

## Technical Data Sheet

**DESCRIPTION:**

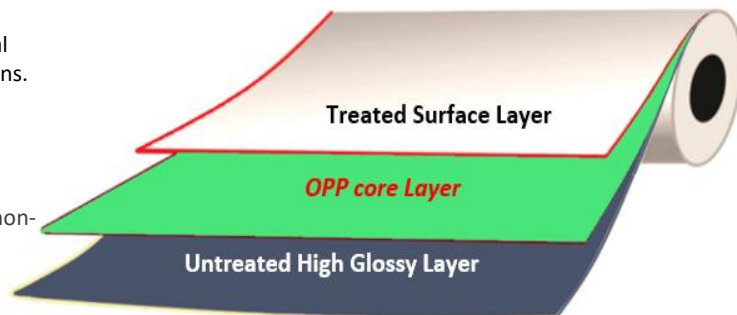
**ABX-LW1000** is a transparent BOPP film with excellent optical and mechanical properties. Developed ideally as wrap around labels in bottling line applications.

**PRODUCT FEATURES:**

- High transparency and gloss
- Good mechanical properties
- Treated side to suit printing and coating
- Excellent adhesion for glue and inks
- Good machinability

**APPLICATIONS:**

- Labels for bottling products
- Rotogravure and flexographic (non-UV) printing



PROPERTIES		UNIT	TYPICAL VALUES							TEST METHOD.	
PHYSICAL	Thickness	Microns	30	33	35	37	38	40	50	ASTM D 374	
		Gauge	120	132	140	148	152	160	200		
	Grammage	g/m <sup>2</sup>	27.30	30.03	31.90	33.70	34.60	36.40	45.5	*ABIM	
		lbs/ream	16.8	18.5	19.6	20.7	21.2	22.4	27.96		
	Yield	m <sup>2</sup> /kg	36.63	33.30	31.40	29.70	28.92	27.48	22.00		
		in <sup>2</sup> /lb	25,800	23,500	22,100	21,000	20,400	19,400	14,666		
	Coefficient of Friction <small>(Film/Film)</small>		0.35							ASTM D 1894	
	Surface Tension (Treated Side)	dynes/cm	38							ASTM D 2578	
OPTICAL	Haze	%	1.5							ASTM D 1003	
	Gloss (45°)		90							ASTM D 2457	
MECHANICAL	Tensile Strength at Break	*MD	kg/mm <sup>2</sup>	16							ASTM D 882
		*TD		28							
		MD	psi	22,752							
		TD		39,816							
	Elongation at Break	MD	%	190							ASTM D 882
		TD		50							
	Modulus of Elasticity	MD	kg/mm <sup>2</sup>	210							ASTM D 882
		TD		380							
MD		psi	298,620								
TD			540,360								
THERMAL	Thermal Shrinkage	MD	%	< 4.0							ABIM (120°C (248°F), 5 min, air)
		TD		< 2.0							

## Technical Data Sheet

**DESCRIPTION:**

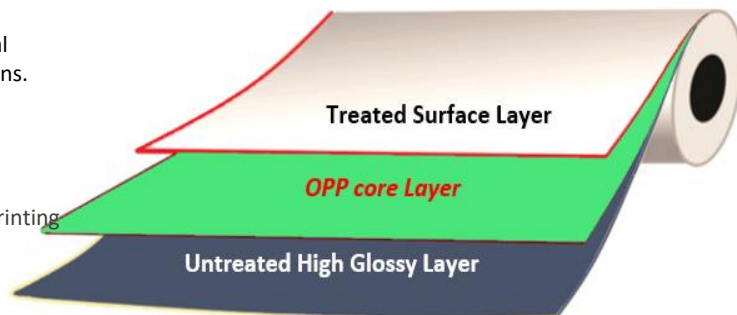
**ABX-LW1001** is a transparent BOPP film with excellent optical and mechanical properties. Developed ideally as wrap around labels in bottling line applications.

**PRODUCT FEATURES:**

- High transparency and gloss
- Good mechanical properties
- Treated side to suit printing and coating
- Excellent adhesion for glue and inks
- Good machinability

