



PEG[®] INSULATING PANEL

SUBSTATION SOLUTIONS

Overview

Piedmont Plastics is a leading wholesale distributor of high performance materials, including thermoset laminates and plastic sheet, rod, and tube.

Piedmont Engineering Grade[®] (PEG[®]) Insulating Panel for substations is a specially engineered phenolic paper laminate for applications that require exceptional dielectric strength and reliable electrical insulation.

Material Benefits

PEG[®] Insulating Panel was designed to meet the demanding requirements of substations. Benefits include:

- High dielectric strength
- Excellent moisture resistance
- Superior split resistance
- Low cold flow
- Good dimensional stability
- Easy machining



PIEDMONT ENGINEERING GRADE



Common Applications

- Junction Box Panels & Doors
- Electrical Enclosure Panels
- Resistor Mounts
- Circuit Breaker & Switch Mounting Panels
- Transformer Support & Mounting Components
- Capacitor Bank Mounting Panels
- Relay & Instrumentation Panels
- Any Other Application Requiring a Rigid, High-Dielectric Insulating Panel

Certifications

ASTM D709-17 Type I Grade XXX

MIL-I-24768/10 PBE Rev. 2/25/1992

ANSI/NEMA IM 60000-2021 Grade XXX

Why Piedmont?

Piedmont Plastics has been a trusted source for high-performance materials and industry solutions for more than 50 years. Our customers rely on us for:

- Local Inventory
- Nationwide Stocking
- Industry Expertise
- On Time Delivery
- Wholesale Distribution
- Fabrication Support
- Premium Brands
- And More!



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PEG INSULATING PANEL

TECHNICAL DATA

TYPICAL PROPERTIES

PROPERTY		UNITS	VALUE		
			Thickness Tested		
			0.0625"	0.125"	0.500"
PHYSICAL PROPERTIES					
Spacific Gravity (ASTM D792)		–			1.38
Rockwell Hardness (ASTM D785)	0.250" Build-up	M Scale	101		
Moisture Absortion (ASTM D570)	Condition A	%			
	Condition D ₁ -2½3	%	1.30		
Flexural Strength (ASTM D790)	Condition A	psi	20,000 / 15,000		
	LW / CW	(MPa)	(137.9) / (103.4)		
Flexural Modulus (ASTM D790)	Condition A	kpsi	1,300 / 1,050		
	LW / CW	(GPa)	(9.0) / (7.2)		
Tensile Strength (ASTM D638)	Condition A	psi		14,000 / 12,000	
	LW / CW	(MPa)		(96.5) / (82.7)	
Izod Impact Strength (ASTM D256)	Condition A	ft-lb/in			
	LW / CW	(J/cm)			
	Condition E-4%0	ft-lb/in			0.55 / 0.45
	LW / CW	(J/cm)			(0.29) / (0.24)
Compressive Strength (ASTM D695)	Condition A	psi			30,000
	Flatwise	(MPa)			(206.8)
Bonding Strength (ASTM D229)	Condition A	lb			1,000
		(kg)			(453.6)
Shear Strength (ASTM D732)	Condition A	psi	12,800		
	Perpendicular	(MPa)	(88.3)		



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THERMAL PROPERTIES					
Temperature Index ¹ (UL Bulletin 746b)	Electrical / Mechanical	°C	13%30		
Coefficient of Thermal Expansion (IPC-TM 650-2.4.24)	X-axis / Y-axis	" / °C x10 ⁻⁶		15.0 / 19.0	
Flammability Rating (UL Bulletin 94)	Condition A				
		Class	HB		
ELECTRICAL PROPERTIES					
Dissipation Factor @ 1 MHz (ASTM D150)	Condition A	-			
	Condition D-2½3	-	0.050		
Relative Permittivity @ 1 MHz (ASTM D150)	Condition A	-			
	Condition D-2½3	-	6.10		
Breakdown Voltage (ASTM D149)	Condition A	kVolts	40		
	Condition D-4%0	kVolts	10		
Electric Strength (ASTM D149)	Condition A	Volts/mil (kV/cm)	700 (275.6)		
	Condition D-4%0	Volts/mil (kV/cm)	600 (236.2)		
Arc Resistance (ASTM D495)	Condition A				
		sec		110	
Comparative Tracking Index (ASTM D3638)		Volts		200	

¹This temperature is a recommendation only, and based upon experience in various applications. The maximum operating temperature is dependent upon the application and should be investigated prior to use.

This data, while believed to be accurate and based on reliable analytical methods, is for informational purposes only. The terms and conditions of the agreement under which it is sold will govern any sales of this product. Data supplied above are "typical values"; not to be considered "specification values"



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