

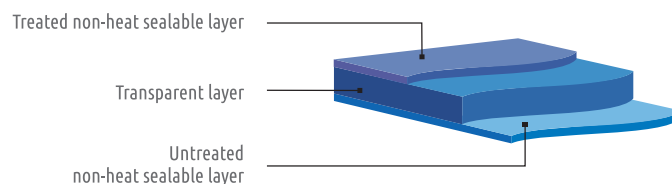


# **BOPP FILMS**

## **TECHNICAL DATA SHEETS**

## Description

**BOPP film “label” transparent,  
non-heat sealable,  
with activation on one side,  
for the production of labels**



Properties		Unit	Limit	Method	Value		
Thickness		µm	±5%	ISO 4591, 4593 GOST 17035	30	35	40
Density		g/cm <sup>3</sup>	±10%	WATERFALL PRO	0,91		
Weight m <sup>2</sup>		g/m <sup>2</sup>	±5%	GOST 13199	27,30	31,85	36,40
Tensile strength	MD	N/mm <sup>2</sup> (Мпа)	not less	ASTM D882 ISO 527 GOST 14236	140		
	TD				280		
Elongation at break	MD	%	not more	ASTM D1894 GOST 27492	200		
	TD				70		
Kinetic coefficient of friction*		UT / UT	-	ASTM D1894 GOST 27492	0,35		
Shrinkage at 120°C, 5 мин	MD	%	not more	ASTM D1204	4		
	TD				2		
Heat sealing strength		-	N/15 mm	ASTM F88/F88M, D882 ISO 527	non-heat sealable		
Minimal heat sealing temperature		-	°C	WATERFALL PRO	non-heat sealable		
Haze		-	%	ASTM D1003 GOST R 8.829	2,0		
Gloss		T	%	ASTM D2457	85		
Surface tension**		T	mN/m (dyn/cm)	ASTM D2578 ISO 8296	38		

MD – machine direction  
TD – transverse direction

T – treated side  
UT – untreated side

\* these are typical values, guaranteed for the untreated side only. When processing on both sides, this value is not regulated  
\*\* with double-side treatment (if ordered), the activation of the second side (usually the inside of the roll) is not less than 36 mN/m

### Main characteristics

- absence of statics
- excellent optical properties
- high print adhesion
- good slip
- high labeling speed

### Application

- for cut-and-stack bottle labels
- for the production of self-adhesive labels at 48-60 µm  
[For labeling machines](#)
- with production speed of 10 000 – 40 000 bottles/hour
- with the use of cold and molten glue  
[For printing](#)
- high-quality rotogravure and flexographic print
- with the use of special UV-offset and UV-flexo inks with primer coating
- direct or reverse print

### Storage

- films should be stored on the pallets in a closed dry place and should not be exposed to direct sunlight, at a safe distance of not less than 1 m from heating devices or anything that can cause damage the package
- the film should be kept in workplace not less than 48 hours before being used
- guaranteed storage period – 6 months from production date

### Treatment

- the guaranteed period for maintaining the minimum permissible level of surface tension on the activated film surface from the date of manufacture, subject to proper storage conditions, is 6 months
- in the interests of minimizing the deterioration of surface dressing level, it is recommended to store the film at a temperature of no higher than 30°C and use it in a short time

### Recycling

- in the process of printing and lamination it is recommended to perform corona treatment

### Reeling

- maximum roll diameter 800 mm
- film width in a roll from 290 to 2000 mm
- diameter of paper cores (inside) 76, 152 mm

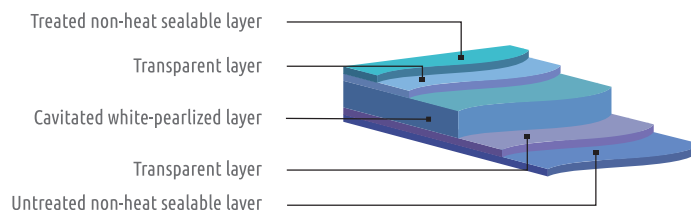
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## Description

**BOPP film “label” white-nacreous, filled,  
non-heat sealable,  
with activation on one side,  
for the production of labels**