**APPLICATIONS:**

- Labels for bottling products
- Rotogravure and flexographic printing



PROPERTIES		UNIT	TYPICAL VALUES							TEST METHOD.	
PHYSICAL	Thickness	Microns	30	33	35	37	38	40	50	ASTM D 374	
		Gauge	120	132	140	148	152	160	200		
	Grammage	g/m <sup>2</sup>	27.30	30.03	31.90	33.70	34.60	36.40	45.5	*ABIM	
		lbs/ream	16.8	18.5	19.6	20.7	21.2	22.4	27.96		
	Yield	m <sup>2</sup> /kg	36.63	33.30	31.40	29.70	28.92	27.48	22.00		
		in <sup>2</sup> /lb	25,800	23,500	22,100	21,000	20,400	19,400	14,666		
	Coefficient of Friction <small>(F<sub>100</sub>/F<sub>1000</sub>)</small>		0.35							ASTM D 1894	
	Surface Tension (Treated Side)	dynes/cm	38							ASTM D 2578	
OPTICAL	Haze	%	1.6							ASTM D 1003	
	Gloss (45°)		90							ASTM D 2457	
MECHANICAL	Tensile Strength at Break	*MD	kg/mm <sup>2</sup>	16							ASTM D 882
		*TD		28							
		MD	psi	22,752							
		TD		39,816							
	Elongation at Break	MD	%	190							ASTM D 882
		TD		50							
	Modulus of Elasticity	MD	kg/mm <sup>2</sup>	210							ASTM D 882
		TD		380							
MD		psi	298,620								
TD			540,360								
THERMAL	Thermal Shrinkage	MD	%	< 4.0							ABIM (120°C (248°F), 5 min, air)
		TD		< 2.0							

**DESCRIPTION:**

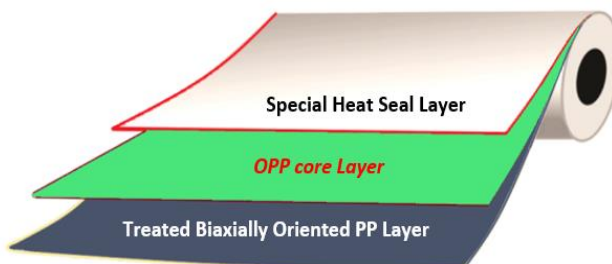
**ABX- 1003TL** is a transparent one side heat sealable film, treated one side.

**PRODUCT FEATURES:**

- Superior transparency and high gloss
- Special Design for thermal coating
- Excellent hot slip characteristics
- Stable slip
- Excellent extrusion lamination bonds

**APPLICATIONS:**

- Outer-Web of packaging laminations
- film/film, film/paper/ Thermal Lamination



PROPERTIES		UNIT	TYPICAL VALUES									TEST METHOD.
PHYSICAL	Thickness	Microns	12	15	17	18	19	20	25	30	50	ASTM D 374
		Gauge	48	60	68	72	76	80	100	120	200	
	Grammage	g/m <sup>2</sup>	11.0	13.65	15.47	16.38	17.29	18.2	22.75	27.3	45.5	*ABIM
		lbs./ream	6.8	8.4	9.52	10.10	10.66	11.2	14.0	16.8	27.97	
	Yield	m <sup>2</sup> /kg	90.90	73.26	64.64	61.05	57.84	54.95	43.96	36.63	21.97	*ABIM
		in <sup>2</sup> /lb.	64,515	51,600	45,544	43,000	40,740	38,700	31,000	25,800	15,479	
Coefficient of Friction (Corona treatment Side)			< 0.3									ASTM D 1894
Surface Tension		dynes/cm	40									ASTM D 2578
OPTICAL	Haze	%	2.0									ASTM D 1003
	Gloss (45°)		88									ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	15									ASTM D 882
		*TD	26									
		MD	21,330									
		TD	39,816									
	Elongation at Break	MD	155									ASTM D 882
		TD	50									
THERMAL	Thermal Shrinkage	MD	< 5.0									*ABIM (120°C (248°F), 5 min, air)
		TD	< 2.0									
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	9.2	7.7	7.1	7.3	6.8	6.2	4.8	3.3	2.0	ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	0.60	0.55	0.51	0.48	0.45	0.39	0.31	0.21	0.13	

**DESCRIPTION:**

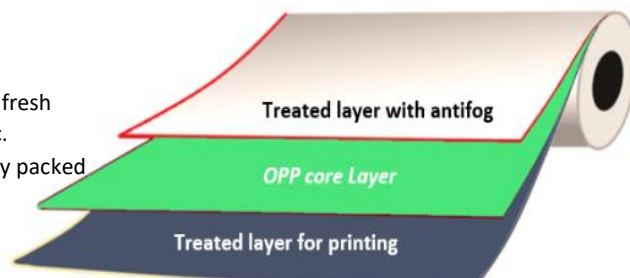
a bi-axially oriented heat sealable polypropylene film, both side heat sealable with antifog functionality.

**PRODUCT FEATURES:**

- Excellent antifog properties.
- Good optical properties.
- High seal strength and good hot tack
- Useful for HFFS and VFFS machines.

**APPLICATIONS:**

- Widely used in packaging of fresh meat, vegetables, bread, etc.
- Good transparency to display packed fresh foods.



