



Hostaphan[®] RN 36-350

Universal film

Hostaphan[®] RN is a biaxially oriented film made of polyethylene terephthalate (PET) and characterized by outstanding physical properties.

Typical properties

Property	Thickness μm	Units	Value		Test Method	Test Conditions
			MD*	TD*		
MECHANICAL						
Tensile strength	36-75 100-125 190-350	N/mm ²	210 180 150	260 230 200	ISO 527-1 and ISO 527-3 Sample type 2	Test speed 100 %/min.; 23 °C, 50 % r.h.
Elongation at break	36-75 100-125 190-350	%	150 185 200	110 120 140	ISO 527-1 and ISO 527-3 Sample type 2	Test speed 100 %/min.; 23 °C, 50 % r.h.
Young's Modulus	36-75 100-125 190-350	N/mm ²	4000 4100 3600	5200 4800 4300	ISO 527-1 and ISO 527-3 Sample type 2	Test speed 1 %/min.; 23 °C, 50 % r.h.
F5-value (stress to obtain 5% elongation)	36-350	N/mm ²	105	105	ISO 527-1 and ISO 527-3 Sample type 2	Test speed 100 %/min.; 23 °C, 50 % r.h.
THERMAL						
Shrinkage	36-190 250-350	%	1.0 1.0	0.3 1.0	DIN 40634	150°C, 15 min.
OPTICAL						
Haze	36 50 75 100 125 190 250 350	%	9 13 15 18 22 25 28 30		ASTM-D 1003-61 method A	Enlarged measurement angle
SURFACE						
Coefficient of friction (static)	36-350	-	0.4		DIN 53375 or ASTM-D 1894	-
PHYSICAL/CHEMICAL						
Density	36-350	g/cm ³	1.4		ASTM-D 1505-68 method C	23°C



Property	Thickness μm	Units	Value		Test Method	Test Conditions
			MD*	TD*		
Conductivity of aqueous extract	36-350	$\mu\text{S/cm}$	2		DIN 40634 or VDE 0345	1kHz
Water absorption (compared to dry state)	36-350	%	0.5		ASTM-D 570	4 days in water at 23°C
Frigen extract	190	%	0.05		DIN 8944	Cold extraction
Trichloroethylene-extract	190	%	0.2		DIN 8943	Extracted in Soxhlet apparatus for 2h. Boiled down for 15h at 105°C.
ELECTRICAL						
Dielectric strength	36/190	kV/mm	510/420 290/150 200/135		DIN 40634 or VDE 0345 in air	23°C, DC 23°C, 50 Hz 150°C, 50 Hz
Dielectric dissipation factor ($\tan\delta$)	36-350	-	0.0020 0.0052 0.0210 0.0060 0.0060 0.0048		DIN 40634 or VDE 0345	23°C, 50 Hz 23°C, 1 kHz 23°C, 1 MHz 23°C, 240 MHz 23°C, 9300 MHz 150°C, 50 Hz
Volume resistivity	36	$\Omega \times \text{cm}$	$> 10^{17}$ $> 10^{11}$		DIN 40634 or VDE 0345	23°C, DC 150°C, DC
Surface resistivity	36	Ω	$> 5 \times 10^{14}$ $> 5 \times 10^{14}$ $> 10^{12}$		DIN 53482 or VDE 0303/part 3	23°C, 25% r.h. 23°C, 50% r.h. 150°C, 75% r.h.
Dielectric constant	36-350	-	3.3 3.3 3.2 2.9 2.9 3.6		DIN 40634 or VDE 0345 in air	23°C, 50 Hz 23°C, 1 kHz 23°C, 1 MHz 23°C, 240 MHz 23°C, 9300 MHz 150°C, 50 Hz
BARRIER						
Air	36	$\text{cm}^3/\text{m}^2 \times \text{d} \times \text{bar}$	20		DIN 53380	23°C, 0% r.h.
Oxygen		$\text{cm}^3/\text{m}^2 \times \text{d} \times \text{bar}$	50		DIN 53380	23°C, 50% r.h.
Water vapour		$\text{g}/\text{m}^2 \times \text{d}$	5		DIN 53122	23°C, 85% r.h.
Nitrogen		$\text{cm}^3/\text{m}^2 \times \text{d} \times \text{bar}$	12		DIN 53380	23°C, 0% r.h.
Carbon dioxide		$\text{cm}^3/\text{m}^2 \times \text{d} \times \text{bar}$	180		DIN 53380	23°C, 0% r.h.

MD = Machine direction, TD = Transverse direction



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

Release

- Transfer film
- Film for production of cast films
- Film for production of GRP-products

Stiffening

- Collar stiffeners

Building insulation

Further applications

- Gaskets and gasket inserts
- Membranes
- Tape measures
- Soundproofing and thermal insulation in combination with suitable materials
- Drum skins
- Carrier film in veneer- and furniture presses

Delivery program Hostaphan® RN 36-350

Thickness	Thickness range	Yield		Roll length	Roll diameter	Roll length	Roll diameter
		g/m ²	m ² /kg				
µm	µm			m	mm	m	mm
36	± 2.0	50	20	4 000	465	8 000	635
50	± 2.5	70	14	3 200	485	6 400	670
75	± 3.5	105	9.6	2 000	475	4 000	650
100	± 5.0	140	7.2	1 600	485	3 200	670
125	± 6.5	175	5.7	1 280	485	2 560	670
190	± 10	266	3.8	800	475	1 600	650
250	± 12	350	2.9	600	475	1 200	650
350	± 14	490	2.0	440	480	880	655

Other roll lengths on request. Core diameter: 152.4 mm (6")



Hostaphan® RN is permitted for food contact according to the current version of EC Directive 2002/72/EC and FDA regulation 21 CFR 177.1630 under the conditions set out in our current Declaration of Compliance. Before using Hostaphan® RN in a food contact article, please request this Declaration of Compliance.

Edition 05/09

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