

## Mitsubishi Hostaphan® RN, 36 micron Nominal Thickness Universal Polyethylene Terephthalate Film

Category : Polymer , Film , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET) , Polyethylene Terephthalate (PET), Unreinforced

### Material Notes:

Hostaphan® RN is a biaxially oriented film made of polyethylene terephthalate (PET) and characterized by outstanding physical properties. Applications: Films for industrial applications Coating Laminating Metallizing Printing Decorative films Gloss laminations Adhesive tapes Adhesive films Insulation tapes Electrical insulation Flexible printed circuits Transformers and coils Reprography Base for color printing Carrier film for flexible printing plates Drafting film/engineering

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Mitsubishi-Hostaphan-RN-36-micron-Nominal-Thickness-Universal-Polyethylene-Terephthalate-Film.php](http://www.lookpolymers.com/polymer_Mitsubishi-Hostaphan-RN-36-micron-Nominal-Thickness-Universal-Polyethylene-Terephthalate-Film.php)

Physical Properties	Metric	English	Comments
Density	1.40 g/cc	0.0506 lb/in <sup>3</sup>	ASTM D1505-68, method C
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Water Absorption	0.50 %	0.50 %	4 days in water; ASTM D570
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Permeability	5.0	5.0	Water vapor; 85% r.h.; DIN 53122
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	12	12	Nitrogen; 0% r.h.; DIN 53380
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	20	20	Air; 0% r.h.; DIN 53380
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	50	50	Oxygen; 50% r.h.; DIN 53380
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	180	180	Carbon dioxide; 0% r.h.; DIN 53380
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Linear Mold Shrinkage	0.010 cm/cm	0.010 in/in	DIN 40634
	@Temperature 150 °C, Time 900 sec	@Temperature 302 °F, Time 0.250 hour	
	0.0030 cm/cm	0.0030 in/in	

Linear Mold Shrinkage, Transverse Physical Properties	Metric @ Temperature 150 Å°C, Time 900 sec	English @ Temperature 302 Å°F, Time 0.250 hour	DIN 40634 Comments
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Mechanical Properties	Metric	English	Comments
Film Tensile Strength at Yield, MD	210 MPa	30500 psi	Test speed 100%/min.; 50% r.h.; ISO 527-1, ISO 527-3; Sample type 2
Film Tensile Strength at Yield, TD	260 MPa	37700 psi	Test speed 100%/min.; 50% r.h.; ISO 527-1, ISO 527-3; Sample type 2
Film Elongation at Break, MD	>= 150 %	>= 150 %	Test speed 100%/min.; 50% r.h.; ISO 527-1, ISO 527-3; Sample type 2
Film Elongation at Break, TD	110 %	110 %	Test speed 100%/min.; 50% r.h.; ISO 527-1, ISO 527-3; Sample type 2
Modulus of Elasticity	4.00 GPa @Temperature 23.0 Å°C	580 ksi @Temperature 73.4 Å°F	MD; Test speed 1%/min.; 50% r.h.; ISO 527-1, ISO 527-3; Sample type 2
	5.20 GPa @Temperature 23.0 Å°C	754 ksi @Temperature 73.4 Å°F	TD; Test speed 1%/min.; 50% r.h.; ISO 527-1, ISO 527-3; Sample type 2
Coefficient of Friction, Static	0.40	0.40	DIN 53375 or ASTM D1894

Optical Properties	Metric	English	Comments
Haze	9.0 %	9.0 %	Enlarged measurement angle; ASTM D1003-61, method A

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+11 ohm-cm @Temperature 150 Å°C	>= 1.00e+11 ohm-cm @Temperature 302 Å°F	DC; DIN 40634 or VDE 0345
	>= 1.00e+17 ohm-cm @Temperature 23.0 Å°C	>= 1.00e+17 ohm-cm @Temperature 73.4 Å°F	DC; DIN 40634 or VDE 0345
Surface Resistance	>= 1.00e+12 ohm @Temperature 150 Å°C	>= 1.00e+12 ohm @Temperature 302 Å°F	75% r.h.; DIN 53482 or VDE 0303/part 3
	>= 5.00e+14 ohm @Temperature 23.0 Å°C	>= 5.00e+14 ohm @Temperature 73.4 Å°F	25% r.h.; DIN 53482 or VDE 0303/part 3
	>= 5.00e+14 ohm @Temperature 23.0 Å°C	>= 5.00e+14 ohm @Temperature 73.4 Å°F	50% r.h.; DIN 53482 or VDE 0303/part 3