PROPERTIES		UNIT	TYPICAL VALUES				TEST METHOD.	
PHYSICAL	Thickness	Microns	20	25	30	35	ASTM D 374	
		Gauge	80	100	120	140		
	Grammage	g/m <sup>2</sup>	18.20	22.75	27.30	31.85	ABIM	
		lbs/ream	11.2	14.0	16.8	19.6		
	Yield	m <sup>2</sup> /kg	54.95	43.96	36.63	31.40		
		in <sup>2</sup> /lb	38,700	31,000	25,800	22,100		
Coefficient of Friction (Film/Film)			0.35				ASTM D 1894	
Surface Tension (Treated Side)		dynes/cm	38				ASTM D 2578	
OPTICAL	Haze		%				2.5	ASTM D 1003
	Gloss (45°)						85	ASTM D 2457
MECHANICAL	Tensile Strength at Break	MD	kg/mm <sup>2</sup>	15			ASTM D 882	
				TD	28			
		MD	psi		21,330			
				TD	39816			
	Elongation at Break	MD	%		170			ASTM D 882
				TD	50			
Thermal Shrinkage	MD	%	< 4.0			ABIM (120°C (248°F), 5 min, air)		
			TD	< 2.0				
THERMAL	Heat Seal Range			°C (°F)	120 – 140 (248 – 284)			ABIM
	Heat Seal Strength (Film/Film)	g/15mm		275			ABIM (130°C, 1bar, 1sec)	
		lb/0.59in		0.60			ABIM (266°F, 14.5psi, 1 sec)	
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	7.1	6.2	5.3	4.4	ASTM F 1249 (38°C / 90% RH)	
		g/100in <sup>2</sup> /24h	0.46	0.40	0.34	0.28		
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h/atm	2500	2000	1600	1400	ASTM D 3985 (23°C / 0% RH)	
		cc/in <sup>2</sup> /24h/atm	160	130	100	90		

**DESCRIPTION:**

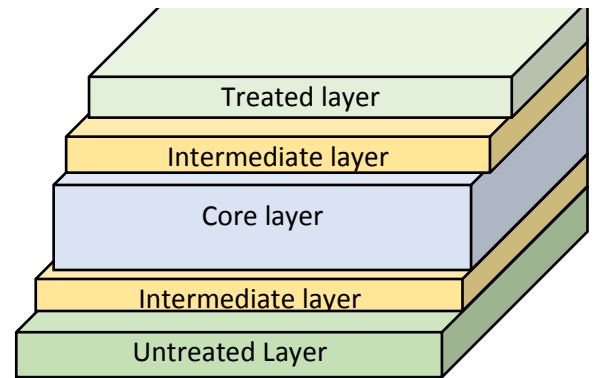
**ABX- CP100** is a Co-extruded Transparent, both side heat sealable and one side Corona Treated Cast Polypropylene Film.

**PRODUCT FEATURES:**

- Low COF for high-speed packaging line
- Good optical properties
- Treated surface is receptive to inks and adhesive
- Good hot tack

**APPLICATIONS:**

- Lamination and single ply application.
- Direct food packaging (e.g., bread and bakery products, etc.).



PROPERTIES		UNIT	TYPICAL VALUES					TEST METHOD.	
PHYSICAL	Thickness	Microns	20	25	30	35	40	ASTM D 374	
		Gauge	80	100	120	140	160		
	Grammage	g/m <sup>2</sup>	18.2	22.75	27.3	31.85	36.4	* ABIM	
	Yield	m <sup>2</sup> /kg	54.95	43.96	36.63	31.30	27.47		
	Coefficient of Friction (Film/Film)			0.35					ASTM D 1894
	Surface Tension (Treated Side)		dynes/cm	38					ASTM D 2578
OPTICAL	Haze	%	3.5-4.0					ASTM D 1003	
	Gloss(45°)		82-80					ASTM D 2457	
MECHANICAL	Tensile Strength at Break	*MD	>4.0					ASTM D 882	
		*TD							>2.0
	Elongation at Break	MD	>500					ASTM D 882	
		TD							>500
Heat seal Strength		g/15mm	>1000					ABIM	
THERMAL	Thermal Shrinkage	MD	1					ABIM (120°C (248°F), 5 min, air)	
		TD							1
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	9					ASTM F 1249 (38°C / 90% RH)	
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	1500					ASTM D 3985 (23°C / 0% RH)	
			* ABIM – Akij Biax s Internal Method						
			*MD – Machine Direction						
			*TD – Transverse Direction						

**TRANSPARENT BOPP FILM DESCRIPTION:**

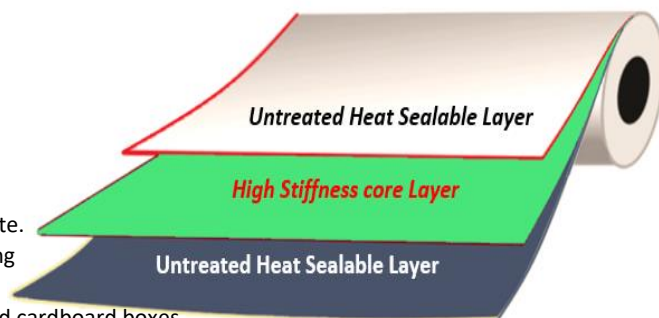
is a Transparent, heat shrinkable, two side heat sealable (also, with low pressure sealing bar), special slip, antistatic and anti-blocking additives Bopp film.

