

## DuPont™ Nomex® Type 993, 120 mil Nominal Thickness Medium-Density Aromatic Nylon Pressboard

Category : Polymer , Thermoplastic , Nylon , Nylon, Aromatic

### Material Notes:

Type 993 is a medium-density pressboard which offers a balance of rigidity and conformability along with outstanding saturability and excellent properties in air and oil. Typical applications include 3-dimensional parts such as V-rings, angle rings and spools, as well as barrier, gap spacers and core tubes. Information provided by DuPont

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_DuPont-Nomex-Type-993-120-mil-Nominal-Thickness-Medium-Density-Aromatic-Nylon-Pressboard.php](http://www.lookpolymers.com/polymer_DuPont-Nomex-Type-993-120-mil-Nominal-Thickness-Medium-Density-Aromatic-Nylon-Pressboard.php)

Physical Properties	Metric	English	Comments
Density	0.820 g/cc	0.0296 lb/in <sup>3</sup>	Calculated number using basis weight and thickness
Thickness	3000 microns	118 mil	ASTM D374, method D, using 17 N/cm <sup>2</sup>
Linear Mold Shrinkage	0.0070 cm/cm	0.0070 in/in	ASTM D3392
	@Temperature 105 °C	@Temperature 221 °F	
	0.012 cm/cm	0.012 in/in	ASTM D3392
	@Temperature 240 °C	@Temperature 464 °F	
Linear Mold Shrinkage, Transverse	0.010 cm/cm	0.010 in/in	ASTM D3392
	@Temperature 105 °C	@Temperature 221 °F	
	0.018 cm/cm	0.018 in/in	ASTM D3392
	@Temperature 240 °C	@Temperature 464 °F	

Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Yield, MD	46.0 MPa	6670 psi	ASTM D828
Film Tensile Strength at Yield, TD	39.2 MPa	5690 psi	ASTM D828
Film Elongation at Yield, MD	13.7 %	13.7 %	ASTM D828
Film Elongation at Yield, TD	14.2 %	14.2 %	ASTM D828

Thermal Properties	Metric	English	Comments
Oxygen Index	20.8 %	20.8 %	Flammability threshold; ASTM D2863
	@Temperature 230 °C	@Temperature 446 °F	
	23 %	23 %	

Thermal Properties	Metric @ Temperature 180 °C	English @ Temperature 356 °F	ASTM D2863 Comments
	25 % @Temperature 150 °C	25 % @Temperature 302 °F	ASTM D2863
	30 % @Temperature 60.0 °C	30 % @Temperature 140 °F	ASTM D2863
	32 % @Temperature 25.0 °C	32 % @Temperature 77.0 °F	ASTM D2863

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm @Temperature 220 °C	1.00e+15 ohm-cm @Temperature 428 °F	ASTM D257
	1.00e+17 ohm-cm @Temperature 150 °C	1.00e+17 ohm-cm @Temperature 302 °F	ASTM D257
	1.00e+17 ohm-cm @Temperature 130 °C	1.00e+17 ohm-cm @Temperature 266 °F	in oil; ASTM D257
	1.00e+18 ohm-cm @Temperature 50.0 °C	1.00e+18 ohm-cm @Temperature 122 °F	ASTM D257
	1.00e+18 ohm-cm @Temperature 100 °C	1.00e+18 ohm-cm @Temperature 212 °F	ASTM D257
	1.00e+18 ohm-cm @Temperature 90.0 °C	1.00e+18 ohm-cm @Temperature 194 °F	in oil; ASTM D257
	1.00e+19 ohm-cm @Temperature 23.0 °C	1.00e+19 ohm-cm @Temperature 73.4 °F	ASTM D257
Surface Resistivity per Square	1.00e+15 ohm @Temperature 220 °C	1.00e+15 ohm @Temperature 428 °F	ASTM D257
	1.00e+16 ohm @Temperature 150 °C	1.00e+16 ohm @Temperature 302 °F	ASTM D257
	1.00e+17 ohm @Temperature 23.0 °C	1.00e+17 ohm @Temperature 73.4 °F	ASTM D257
	1.00e+17 ohm @Temperature 50.0 °C	1.00e+17 ohm @Temperature 122 °F	ASTM D257

