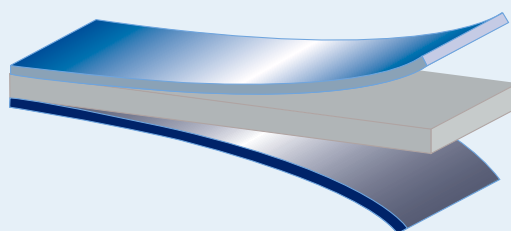


Propafilm™ REF



Technical Data Sheet

REF - Low Temperature Heat-Seal Film - Biaxially oriented co-extruded polypropylene (BOPP) film with a low temperature heat-seal surface to allow high speed form-fill-seal and overwrap packaging.



- Corona Treated Sealable Layer
- Oriented Polypropylene
- Enhanced Low Temperature Sealable Layer

Features

- Heat-sealable on both sides
- Low heat-seal threshold on one surface
- Wide heat-seal range
- Excellent hot-tack
- Superior optical properties
- Excellent water vapour barrier
- Treated on one side for printing and laminating
- Exceptional puncture and impact-resistance

Applications

REF25/30 are suitable for use in high speed form-fill-seal and overwrap applications, giving excellent hot-tack and seal integrity. The film may be used as a single web or in lamination applications.

REF is suitable for most standard printing and lamination techniques.

Technical Properties (Typical Values)

Property	Test Method	Test Conditions	Units	REF	
Thickness	Innovia Films test		micron	25	30
			gauge	100	120
Yield	Innovia Films test		m ² /kg	44.0	36.6
			in ² /lb	31000	25800
			g/m ²	22.7	27.3
Permeability to: Water vapour	ASTM F 1249	38°C 90% RH 100°F 90% RH	g/m ² .24 hrs g/100 ² .24 hrs	6.0 0.39	5.0 0.32
	ASTM F 1927	23°C 0% RH 73°F 0% RH	cc/m ² .24 hrs g/100 ² .24 hrs	1800 116	1600 103
Optical: Gloss	ASTM D 2457	45°	units	85	
Haze (wide angle)	ASTM D 1003	2.5°	%	1.0-2.0	
Coefficient of friction (film to film)	ASTM D 1894	Dynamic		0.25-0.40	
Corona Treatment	Innovia Films Test		dynes/cm	>38	
Tensile strength	ASTM D 882	Strain rate 50% / min	MN/m ²	MD	230
			lb/in ²	TD	192
Elongation at break	ASTM D 882	Strain rate 50% / min	%	MD	90
				TD	125
Elasticity modulus (1% secant)	ASTM D 882	Strain rate 10% / min	MN/m ²	MD	2500
			lb/in ²	TD	2100
				MD	361700
				TD	303800
Sealing Range	Innovia Films test	2 secs; 0.10MN/m ² 2 secs; 15 psi	°C	85-145	
			°F	185-295	
Seal Strength	Innovia Films test	130°C; 2 secs; 0.10MN/m ² 265°F; 2 secs; 15 psi	g(f)/25mm/ in	>400 untreated to untreated	
Shrinkage	Innovia Films test	60 secs at 130°C (265°F)	%	MD	6.0
				TD	-1.0

MD Machine Direction TD Transverse Direction All properties are tested under standard laboratory conditions: 23 ± 2°C, 50 ± 5% RH, (73 ± 4°F; 50 ± 5% RH) unless otherwise stated.

Where relevant, tests are based on international testing standards.

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Propafilm™ REF

Technical Data Sheet

Reel Specifications

Nominal Reel Diameters

Film	Single Length (metres)	12x Length (metres)
REF25	1500	18000
REF30	1250	15000



Film	Single Length (feet)	12x Length (feet)
REF100	4900	59050
REF120	4100	49200

Other reel lengths are available in multiples of the single length as per the core diameter listed below.

Outside Diameter	1x	2x	4x	6x	8x	12x
For 77mm / 3in core	240mm 9½in	330mm 13in	450mm 18in	-	-	-
For 153mm / 6in core	-	-	475mm 18¾in	570mm 22½in	650mm 25½in	785mm 31in

Corona Discharge Treatment

Corona discharge treatment is available on either the inner or outer surface of Propafilm™ REF. The treated surface is identified by a symbol on a label as below.

Treated Surface	Ordering Code	Label Symbol
Inside	I	
Outside	O	

Film Storage and Handling

No special conditions are required for the storage of Propafilm™ REF but it is recommended that dry conditions at temperatures below 30°C (85°F) are employed to minimise any deterioration of surface discharge treatment level. Propafilm™ REF is suitable for use for 6 months from the date of delivery and stocks should be used in rotation. Films should be allowed to reach operating room temperatures for 24 hours before use.

Food Contact

Propafilm™ REF complies with the applicable EU and US legislation for most applications involving direct contact with foods. Full details are given on the food contact certificate. Customers intending to use Propafilm™ REF in a food contact application should request a copy of this document from Innovia Films. Details of compliance with food contact legislation in other countries are also available upon request.

Health & Safety Guidelines

For Health & Safety information, please refer to literature reference B190.

Additional Information

To maintain security of supply Innovia Films will use a qualified third party sheeting subcontractor as required.

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