated Plastic Properties

Laminated Insulating Materials						
Grade Designation	XX	CE	HTG-3	G-7	G-10	G-11
Density, GM/CC	1.34	1.32	1.65	1.7	1.78	1.85
Specific Volume, CUIN/LB	20.6	21	16.8	16.3	15.6	15

Mechanical						
Grade Designation	XX	CE	HTG-3	G-7	G-10	G-11
Tensile Strength, PSI, Lengthwise	16,000	12,000	23,000	23,000	48,000	48,000
Tensile Strength, Crosswise	13,000	9,000	20,000	18,500	44,000	44,000
Compressive Strength, PSI, Flatwise	34,000	39,000	50,000	45,000	60,000	75,000
Flexural Strength, Lengthwise	18,000	22,000	32,000	34,000	72,000	70,000
Flexural Strength, PSI, Crosswise	14,000	17,000	28,000	33,000	63,800	62,000
Modulus of Elasticity in flexure x 10 <sup>9</sup>						
Lengthwise	14	9	15	10	15	17
Crosswise	11	8	12	9	12	15
Impact Strength, IZOD Edgewise						
ft lbs/in Notch, Lengthwise	0.55	1.6	7.5	10	14.4	13.2
Crosswise	0.5	1.4	6	9.3	10.6	9.8
Rockwell Hardness, M Scale	105	105	120	100	-	-
Bond Strength, lbs	1	2,200	1,000	800	2,500	2,100

Electrical						
Grade Designation	XX	CE	HTG-3	G-7	G-10	G-11
Dielectric Strength-Perpendicular to Laminations						
Short Time, Volts/Mil, 1/16"	700	500	700	400	810	710
1/8"	500	360	600	350	570	-
Dielectric Strength-Parallel to Laminations						
Kilovolts, Step by Step 1/8" Cond. A	50	45	-	50	65	43
Cond. D 48/50	10	5	-	47	60	45
Dissipation Factor, 10 <sup>6</sup>						
Cycles-Condition A	0	0	-	0	0	0
Cond. D 24/23	0.05	0	-	0.02	0	0
Dielectric Constant, 10 <sup>6</sup> Cycles						
Condition A	5	5	-	4	5	5
Insulation Resistance, Megohms						
Cond. C96/35/90	60	-	-	200,000	100,000	100,000
Arc Resistance, Seconds	-	-	-	220	100	27

Physical						
Grade Designation	XX	CE	HTG-3	G-7	G-10	G-11
<i>Thermal Conductivity</i>						
CAL/SEC/CM'/°C/CM	7.0 TO 10"	7.0X10"	-	7.0X10"	-	-
Specific Heat CAL/GM/°C	.035 TO 0.40	-	0	0	-	-
Heat Resistance ° F. Short Time	300	300	410	500	350	400
Continuous	250	250	290	400	250	300
<i>Thermal Expansion in/in/°F. x 10<sup>0</sup></i>						
Lengthwise	0.94	1.04	0.94	-	-	-
Crosswise	1.33	1.22	1.11	-	-	-
Water Absorption % 24 hours 1/16"	1.3	1.3	1.8	0.09	0.09	0.15
1/8"	0.9	0.9	1.2	0.07	0.06	0.09
1/2"	0.5	0.5	0.7	0.04	0.03	0.05

Values shown are for test samples made from production materials and are believed to be representative. **THERE IS NO WARRANTY, EXPRESSED, OR IMPLIED.** The purchaser/end user assumes all responsibility for testing and determining the suitability of any material for its intended use.