**PRODUCT FEATURES:**

- Extra Heat shrinkable
- Superior slip & anti-blocking properties
- Excellent antistatic properties
- Excellent tensile strength
- Good Heat seal strength

**APPLICATIONS:**

- Wrinkle free over wrapping for cigarette.
- Special design for hard boxes in vending Machines & display cartons.
- Over wrapping for pharmaceuticals and cardboard boxes.



PROPERTIES		UNIT	TYPICAL VALUES	TEST METHOD.	
PHYSICAL	Thickness	Microns	20	ASTM D 374	
		Gauge	80		
	Grammage	g/m <sup>2</sup>	18.2	*ABIM	
		lbs./ream	11.2		
	Yield	m <sup>2</sup> /kg	54.95	ASTM D 1894	
		in <sup>2</sup> /lb.	38.70		
Coefficient of Friction (Film/Film)			0.25	ASTM D 1894	
Surface Tension (Both Side)		dynes/cm	Untreated	ASTM D 2578	
OPTICAL	Haze	%	2	ASTM D 1003	
	Gloss (45°)		85	ASTM D 2457	
MECHANICAL	Tensile Strength at Break	*MD	15	ASTM D 882	
		*TD	30		
		MD	21,330		
		TD	39,816		
	Elongation at Break	MD	%	180	ASTM D 882
		TD	45		
	Modulus of Elasticity	MD	kg/mm <sup>2</sup>	220	ASTM D 882
		TD		360	
MD		275,868			
TD		511,920			
Thermal Shrinkage	MD	%	10	ABIM (120°C (248°F), 5 min, air)	
	TD	7			
THERMAL	Heat Seal Range	°C (°F)	105 – 140 (221 – 284)	ABIM	
	Heat Seal Strength (Film/Film)	g/15mm	280	ABIM (130°C, 1bar, 1sec)	
		lb./0.59in	0.60	ABIM (266oF, 14.5psi, 1 sec)	
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	7.0	ASTM F 1249 (38°C / 90% RH)	
		g/100in <sup>2</sup> /24h	0.45		
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	2140	ASTM D 3985 (23°C / 0% RH)	
		cc/in <sup>2</sup> /24h	140		

**TRANSPARENT BOPP FILM DESCRIPTION:**

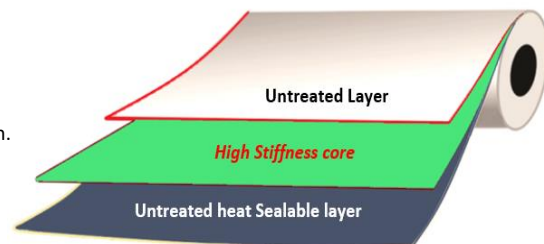
is a Transparent, heat shrinkable film with one special layer for over or naked wrap application.

**PRODUCT FEATURES**

- Excellent Heat shrinkable
- Superior slip & anti-blocking properties
- Excellent antistatic properties
- Excellent tensile strength
- Good heat seal strength
- High moisture barrier
- Excellent clarity and gloss

**APPLICATIONS:**

- Wrinkle free over wrapping for cigarette.
  - Special design for 'Naked Wrap' application.
  - Machines & display cartons.
  - Over wrapping for pharmaceuticals
- good Heat seal strength cardboard boxes.



PROPERTIES		UNIT	TYPICAL VALUES		TEST METHOD.	
Thickness		Micron	23	25	ASTM D 374	
Unit Weight		g/m <sup>2</sup>	20.93	22.75	ABIM	
OPTICAL	Coefficient of Friction (Film/Film)		0.25	0.25	ASTM D 1894	
	Surface Tension (Both Side)	dynes/cm	Untreated	Untreated	ASTM D 2578	
	Haze	%	2.0-2.5	2.0-2.5	ASTM D 1003	
	Gloss (45°)		85-88	85-88	ASTM D 2457	
MECHANICAL	Tensile Strength at Break	*MD	15-17	15-19	ASTM D 882	
		*TD	27-30	27-31		
		MD	21,335-24179	21335-27024		
		TD	38403-42670	38403-44092		
	Elongation at Break	MD	%	150-180	150-190	ASTM D 882
		TD		45-55	45-60	
	Modulus of Elasticity	MD	kg/mm <sup>2</sup>	220	230	ASTM D 882
		TD		360	370	
		MD	psi	312913.5	327136.8	
		TD		512040.4	526263.7	
THERMAL	Thermal Shrinkage	MD	%	4	ABIM (120°C (248°F), 5 min, air)	
		TD		4		
	Heat Seal Range		°C (°F)	120 – 160 (248 – 320)	120 – 160 (248 – 320)	ABIM
	Heat Seal Strength (Film/Film)		g/15mm	300-350	320-370	ABIM (130°C, 1bar, 1sec)
		lb./0.59in	0.66-0.77	0.70-0.81	ABIM (266oF, 14.5psi, 1 sec)	
BARRIER	Water Vapor Permeability (W.V.T.R.)		g/m <sup>2</sup> /24h	7.0	ASTM F 1249 (38°C / 90% RH)	
			g/100in <sup>2</sup> /24h	0.45		0.40
	Oxygen Transmission Rate (O.T.R.)		cc/m <sup>2</sup> /24h	2140	2100	ASTM D 3985 (23°C / 0% RH)
			cc/in <sup>2</sup> /24h	140	130	

