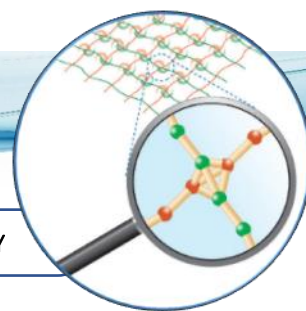


Exlfilmplus™ LSF

Low Shrink Force Film



CROSSLINKING TECHNOLOGY

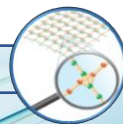


Exlfilmplus®LSF is a perfect combination of high shrinkage and a low shrink force. Indicated for thin or delicate and sharp products. Exlfilmplus®LSF is soft cross-linked shrink for a wide range of packaging applications. Perfect for papers products, magazines, gift wrap, etc.

- Strong and durable seals.
- High gloss and clarity.
- Low shrink force to avoid the distortion of flexible products or buckling around the products.
- Complies with standards for direct food contact.

This innovative technique makes Exlfilmplus® Shrink Films one of the toughest and most versatile on the market. This is because the polymer chains are permanently bound into a network, significantly increasing their heat stability and strength. Our films have an inherently greater window of seal and shrink performance at a broader range of temperatures.

- **Prevention of Buildup** on wires and knives during sealing
- **Prevention of Film Burn-Through** in heat tunnels
- **Increased Film Toughness** on the finished package



Thickness [μm]	Length [m]						Width [mm]	
	Flat				Centerfolded		Flat	Centerfolded
11	22.500	11.250	7.500	3.750	3.750	1.875	From 200 up to 1200 width increments of 10mm	From 2 x 150 up to 2 x 1.000 width increments of 50mm
12,5	19.800	9.900	6.600	3.300	3.300	1.650		
15	16.500	8.250	5.500	2.750	2.750	1.375		
19	12.900	6.450	4.300	2.150	2.150	1.075		

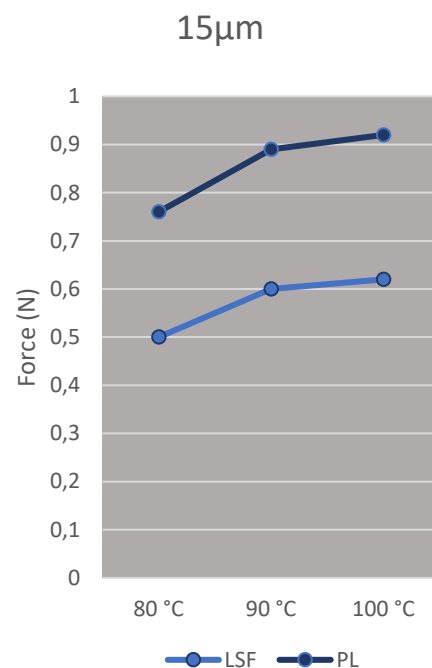
Cardboard core internal 76,6mm

Other specifications available upon request

Properties		Test Method	Thickness (μm)			
			11	12,5	15	19
Yield (m ² /kg)		-	98,8	86,9	72,6	57,2
Unit Weight (g/m ²)		-	10,1	11,5	13,8	17,5
Heat Shrinkage (%)	MD	60 °C, air, 5 min MIE 002	4			
	TD		6			
	MD	90 °C, air, 5 min MIE 002	20			
	TD		20			
	MD	120 °C, air, 5 min MIE 002	79			
	TD		73			
Tensile Strength (MPa)	MD	ASTM D882	110	110	110	115
	TD		110	110	110	115
Elongation at Break (%)	MD		120	125	130	150
	TD		120	120	120	120
Haze (%)		ASTM D 1003	4,0	4,0	4,5	4,5
Gloss at 20° (%)		ASTM D 2457	120			
Coefficient of friction		ASTM D 1894	0,2			
Shrink Force at 100°C (N)	MD	MIE 019	0,37	0,45	0,55	0,6
	TD		0,47	0,5	0,62	0,7

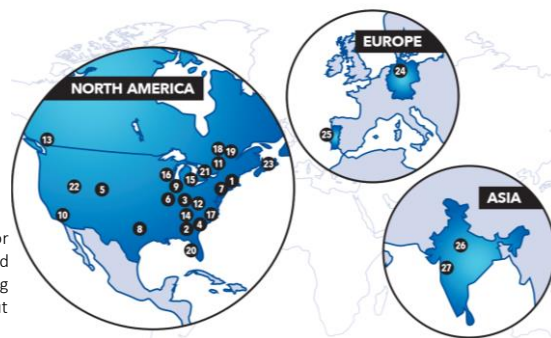
Note: These values are typical and not intended as limiting specifications.

Storage time should not exceed 3 months. The maximum storage temperature for optimum performance is 35°C.



Fibope comply with the requirements and regulations which state that materials may be used in food contact applications. For more information contact our technical support team.

While we believe them to be reliable the statements and information herein are only for general guidance and are not warranties or guarantees for accuracy and completeness. The use must, by test or otherwise, determine suitability for this purpose. Our standard term and conditions of sale apply exclusively to all orders, and all liability for damages of any kind, including consequential exceeding purchase price is excluded. No one is authorized by us to make oral warranties. We reserve the right to make changes without notice or obligation in our products and publications.



ipg intertape polymer group™

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FIBOPE PORTUGUESA – FILMES BIORIENTADOS, SA is an industrial company dedicated to the production of flexible films for packaging, integrated in the group "Intertape Polymer, Inc.", of Canada. We produce films based on polyolefins, bi-oriented and co-extruded (polyolefin shrink film) in multi-layers. Being a modern unit based on a favorable costs structure and advanced production techniques, it is able to meet the needs of its customers.

FIBOPE practices a continuous policy of quality and development of its capacities to satisfy the requirements of the customers regarding the products and services it offers, being certified since 2001, according to NP EN ISO 9001: 2008 and from 2013 according to the BRC / IOP reference Packaging.

The quality of the products Exfilm®, Exfilmplus® and Exfilmfresh® is constantly tested in our laboratory, equipped with highly sophisticated equipment and qualified technicians, allowing to guarantee quality and consistency.

The main applications are directed to the packaging of food products, cosmetics, paper and display market in general. The concept of total compliance with our customers guides daily activities and differentiates FIBOPE from competitors.