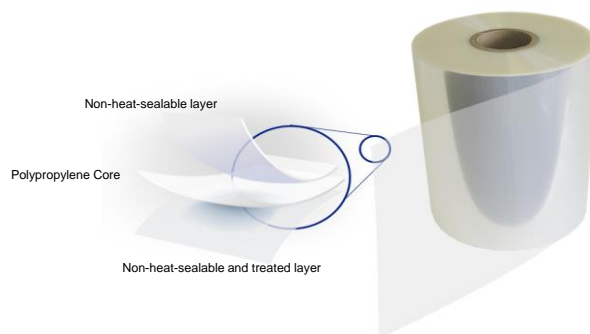


## Main Characteristics

- Non-heat-sealable film;
- Surface treatment on inner or outer layer;
- Excellent optical properties (gloss and transparency);
- Non-treated side with non-adhesive properties - Release;
- Excellent performance in cold-seal processes.

## Typical Applications

- Flexible packaging for food: ice creams, chocolate bars, cereal bars and bonbons;
- Developed for non-heated filling and closing processes.



Properties	Methodology	Unit	Range	19TPYRL
<b>Physical Properties</b>				
Nominal Thickness	DIN 53370	µm	Target	19.0
			Min.	18.1
			Max.	20.0
		Gauge	Target	74.8
			Min.	71.1
			Max.	78.5
Unit Weight	ASTM D 4321	g/m <sup>2</sup>	Target	17.2
			Min.	16.3
			Max.	18.1
		lb/ream	Target	10.6
			Min.	10.0
			Max.	11.1
Yield	ASTM D 4321	m <sup>2</sup> /kg	Target	58.2
			Min.	55.4
			Max.	61.2
		in <sup>2</sup> /lb	Target	40888
			Min.	38941
			Max.	43040
Surface Treatment	T	ASTM D 2578	dinas/cm	Target: 42 Min.: 38
Coefficient of Friction	NT	ASTM D 1894	-	Target: 0.22 Min.: 0.18 Max.: 0.28
<b>Optical Properties</b>				
Haze	ASTM D 1003	%		Target: 1.7 Max.: 2.3
Gloss (45°)	ASTM D 2457	u.b.		Target: 95 Min.: 85
<b>Mechanical Properties</b>				
Tensile Strength	MD	ASTM D 882	N/mm <sup>2</sup>	Target: 160
	TD			Target: 250
	MD		lbf/in <sup>2</sup>	Target: 23206
	TD			Target: 36260
Elongation at Break	MD	ASTM D 882	%	Target: 170
	TD			Target: 60
Shrinkage	MD	ASTM D 1204	%	Target: 3
	TD			Target: 1
<b>Barrier Properties</b>				
TPVA   38°C / 90%RH	ASTM F 1249	g H <sub>2</sub> O / (m <sup>2</sup> .dia)	Target	≤ 6.5
WVTR   100°F / 90%RH	ASTM F 1249	g H <sub>2</sub> O / (100in <sup>2</sup> .day)	Target	≤ 0.42
TPO <sub>2</sub>   23°C / 0%RH	ASTM D 3985	cm <sup>3</sup> O <sub>2</sub> / (m <sup>2</sup> .dia)	Target	≤ 2400
OTR   73°F / 0%RH	ASTM D 3985	cm <sup>3</sup> O <sub>2</sub> / (100in <sup>2</sup> .day)	Target	≤ 154

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.

# TPY.RL

POLO PLAIN

Transparent BOPP film  
Non-heat-sealable  
Surface treatment for lamination  
Non-adhesive properties - Release



## Food Contact Regulations

PLAIN 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 PLAIN 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

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

\* For other dimensional information, consult your dealer.

## Polo Films Nomenclature

Unit Weight or Thickness | Technology | Main Feature | Specialty | Sealing | Treatment  
**19TPYRL02**

### Unit Weight/ Thickness

Expressed in g/m<sup>2</sup>. Used for white/opaque films;  
Expressed in µm. Used for transparent, matte and metallized films.

### Technology

T - Tenter | C - Cast.

### Main Feature

PY - Plain transparent for printing and/or lamination.

### Specialty

RL - Cold close.

### 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.

Review: 00/2020