**DESCRIPTION:**

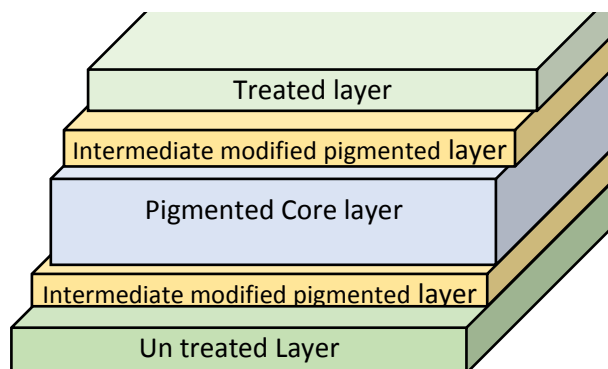
a solid white opaque film, both side heat sealable and one side Corona Treated Cast Polypropylene Film.

**PRODUCT FEATURES:**

Solid white finish an ideal for multi-color printing design.  
 Good optical properties  
 Good opacity imparts better barrier to light  
 Good hot tack

**APPLICATIONS:**

Lamination and single ply application.  
 Direct food packaging (e.g., bread and bakery products, etc.). Over wrap



PROPERTIES		UNIT	TYPICAL VALUES					TEST METHOD.	
PHYSICAL	Thickness	Microns	20	25	30	35	40	ASTM D 374	
		Gauge	80	100	120	140	160		
	Grammage	g/m <sup>2</sup>	19.2	24	28.80	33.60	38.4	* ABIM	
	Yield	m <sup>2</sup> /kg	52.08	41.66	34.72	29.76	26.04		
	Coefficient of Friction (Film/Film)			0.45					ASTM D 1894
	Surface Tension (Treated Side)		dynes/cm	38					ASTM D 2578
OPTICAL	Opacity	%	60-65					ASTM D 1003	
	Gloss(45°)		48					ASTM D 2457	
MECHANICAL	Tensile Strength at Break	*MD	>4.0					ASTM D 882	
		*TD							>2.0
	Elongation at Break	MD	>500					ASTM D 882	
		TD							>600
Heat seal Strength		g/15mm	>950					ABIM	
THERMAL	Thermal Shrinkage	MD	1					ABIM (120°C (248°F), 5 min, air)	
		TD	1						
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	7					ASTM F 1249 (38°C / 90% RH)	
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	1000					ASTM D 3985 (23°C / 0% RH)	
		* ABIM – Akij Biax Internal Method	*MD – Machine Direction			*TD – Transverse Direction			



**DESCRIPTION:**

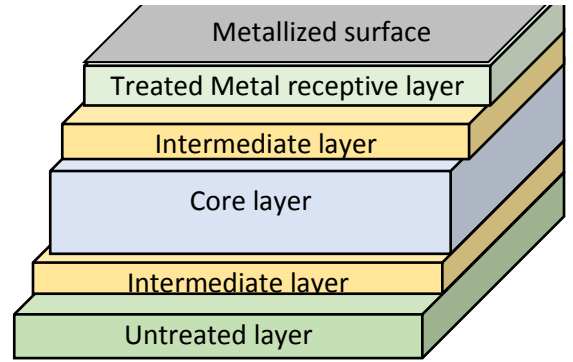
a special Cast polypropylene metallized film with one side heat sealable surfaces and other side with high purity aluminum.

**PRODUCT FEATURES:**

Excellent metal adhesion & web flatness  
 Good UV light barrier  
 Outstanding barrier to moisture, gas & odors.  
 Excellent light barrier enhances shelf life

**APPLICATIONS:**

As inner web for adhesive lamination  
 Packaging for moisture & odor sensitive Food stuffs as coffee, snack foods, chips, biscuits cookies, etc. applications.  
 Commonly used to dry-lamination with BOPP or Pet for packaging.



