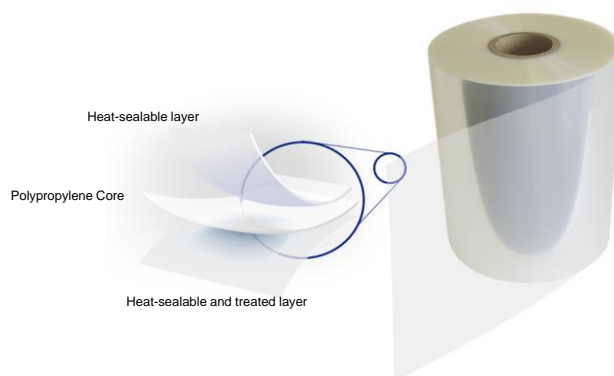


Main Characteristics

- Both sides heat-sealable, non-treated side from 82°C;
- Surface treatment on inner or outer layer;
- Excellent optical properties (gloss and transparency);
- Excellent performance in horizontal form-fill-seal and wrap-around packing machines;
- Optimum sealing strengthens and hermeticity properties.

Typical Applications

- Flexible packaging for food: cookies, wafer grouping packaging;
- Non-food flexible packaging: A4 sheet reams;
- Provides increased productivity for filling or packing processes owing to decreased sealing time;
- Developed for HFFS - Horizontal Form Fill Seal and VFFS - Vertical Form Fill Seal filling or high-speed packing processes.



Properties	Methodology	Unit	Range	18TSYL82	20TSYL82	43TSYL82	45TSYL82	47TSYL82
Physical Properties								
Nominal Thickness	DIN 53370	µm	Target	18.0	20.0	43.0	45.0	47.0
			Min.	17.1	19.0	40.9	42.8	44.7
			Max.	18.9	21.0	45.2	47.3	49.4
		Gauge	Target	70.9	78.7	169.3	177.2	185.0
			Min.	67.3	74.8	160.8	168.3	175.8
			Max.	74.4	82.7	177.8	186.0	194.3
Unit Weight	ASTM D 4321	g/m²	Target	16.3	18.1	38.9	40.7	42.5
			Min.	15.5	17.2	37.0	38.7	40.4
			Max.	17.1	19.0	40.9	42.8	44.7
		lb/ream	Target	10.0	11.1	23.9	25.0	26.1
			Min.	9.5	10.6	22.7	23.8	24.8
			Max.	10.5	11.7	25.1	26.3	27.4
Yield	ASTM D 4321	m²/kg	Target	61.4	55.2	25.7	24.6	23.5
			Min.	58.5	52.6	24.5	23.4	22.4
			Max.	64.6	58.2	27.0	25.8	24.7
		in²/lb	Target	43160	38844	18067	17264	16529
			Min.	41104	36994	17206	16442	15742
			Max.	45431	40888	19018	18172	17399
Surface Treatment	T	ASTM D 2578	dinas/cm	Target	42			
				Min.	38			
Coefficient of Friction	NT	ASTM D 1894	-	Target	0.25			
				Min.	0.18			
				Max.	0.35			
Optical Properties								
Haze	ASTM D 1003	%	Target	2.0				
			Max.	3.0				
Gloss (45°)	ASTM D 2457	u.b.	Target	95				
			Min.	85				
Mechanical Properties								
Tensile Strength	MD	ASTM D 882	N/mm²	Target	140			
	TD			Target	270			
	MD		lbf/in²	Target	20305			
	TD			Target	39160			
Elongation at Break	MD	ASTM D 882	%	Target	170	170	210	210
	TD			Target	50	50	60	60
Shrinkage	MD	ASTM D 1204	%	Target	3			
	TD			Target	1			
Sealing Range	NT	ASTM F 88	°C	Target	82 - 130			
			°F	Target	180 - 266			
Sealing Strength	NT	ASTM F 88	g/25mm or gf/in	Target	450	450	650	650
				Min.	300			
Barrier Properties								
TPVA 38°C / 90%RH	ASTM F 1249	g H ₂ O / (m².dia)	Target	≤ 9.5	≤ 8.5	≤ 7.0	≤ 6.0	≤ 5.0
WVTR 100°F / 90%RH	ASTM F 1249	g H ₂ O / (100in².day)	Target	≤ 0.61	≤ 0.55	≤ 0.45	≤ 0.39	≤ 0.32
TPO ₂ 23°C / 0%RH	ASTM D 3985	cm³ O ₂ / (m².dia)	Target	≤ 3500	≤ 3200	≤ 2100	≤ 2300	≤ 2100
OTR 73°F / 0%RH	ASTM D 3985	cm³ O ₂ / (100in².day)	Target	≤ 225	≤ 206	≤ 135	≤ 148	≤ 135

1. Acronyms:

MD: Machine Direction | TD: Transverse Direction;
NT: Non Treated Layer | T: Treated Layer.

2. Additional:

The restrained information in this datasheet represent typical data, and does not constitute genuine warranty liability as far as the product process and or application. In case of doubts or development of other thicknesses or applications, consult your dealer or send e-mail to: contato@polofilms.com.br.



Food Contact Regulations

SEAL Family films comply with Mercosul, ANVISA, FDA (Food and Drug Administration) and the European Community legislations for applications involving direct contact with food. Full details are provided in the Declaration of Conformity. Customers intending to use SEAL Family films for applications intended to come into contact with food should request a copy of that document from POLO Films. The MSDS (Material Safety Data Sheet), as well as the evaluation of conformity for contact with food from other legislations are also available upon request. Contact your dealer for any questions.

Storage and Transportation Terms & Conditions

All products are stored and transported in dry, covered and clean environments. It is recommended that storage and transportation take place at temperature around 30°C and 60% relative humidity.

If the temperature and humidity are not as recommended, the following issues may occur:

- Decreased level of surface treatment, leading to printing and/or lamination difficulties;
- Decreased film transparency;
- Too low CoF, making processing and machinability difficult.

BOPP films are recommended to be kept at operating room temperature for 24 hours before use.

Dimensional Specifications / Product Validity

Width	Minimum: 0 mm Maximum: 2 mm (from standard width)
Outer Diameter*	Minimum: 30 mm Maximum: 20 mm (from standard diameter)
Core	Minimum: 1 mm Maximum: 1 mm (from standard diameter)
Splices per roll	Maximum: 2
% of Splices per order	Maximum: 30%
Shelf Life (after production)	6 months

* For other dimensional information, consult your dealer.

Polo Films Nomenclature

Unit Weight or Thickness | Technology | Main Feature | Specialty | Sealing | Treatment

45 TSY L82 32

Unit Weight/ Thickness

Expressed in g/m². Used for white/opaque films;
Expressed in µm. Used for transparent, matte and metallized films.

Technology

T - Tenter | C - Cast.

Main Feature

SY - Transparent heat-sealable for printing and/or lamination.

Specialty

L82 - Initial sealing temperature at 82°C.

Sealing

0 - Not Sealable;
1 - Sealing on the Inner Face;
2 - Sealing on the Outer Face;
3 - Sealing on both Sides.

Treatment

0 - No Treatment;
1 - Treatment on Inner Face;
2 - Treatment on Outer Face;
3 - Treatment on both Sides.