

NORPLEX™ PHENOLIC SHEET COMPLIANCE

Technical Data Bulletin

GRADE: ES4 | .0625" Gauge

NEMA: ES4

ASTM: D709

DESCRIPTION: Composed of melamine/colored paper cores with white or black or colored cover sheets. The main difference between ES-4 and ES-1 is that the core is colored rather than white.

Physical Properties			Units	Values
Rockwell Hardness (ASTM D785)	0.250" Build-Up		M Scale	100
Moisture Absorption (ASTM D570)	Condition A		%	2.50
Flexural Strength (ASTM D790)	Condition A	LW/CW	psi (MPa)	13,500 / 13,500 (93.1) / (93.1)
Flexural Modulus (ASTM D790)	Condition A	LW/CW	kpsi (GPa)	1,500 / 1,500 (10.3) / (10.3)
Tensile Strength (ASTM D638)	Condition A	LW/CW	psi (MPa)	10,500 / 9,200 (72.4) / (63.4)
Izod Impact Strength (ASTM D256)	Condition A	LW/CW	ft-lb/in (Jcm)	0.60 / 0.55 (0.32) / (0.29)
Compressive Strength (ASTM D695)	Condition A	Flatwise	psi (MPa)	1,000 (6.9)
Thermal Properties				
Temperature Index ¹ (UL Bulletin 746b)	Electrical / Mechanical		°C	120
Flammability Vertical (UL Bulletin 94)	Condition A		Class	V-0
Electrical Properties				
Breakdown Voltage (ASTM D149)	Condition A		kVolts	50
Arc Resistance (ASTM D495)	Condition A		Sec	120

¹ This temperature is a recommendation only, and is 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'.

To assure the material's performance is adequate for a specific application; customers should verify, independent of these performance characteristics of interest.

It is the responsibility of the users of this information to ensure they have the most current version of this bulletin and are urged to check with customer service to determine if the information is the most current available.