

TECHNICAL INFORMATION



TSX Transparent, High-Shrink OPP Film

Applications

- Overwrapping boxed products such as
 - Tea
 - Confections
 - Pharmaceuticals
 - Baked goods
- Overwrapping
 - Compact disks
 - Cassettes
 - DVDs

Features

- Good surface gloss
- Good clarity
- Wide sealing range
- Combination of slip characteristics provide a tight wrap

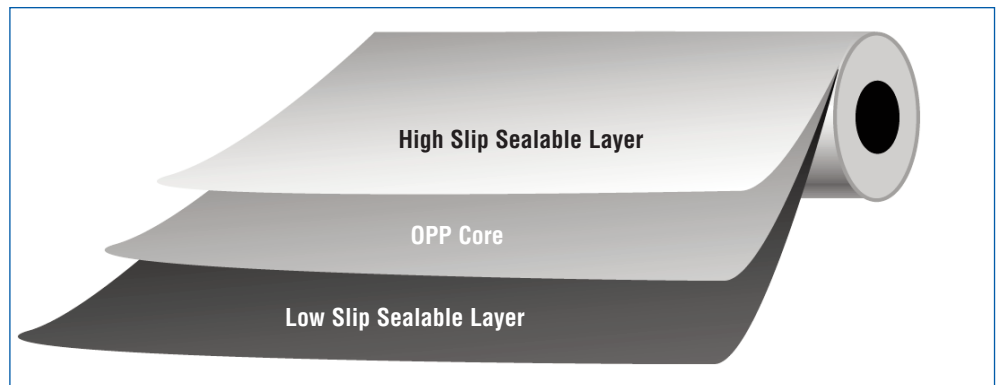
Cautions

- Not recommended for printed applications or for use on vertical packaging machines
- Store film below 86°F (30°C)
- Film should be used within six months of manufacture

Contact Us

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TSX is a transparent, high-shrink, coextruded, biaxially oriented polypropylene (OPP) film. Sealable two sides.



Slit Roll Information

Thickness Gauge	Yield in ² /lb	Basis Weight lbs/ream	Slit Roll Factors	
			Standard length	lbs/in width
80	38,600	11.2	11,400 ft	3.6
100	30,600	14.1	9,100 ft	3.9
120	25,500	16.9	7,600 ft	4.1

Slit Roll Information – Metric

Thickness Microns	Yield m ² /kg	Basis Weight g/m ²	Slit Roll Factors	
			Standard length	g/mm width
20	54.9	18.2	3,450 m	64.3
25	43.5	23.0	2,750 m	69.7
31	36.3	27.6	2,300 m	73.2

Low slip (high COF) surface wound on inside of slit roll. Standard rolls are 12.5 inches (318 mm) in diameter, wound on 3-inch (76.2 mm) ID paper cores. Standard widths are from 4 to 15 inches (102 to 381 mm), slit in 1/16-inch (1.5 mm) increments. Narrower and wider widths are available on request. Rolls other than 12.5 inches (318 mm) in diameter are offered through special quotation.

Regulatory and Safety: The ingredients used in this product comply with applicable FDA food packaging regulations under 21CFR (Code of Federal Regulations) Section 177.1520, Olefin Polymers. Furthermore, this product is produced with good manufacturing practices.

TSX

Film Properties

Optical Properties

Haze, % ⁽²⁾	2.3
45° Gloss ⁽³⁾	85

Barrier Properties

Gauge	WVTR ⁽⁴⁾
80	0.40
100	0.32
120	0.27

Surface Properties

COF (out to out)	
Static	0.33
Kinetic	0.25

Seal Properties

Seal strength at 245°F (g/in)	300
20 psi, 1/2 second	

Physical Properties

	Machine Direction	Transverse Direction
Tensile strength, psi	20,000	36,000
Tensile modulus, psi	205,000	330,000
Elongation, %	190	60
Shrinkage at 248°F, % ⁽¹⁾	6.5	5.5
at 266°F, % ⁽¹⁾	9.0	8.0

Film Properties – Metric

Optical Properties

Haze, % ⁽²⁾	2.3
45° Gloss ⁽³⁾	85

Barrier Properties

Microns	WVTR ⁽⁵⁾
20	6.20
25	4.96
31	4.19

Surface Properties

COF (out to out)	
Static	0.33
Kinetic	0.25

Seal Properties

Seal strength at 118°C (g/25 mm)	295
20 psi, 1/2 second	

Physical Properties

	Machine Direction	Transverse Direction
Tensile strength, kg/mm ²	14.05	25.30
N/mm ²	137.5	248.0
Tensile modulus, kg/mm ²	144.1	232.0
N/mm ²	1,410	2,275
Elongation, %	190	60
Shrinkage at 120°C, % ⁽¹⁾	6.5	5.5
at 130°C, % ⁽¹⁾	9.0	8.0

(1) AET Method

(2) ASTM D-1003

(3) ASTM D-2457

(4) g/100in²/24 hr at 100°F, 90% RH

(5) gm/m²/24 hr at 38°C, 90% RH

Key Market Applications



Data presented on these pages represent typical properties only. Specifications are available upon request. We cannot anticipate all conditions under which this information and our products, or the products of other manufacturers in combination with our products, may be used. We accept no responsibility for results obtained by the application of this information or the safety and suitability of our products, either alone or in combination with other products. Users are advised to make their own tests to determine the safety and suitability of each such product or product combination for their own purposes. Unless otherwise agreed in writing, we sell the products without warranty, and buyers and users assume all responsibility and liability for loss or damage arising from the handling and use of our products, whether used alone or in combination with other products.