Properties		Unit	Limit	Method	Value		
Thickness		µm	±5%	ISO 4591, 4593 GOST 17035	35	38	41
Density		g/cm <sup>3</sup>	±10%	WATERFALL PRO	0,68		
Weight m <sup>2</sup>		g/m <sup>2</sup>	±5%	GOST 13199	23,80	25,84	27,88
Tensile strength	MD	N/mm <sup>2</sup> (Мпа)	not less	ASTM D882 ISO 527 GOST 14236	80		
	TD				150		
Elongation at break	MD	%	not more	ASTM D1894 GOST 27492	200		
	TD				70		
Kinetic coefficient of friction*		UT / UT	-	ASTM D1894 GOST 27492	0,3		
Shrinkage at 120°C, 5 мин	MD	%	not more	ASTM D1204	4		
	TD				2		
Heat sealing strength		-	N/15 mm	ASTM F88/F88M, D882 ISO 527	non-heat sealable		
Minimal heat sealing temperature		-	°C	WATERFALL PRO	non-heat sealable		
Optical transmission		-	%	ASTM D1003 GOST R 8.829	30		
Gloss		T	%	ASTM D2457	85		
Surface tension**		T	mN/m (dyn/cm)	ASTM D2578 ISO 8296	38		
MD – machine direction TD – transverse direction		T – treated side UT – untreated side		* these are typical values, guaranteed for the untreated side only. When processing on both sides, this value is not regulated ** with double-side treatment (if ordered), the activation of the second side (usually the inside of the roll) is not less than 36 mN/m			

### Main characteristics

- high print adhesion
- high antistatic properties
- high level of non-transparency and gloss
- good whiteness
- preserves label form
- high labeling speed

### Application

- for wrap-around label for PET bottles
- for production of self-adhesive labels at 48-60 µm
- [For labeling machines](#)
- with production speed of 10 000 – 40 000 bottles/hour
- with the use of cold and molten glue
- [For printing](#)
- high-quality rotogravure and flexographic print
- with the use of special UV-offset and UV-flexo inks with primer coating
- direct

### Storage

- films should be stored on the pallets in a closed dry place and should not be exposed to direct sunlight, at a safe distance of not less than 1 m from heating devices or anything that can cause damage the package
- the film should be kept in workplace not less than 48 hours before being used
- guaranteed storage period – 6 months from production date

### Treatment

- the guaranteed period for maintaining the minimum permissible level of surface tension on the activated film surface from the date of manufacture, subject to proper storage conditions, is 6 months
- in the interests of minimizing the deterioration of surface dressing level, it is recommended to store the film at a temperature of no higher than 30°C and use it in a short time

### Recycling

- in the process of printing and lamination it is recommended to perform corona treatment

### Reeling

- maximum roll diameter 800 mm
- film width in a roll from 290 to 2000 mm
- diameter of paper cores (inside) 76, 152 mm

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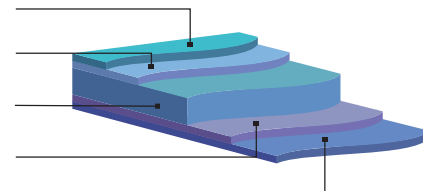
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## Description

**BOPP film "label" white-nacreous, filled, with low density, non-heat sealable, with activation on one side, for the production of labels**

Treated non-heat sealable layer with increased gloss  
 Transparent layer  
 Cavitated white-pearlized layer  
 Transparent layer  
 Untreated non-heat sealable layer



Properties	Unit	Limit	Method	Value	
Thickness	µm	±5%	ISO 4591, 4593 GOST 17035	35 38	
Density	g/cm <sup>3</sup>	±10%	WATERFALL PRO	0,62	
Weight m <sup>2</sup>	g/m <sup>2</sup>	±5%	GOST 13199	21,70 23,56	
Tensile strength	MD	N/mm <sup>2</sup> (Мпа)	not less	ASTM D882 ISO 527 GOST 14236	75
	TD				145
Elongation at break	MD	%	not more	ASTM D1894 GOST 27492	190
	TD				65
Kinetic coefficient of friction*	UT / UT	-	±0,10	ASTM D1894 GOST 27492	0,3
Shrinkage at 120°C, 5 мин	MD	%	not more	ASTM D1204	4
	TD				2
Heat sealing strength	-	N/15 mm	-	ASTM F88/F88M, D882 ISO 527	non-heat sealable
Minimal heat sealing temperature	-	°C	-	WATERFALL PRO	non-heat sealable
Optical transmission	-	%	not more	ASTM D1003 GOST R 8.829	25
Gloss	T	%	not less	ASTM D2457	85
Surface tension**	T	mN/m (dyn/cm)	not less	ASTM D2578 ISO 8296	38

MD – machine direction  
 TD – transverse direction  
 T – treated side  
 UT – untreated side

\* these are typical values, guaranteed for the untreated side only. When processing on both sides, this value is not regulated  
 \*\* with double-side treatment (if ordered), the activation of the second side (usually the inside of the roll) is not less than 36 mN/m

## Main characteristics

- high level of gloss
- high print adhesion
- high antistatic properties
- high level of non-transparency
- preserves label form
- high labeling speed