Electrical Properties	2.9 Metric	2.9 English	Comments
Dielectric Constant	@Frequency 2.40e+8 Hz, Temperature 23.0 Å°C	@Frequency 2.40e+8 Hz, Temperature 73.4 Å°F	DIN 40634 or VDE 0345 in air
	2.9	2.9	
	@Frequency 9.30e+9 Hz, Temperature 23.0 Å°C	@Frequency 9.30e+9 Hz, Temperature 73.4 Å°F	DIN 40634 or VDE 0345 in air
	3.2	3.2	
	@Frequency 1.00e+6 Hz, Temperature 23.0 Å°C	@Frequency 1.00e+6 Hz, Temperature 73.4 Å°F	DIN 40634 or VDE 0345 in air
	3.3	3.3	
Dielectric Strength	@Frequency 50.0 Hz, Temperature 23.0 Å°C	@Frequency 50.0 Hz, Temperature 73.4 Å°F	DIN 40634 or VDE 0345 in air
	3.3	3.3	
	@Frequency 1000 Hz, Temperature 23.0 Å°C	@Frequency 1000 Hz, Temperature 73.4 Å°F	DIN 40634 or VDE 0345 in air
	3.6	3.6	
	@Frequency 50.0 Hz, Temperature 150 Å°C	@Frequency 50.0 Hz, Temperature 302 Å°F	DIN 40634 or VDE 0345 in air
	510 kV/mm	13000 kV/in	DC; DIN 40634 or VDE 0345 in air
Dielectric Strength	@Temperature 23.0 Å°C	@Temperature 73.4 Å°F	
	200 kV/mm	5080 kV/in	
	@Frequency 50.0 Hz, Temperature 150 Å°C	@Frequency 50.0 Hz, Temperature 302 Å°F	DIN 40634 or VDE 0345 in air
Dielectric Strength	290 kV/mm	7370 kV/in	
	@Frequency 50.0 Hz, Temperature 23.0 Å°C	@Frequency 50.0 Hz, Temperature 73.4 Å°F	DIN 40634 or VDE 0345 in air
Dissipation Factor	0.0020	0.0020	
	@Frequency 50.0 Hz, Temperature 23.0 Å°C	@Frequency 50.0 Hz, Temperature 73.4 Å°F	tand; DIN 40634 or VDE 0345
	0.0048	0.0048	
Dissipation Factor	@Frequency 50.0 Hz, Temperature 150 Å°C	@Frequency 50.0 Hz, Temperature 302 Å°F	tand; DIN 40634 or VDE 0345
	0.0052	0.0052	
Dissipation Factor	@Frequency 1000 Hz, Temperature 23.0 Å°C	@Frequency 1000 Hz, Temperature 73.4 Å°F	tand; DIN 40634 or VDE 0345

Electrical Properties	0.0060 Metric	0.0060 English	Comments
	@Frequency 2.40e+8 Hz, Temperature 23.0 Â°C	@Frequency 2.40e+8 Hz, Temperature 73.4 Â°F	tand; DIN 40634 or VDE 0345
	0.0060	0.0060	
	@Frequency 9.30e+9 Hz, Temperature 23.0 Â°C	@Frequency 9.30e+9 Hz, Temperature 73.4 Â°F	tand; DIN 40634 or VDE 0345
	0.021	0.021	
	@Frequency 1.00e+6 Hz, Temperature 23.0 Â°C	@Frequency 1.00e+6 Hz, Temperature 73.4 Â°F	tand; DIN 40634 or VDE 0345

Descriptive Properties	Value	Comments
Conductivity of Aqueous Extract (ÂµS/cm)	2	DIN 40634 or VDE 0345; 1 kHz
F5-value (MPa)	105	ISO 527-1, ISO 527-3; Sample type 2; MD; Test speed 100%/min.; 23Â°C, 50% r.h.
	105	ISO 527-1, ISO 527-3; Sample type 2; TD; Test speed 100%/min.; 23Â°C, 50% r.h.

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