PROPERTIES		UNIT	TYPICAL VALUES					TEST METHOD.
PHYSICAL	Thickness	Microns	20	25	30	35	40	ASTM D 374
		Gauge	80	100	120	140	160	
	Grammage	g/m <sup>2</sup>	18.2	22.75	27.3	31.85	36.4	* ABIM
	Yield	m <sup>2</sup> /kg	54.95	43.96	36.63	31.30	27.47	
	Coefficient of Friction (Film/Film)		0.5-0.8					
	Surface Tension (Treated Side)	dynes/cm	38					ASTM D 2578
OPTICAL	Optical Density	%	2.0					ABIM
MECHANICAL	Tensile Strength at Break	*MD	>4.0					ASTM D 882
		*TD						
	Elongation at Break	MD	>500					ASTM D 882
	TD	>500						
THERMAL	Thermal Shrinkage	MD	1					ABIM (120°C (248°F), 5 min, air)
		TD						
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	<1					ASTM F 1249 (38°C / 90% RH)
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	<100					ASTM D 3985 (23°C / 0% RH)
		* ABIM – Akij BIAx Internal Method	*MD – Machine Direction			*TD – Transverse Direction		

**DESCRIPTION:**

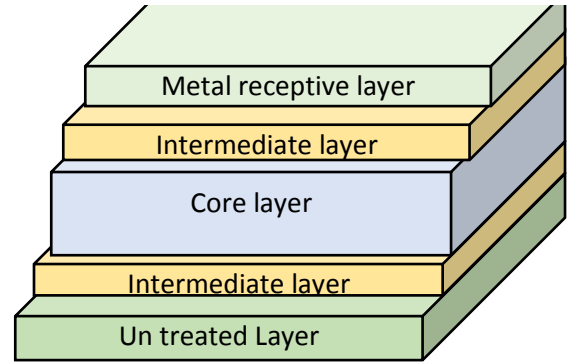
a Co-extruded Transparent, both side heat sealable and one side Corona Treated Cast Polypropylene Film. Especially design with metal receptive layer.

**PRODUCT FEATURES:**

- Metal receptive layer for good aluminum Metal adhesion
- Good optical properties
- Good resistance to oils, fats & chemicals
- Good hot tack

**APPLICATIONS:**

- Base film for Metallization.
- Printing and lamination



PROPERTIES		UNIT	TYPICAL VALUES					TEST METHOD.
PHYSICAL	Thickness	Microns	20	25	30	35	40	ASTM D 374
		Gauge	80	100	120	140	160	
	Grammage	g/m <sup>2</sup>	18.2	22.75	27.3	31.85	36.4	* ABIM
	Yield	m <sup>2</sup> /kg	54.95	43.96	36.63	31.30	27.47	
	Coefficient of Friction (Film/Film)		0.50-0.7					
		Surface Tension (Treated Side)	dynes/cm	38				
OPTICAL	Haze	%	3.5-4.5					ASTM D 1003
	Gloss(45°)		82-80					ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	>4.0					ASTM D 882
		*TD						
	Elongation at Break	MD	>500					ASTM D 882
		TD						
	Heat seal Strength	g/15mm	>1000					ABIM
THERMAL	Thermal Shrinkage	MD	1					ABIM (120°C (248°F), 5 min, air)
		TD	1					
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	8					ASTM F 1249 (38°C / 90% RH)
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	1600					ASTM D 3985 (23°C / 0% RH)
		* ABIM- Akij Biax Internal Method	*MD – Machine Direction			*TD – Transverse Direction		

**DESCRIPTION:**

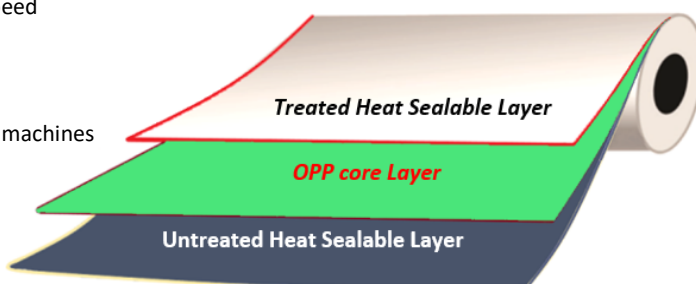
a heat sealable film, one side with low seal initiation temperature (SIT) property of 90°C. Treated one side, designed for a wide range of high-speed packaging applications.

**PRODUCT FEATURES:**

- Wide sealing range
- Low sealing threshold (90°C)
- Excellent optical properties
- Low coefficient of friction