## Application

- for wrap-around label for PET bottles
- for production of self-adhesive labels at 48-60 µm
- [For labeling machines](#)
- with production speed of 10 000 – 40 000 bottles/hour
- with the use of cold and molten glue

### For printing

- high-quality rotogravure and flexographic print
- with the use of special UV-offset and UV-flexo inks with primer coating
- direct

## Storage

- films should be stored on the pallets in a closed dry place and should not be exposed to direct sunlight, at a safe distance of not less than 1 m from heating devices or anything that can cause damage the package
- the film should be kept in workplace not less than 48 hours before being used
- guaranteed storage period – 6 months from production date

## Treatment

- the guaranteed period for maintaining the minimum permissible level of surface tension on the activated film surface from the date of manufacture, subject to proper storage conditions, is 6 months
- in the interests of minimizing the deterioration of surface dressing level, it is recommended to store the film at a temperature of no higher than 30°C and use it in a short time

## Recycling

- in the process of printing and lamination it is recommended to perform corona treatment

## Reeling

- maximum roll diameter 800 mm
- film width in a roll from 290 to 2000 mm
- diameter of paper cores (inside) 76, 152 mm

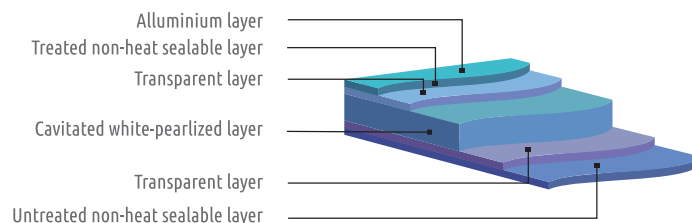
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## Description

**BOPP film “label” metallized on a white-nacreous filled base, non-heat sealable, with activation on one side, with a long-term preservation of activation, for the production of labels**



Properties	Unit	Limit	Method	Value	
Thickness*	µm	±5%	ISO 4591, 4593 GOST 17035	35	38
Density*	g/cm <sup>3</sup>	±10%	WATERFALL PRO	0,70	
Weight m <sup>2</sup> *	g/m <sup>2</sup>	±5%	GOST 13199	24,50	26,60
Tensile strength*	MD	N/mm <sup>2</sup> (МПа)	not less	ASTM D882 ISO 527 GOST 14236	80
	TD				150
Elongation at break*	MD	%	not more	ASTM D1894 GOST 27492	200
	TD				70
Kinetic coefficient of friction**	UT / UT	-	±0,10	ASTM D1894 GOST 27492	0,35
Shrinkage at 120°C, 5 мин*	MD	%	not more	ASTM D1204	4
	TD				2
Heat sealing strength	-	N/15 mm	-	ASTM F88/F88M, D882 ISO 527	non-heat sealable
Minimal heat sealing temperature	-	°C	-	WATERFALL PRO	non-heat sealable
Surface tension	T	mN/m (dyn/cm)	not less	ASTM D2578 ISO 8296	36
Optical density	T	OD	not less	WATERFALL PRO	1,8

MD – machine direction  
TD – transverse direction

T – treated side  
UT – untreated side

\* these are typical values, guaranteed for the untreated side only. When processing on both sides, this value is not regulated  
\*\* with double-side treatment (if ordered), the activation of the second side (usually the inside of the roll) is not less than 36 mN/m

## Main characteristics

- extra smooth surface and high gloss of metallized side
- excellent adhesion of alluminium layer
- lowered density and high yield
- high level of transparency
- good whiteness

## Application

- for wrap-around label for bottles
- for production of self-adhesive labels
- [For labeling machines](#)
- with production speed of 10 000 – 40 000 bottles/hour
- with the use of cold and molten glue
- [For printing](#)
- high-quality rotogravure and flexographic print
- with the use of special UV-offset and UV-flexo inks with primer coating
- direct

## Storage

- films should be stored on the pallets in a closed dry place and should not be exposed to direct sunlight, at a safe distance of not less than 1 m from heating devices or anything that can cause damage the package
- the film should be kept in workplace not less than 48 hours before being used
- guaranteed storage period – 6 months from production date

## Treatment

- the guaranteed period for maintaining the minimum permissible level of surface tension on the activated film surface from the date of manufacture, subject to proper storage conditions, is 6 months
- in the interests of minimizing the deterioration of surface dressing level, it is recommended to store the film at a temperature of no higher than 30°C and use it in a short time

## Recycling

- in the process of printing and lamination it is recommended to perform corona treatment

## Reeling

- maximum roll diameter 800 mm
- film width in a roll from 290 to 2000 mm
- diameter of paper cores (inside) 76, 152 mm

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