Electrical Properties	1.00e+17 ohm Metric	1.00e+17 ohm English	Comments ASTM D257
	@Temperature 100 °C	@Temperature 212 °F	
Dielectric Constant	2.6	2.6	ASTM D150
	@Frequency 60.0 Hz, Temperature 23.0 °C	@Frequency 60.0 Hz, Temperature 73.4 °F	
	2.6	2.6	ASTM D150
	@Frequency 60.0 Hz, Temperature 50.0 °C	@Frequency 60.0 Hz, Temperature 122 °F	
	2.7	2.7	ASTM D150
	@Frequency 60.0 Hz, Temperature 100 °C	@Frequency 60.0 Hz, Temperature 212 °F	
	2.8	2.8	ASTM D150
	@Frequency 60.0 Hz, Temperature 150 °C	@Frequency 60.0 Hz, Temperature 302 °F	
	2.9	2.9	ASTM D150
	@Frequency 60.0 Hz, Temperature 220 °C	@Frequency 60.0 Hz, Temperature 428 °F	
Dielectric Strength	3.5	3.5	in oil; ASTM D150
	@Frequency 60.0 Hz, Temperature 25.0 °C	@Frequency 60.0 Hz, Temperature 77.0 °F	
	3.5	3.5	in oil; ASTM D150
	@Frequency 60.0 Hz, Temperature 90.0 °C	@Frequency 60.0 Hz, Temperature 194 °F	
Dielectric Strength	3.7	3.7	in oil; ASTM D150
	@Frequency 60.0 Hz, Temperature 130 °C	@Frequency 60.0 Hz, Temperature 266 °F	
	20.0 kV/mm	508 kV/in	AC rapid rise in air; ASTM D149
	30.0 kV/mm	762 kV/in	AC rapid rise in oil; ASTM D149
	62.0 kV/mm	1570 kV/in	Full wave impulse in oil; ASTM D3426
Dissipation Factor	0.0050	0.0050	ASTM D150
	@Frequency 60.0 Hz, Temperature 100 °C	@Frequency 60.0 Hz, Temperature 212 °F	
	0.0050	0.0050	in oil; ASTM D150
	@Frequency 60.0 Hz, Temperature 90.0 °C	@Frequency 60.0 Hz, Temperature 194 °F	
	0.0060	0.0060	ASTM D150

Electrical Properties	@Frequency 60.0 Hz, Metric Temperature 150 °C	@Frequency 60.0 Hz, English Temperature 302 °F	Comments
	0.0060	0.0060	
	@Frequency 60.0 Hz, Temperature 25.0 °C	@Frequency 60.0 Hz, Temperature 77.0 °F	in oil; ASTM D150
	0.0070	0.0070	
	@Frequency 60.0 Hz, Temperature 130 °C	@Frequency 60.0 Hz, Temperature 266 °F	in oil; ASTM D150
	0.012	0.012	
	@Frequency 60.0 Hz, Temperature 220 °C	@Frequency 60.0 Hz, Temperature 428 °F	ASTM D150
	0.012	0.012	
	@Frequency 60.0 Hz, Temperature 50.0 °C	@Frequency 60.0 Hz, Temperature 122 °F	ASTM D150
	0.015	0.015	
	@Frequency 60.0 Hz, Temperature 23.0 °C	@Frequency 60.0 Hz, Temperature 73.4 °F	ASTM D150

Descriptive Properties	Value	Comments
Basis Weight (g/m <sup>2</sup> )	ASTM D3392	

## Contact Songhan Plastic Technology Co.,Ltd.

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