**APPLICATIONS:**

- Packaging and converting
- High speed HFFS and VFFS machines



PROPERTIES		UNIT	TYPICAL VALUES				TEST METHOD.
PHYSICAL	Thickness	Microns	20	25	30	35	ASTM D 374
		Gauge	80	100	120	140	
	Grammage	g/m <sup>2</sup>	18.20	22.75	27.30	31.85	ABIM
		lbs/ream	11.2	14.0	16.8	19.6	
	Yield	m <sup>2</sup> /kg	54.95	43.96	36.63	31.40	
		in <sup>2</sup> /lb	38,700	31,00	25,800	22,100	
	Coefficient of Friction <small>(Film/Film)</small>		0.25				ASTM D 1894
	Surface Tension (Treated Side)	dynes/cm	38				ASTM D 2578
OPTICAL	Haze	%	2.0				ASTM D 1003
	Gloss (45°)		85				ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	15				ASTM D 882
		*TD	27				
		MD	21,330				
		TD	38,394				
	Elongation at Break	MD	170				ASTM D 882
TD	50						
THERMAL	Thermal Shrinkage	MD	< 4.0				ABIM (120°C (248°F), 5 min, air)
		TD	< 2.0				
	Heat Seal Range	°C (°F)	90 – 140 (194 – 284)				ABIM
	Heat Seal Strength (Film/Film)	g/15mm	275				ABIM (130°C, 1bar, 1sec)
		lb/0.59in	0.60				ABIM (266oF, 14.5psi, 1
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	7.0	6.0	5.0	3.84	ASTM F 1249 (38oC / 90% RH)
		g/100in <sup>2</sup> /24h	0.45	0.38	0.32	0.26	

## Technical Data Sheet

### DESCRIPTION:

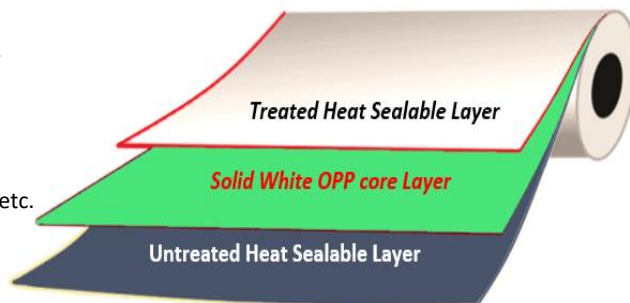
a solid white opaque film, both sides heat sealable, treated to suit printing, coating and lamination purposes. Excellent whiteness and opacity for various food packaging applications.

### PRODUCT FEATURES:

Solid white finish an ideal background for multi-color printing design  
 Good heat-sealing with hot tack properties  
 Good opacity imparts better barrier to light  
 Good resistance to oils, fats & chemicals

### APPLICATIONS:

Printing and lamination  
 Packaging for bakeries, confectioneries etc.  
 Pouching and overwrap



PROPERTIES		UNIT	TYPICAL VALUES				TEST METHOD.
PHYSICAL	Thickness	Microns	20	30	35	40	ASTM D 374
		Gauge	80	120	140	160	
	Grammage	g/m <sup>2</sup>	19.20	28.80	33.60	38.40	*ABIM
		lbs./ream	11.8	17.7	20.6	23.6	
	Yield	m <sup>2</sup> /kg	52.08	34.72	29.76	26.04	
		in <sup>2</sup> /lb.	36,700	24,500	21,000	18,300	
Coefficient of Friction (Film/Film)		0.40	0.40	0.40	0.40	ASTM D 1894	
Surface Tension (Treated Side)	dynes/cm	38	38	38	38	ASTM D 2578	
OPTICAL	Opacity	%	63	65	68	70	ASTM D589-97
	Gloss (45°)		50				ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	13				ASTM D 882
		*TD	26				
		MD	18,486				
		TD	36,972				
	Elongation at Break	MD	165				ASTM D 882
		TD	50				
THERMAL	Thermal Shrinkage	MD	< 4.0				ABIM (120°C (248°F), 5 min, air)
		TD	< 2.0				
	Heat Seal Range	°C (°F)	105 – 140 (221 – 284)				ABIM
	Heat Seal Strength (Film/Film)	g/15mm	200	300	300	300	ABIM (130°C, 1bar, 1sec)
		lb./0.59in	0.44	0.66	0.66	0.66	ABIM (266°F, 14.5psi, 1 sec)

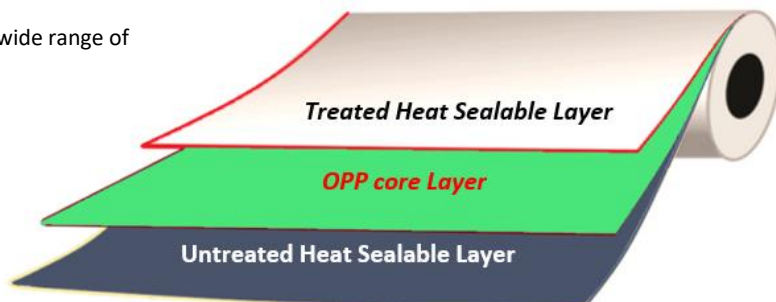
**DESCRIPTION:** a coextruded, bi-axially oriented polypropylene film with a heat sealable olefin copolymer on both surfaces, treated, design to offer a wide range of applications in the printing, lamination and automatic packaging machines.

