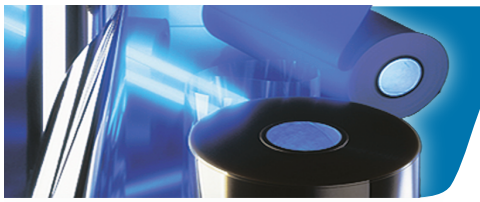


MITSUBISHI CHEMICAL GROUP

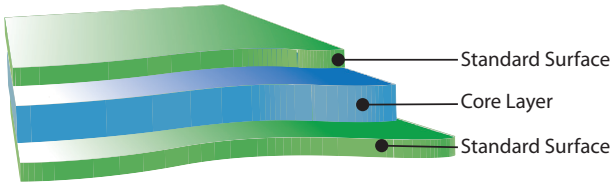
HOSTAPHAN™

HOSTAPHAN™ RNK

Very glossy, transparent polyester film

HOSTAPHAN™ RNK is a highly transparent, biaxially oriented coextruded film made of polyethylene terephthalate (PET).

Layer structure of HOSTAPHAN™ RNK



Typical properties

Property	*Thickness µm*	*Units*	*Value*		*Test Method*	*Test Conditions*
			MD	*TD*		
MECHANICAL						
Tensile strength	12-30 36 50-75 100	N/mm^2	260 260 185 180	260 280 270 260	ISO 527-1 and ISO 527-3 Sample type 2	Test speed 100 %/min.; 23 °C, 50 % r.h.
Elongation at break	12-23 30-36 50-100	%	120 140 200	120 125 120	ISO 527-1 and ISO 527-3 Sample type 2	Test speed 100 %/min.; 23 °C, 50 % r.h.
Young´s Modulus	12-23 30-36 50-75 100	N/mm^2	4500 4500 4000 4000	5000 5000 5500 5300	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)	12-100	N/mm^2	110	105	ISO 527-1 and ISO 527-3 Sample type 2	Test speed 100 %/min.; 23 °C, 50 % r.h.
THERMAL						
Shrinkage	12-23 30-50 75-100	%	1.5 1.0 1.0	0.2 0.1 0.3	DIN 40634	150°C, 15 min.
OPTICAL						
Transparency	12-100	%	90		ASTM-D 1003-61 method A	-
Haze	12-23 30-36 50-75 100	%	2 2.7 4.0 6.5		ASTM-D 1003-61 method A	Enlarged measurement angle
SURFACE						
Coefficient of friction (static)	12-100	-	0.4		DIN53375 or ASTM-D 1894	-

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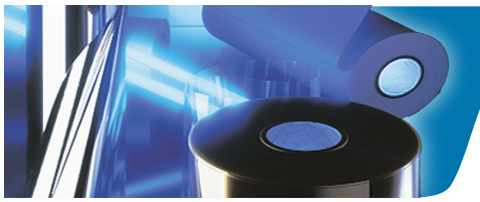

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Property	Thickness µm	Units	Value MD	Value TD	Test Method	Test Conditions
Surface tension	12-100	mN/m (dyne/cm)	43		DIN 53364	Test inks
PHYSICAL/CHEMICAL						
Density	12-100	g/cm³	1.4		ASTM-D 1505-68 method C	23°C
Conductivity of aqueous extract	12-100	µS/cm	2.0		DIN 40634 or VDE 0345	1kHZ
Water absorption	12-100	%	0.5		ASTM-D 570	4 days in water at 23°C
ELECTRICAL						
Permittivity	12-100	-	3.3 3.3 3.2 2.9 2.9 3.6		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
Break down voltage	12 19 23 30 36 50 75 100	kV	4.5 6.5 7.5 9.0 10.0 12.0 16.0 19.0		DIN 40634 or VDE 0345 in air	23°C, 50 Hz,
Dielectric dissipation factor (tanδ)	12-100	-	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	12-100	Ω x cm	$> 10^{17}$ $> 10^{11}$		DIN 40634 or VDE 0345	23°C, DC 150°C, DC
Surface resistivity	12-100	Ω	$> 5 \times 10^{14}$ $> 5 \times 10^{14}$ $> 10^{11}$		DIN 53482 or VDE 0303/part 3	23°C, 25% r.h. 23°C, 50% r.h 150°C, 75% r.h.
BARRIER						
Oxygen	12 23 36 50	cm³/m² x d x bar cm³/m² x d x bar cm³/m² x d x bar cm³/m² x d x bar	110 57 37 26		DIN 53380 DIN 53380 DIN 53380 DIN 53380	23°C, 50% r.h. 23°C, 50% r.h. 23°C, 50% r.h. 23°C, 50% r.h.
Water vapour	12 23 36 50	g/m² x d g/m² x d g/m² x d g/m² x d	16 8 5 4		DIN 53122 DIN 53122 DIN 53122 DIN 53122	23°C, 85% r.h. 23°C, 85% r.h. 23°C, 85% r.h. 23°C, 85% r.h.
Air	12	cm³/m² x d x bar	60		DIN 53380	23°C, 0% r.h.
Nitrogen	12	cm³/m² x d x bar	35		DIN 53380	23°C, 0% r.h.
Carbon dioxide	12	cm³/m² x d x bar	500		DIN 53380	23°C, 0% r.h.

MD = Machine direction, TD = Transverse direction

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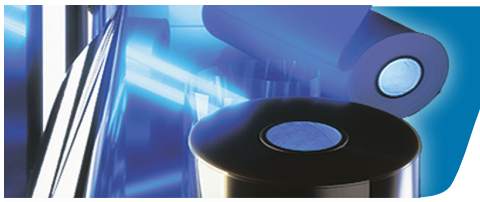

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Delivery program HOSTAPHAN™ RNK

Thickness	*Yield*		*Roll length*	*Roll-diameter*	*Roll length*	*Roll-diameter*
µm	*g/m²*	*m²/kg*	*m*	*mm*	*m*	*mm*
12	17	60	24 000	650	48 000	900
15	21	48	11 200	490	33 600	830
19	27	38	9 200	500	18 400	700
23	32	31	9 600	550	19 200	800
30	42	24	9 360	630	15 600	800
36	50	20	8 000	635	12 000	770
50	70	14	6 400	670	9 600	810
75	110	9.6	4 000	650	6 000	790
100	140	7.2	3 200	670	5 200	840

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

HOSTAPHAN™ RNK is suitable for a wide range of applications for packaging and industrial uses.

HOSTAPHAN™ RNK is also available with corona treatment or chemically treated for improved adhesion of evaporated metal layers, printing inks or coatings.
Please refer to the data sheets of HOSTAPHAN™ RNK C, RNK 2600, RNK 260C, RNK 2CSR and RNK 2DEF.

This HOSTAPHAN™ film is permitted for food contact according to the current version of EU Regulation 1935/2004 and 10/2011 as well as FDA regulation 21 CFR 177.1630 under the conditions set out in our current Declaration of Compliance. Before using this Hostaphan® film in a food contact article, please request this Declaration of Compliance.

This data sheet reflects our state of knowledge at the time this was prepared. The purpose is to provide an overview of the characteristics of our products and their potential uses. The values given reflect the typical characteristics of the film. They are not specification limits. They are neither a guarantee of specific properties nor the suitability of products in specific applications. The user must observe industrial property rights, such as patents or trademarks. The quality of our products is covered by the terms of the General Conditions of Sale of MITSUBISHI POLYESTER FILM GmbH.

Edition 09/26

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