**PRODUCT FEATURES:**

- Wide heat seal range.
- Good slip and antistatic property. machines.
- Good optical properties.
- Excellent machinability.
- Good resistance to oils, fats & chemicals.
- Good barrier to moisture, odors & gases

**APPLICATIONS:**

- Packaging and converting.
- Automatic HFFS and VFFS



PROPERTIES		UNIT	TYPICAL VALUES							TEST METHOD.	
PHYSICAL	Thickness	Microns	15	18	20	25	30	35	40	ASTM D 374	
		Gauge	60	72	80	100	120	140	160		
	Grammage	g/m <sup>2</sup>	13.65	16.38	18.20	22.75	27.30	31.85	36.40	*ABIM	
		lbs./ream	8.4	10.1	11.2	14.0	16.8	19.6	22.4		
	Yield	m <sup>2</sup> /kg	73.26	61.05	54.95	43.96	36.63	31.40	27.48		
		in <sup>2</sup> /lb	51,600	43,000	38,700	31,000	25,800	22,100	19,400		
Coefficient of Friction (Film/Film)			0.25							ASTM D 1894	
Surface Tension (Treated Side)		dynes/cm	38							ASTM D 2578	
OPTICAL	Haze	%	2.5							ASTM D 1003	
	Gloss (45°)		85							ASTM D 2457	
MECHANICAL	Tensile Strength at Break	*MD	15							ASTM D 882	
		*TD	28								
		MD	21,330								
		TD	39,816								
Elongation at Break	MD	%	170							ASTM D 882	
	TD		50								
THERMAL	Thermal Shrinkage	MD	< 4.0							ABIM (120° C (248°F), 5 min, air)	
		TD	< 2.0								
	Heat Seal Range		°C (°F)	105 - 140 (221 - 284)							ABIM
	Heat Seal Strength (Film/Film)	g/15mm	275							ABIM (130°C, 1bar, 1sec)	
lb./0.59in		0.60							ABIM (266°F, 14.5psi, 1 sec)		

## Technical Data Sheet

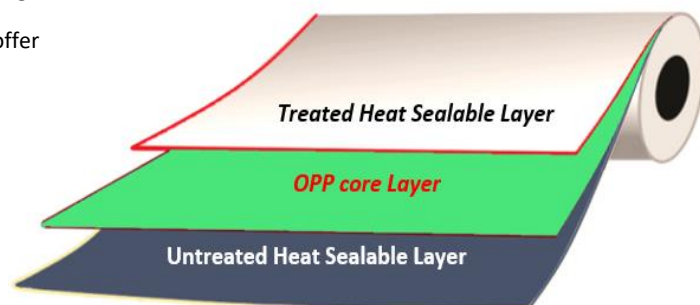
**DESCRIPTION:** is a transparent heat sealable film with consistent and higher slip characteristics. Specially designed with high slip & low antistatic properties to offer superior machinability.

**PRODUCT FEATURES:**

- Improved slip properties.
- Low antistatic property.
- Good optical properties.
- Excellent machinability.
- Good resistance to oils, fats & chemicals.
- Good barrier to moisture, odors & gases

**APPLICATIONS:**

- Packaging and converting.
- High speed HFFS and VFFS machines.
- High speed rotogravure & Flexographic printing.



PROPERTIES		UNIT	TYPICAL VALUES							TEST METHOD.	
PHYSICAL	Thickness	Microns	15	18	20	25	30	35	40	ASTM D 374	
		Gauge	60	72	80	100	120	140	160		
	Grammage	g/m <sup>2</sup>	13.65	16.38	18.20	22.75	27.30	31.85	36.40	*ABIM	
		lbs./ream	8.4	10.1	11.2	14.0	16.8	19.6	22.4		
	Yield	m <sup>2</sup> /kg	73.26	61.05	54.95	43.96	36.63	31.40	27.48		
		in <sup>2</sup> /lb	51,600	43,000	38,700	31,000	25,800	22,100	19,400		
Coefficient of Friction (Film/Film)			0.20							ASTM D 1894	
Surface Tension (Treated Side)		dynes/cm	38							ASTM D 2578	
OPTICAL	Haze	%	2.5							ASTM D 1003	
	Gloss (45°)		85							ASTM D 2457	
MECHANICAL	Tensile Strength at Break	*MD	15							ASTM D 882	
		*TD	28								
		MD	21,330								
		TD	39,816								
Elongation at Break	MD	%	170							ASTM D 882	
	TD		50								
THERMAL	Thermal Shrinkage	MD	< 4.0							ABIM (120° C (248°F), 5 min, air)	
		TD	< 2.0								
	Heat Seal Range		°C (°F)	105 - 140 (221 - 284)							ABIM
	Heat Seal Strength (Film/Film)	g/15mm	275							ABIM (130°C, 1bar, 1sec)	
lb./0.59in		0.60							ABIM (266°F, 14.5psi, 1 sec)		

**DESCRIPTION:**

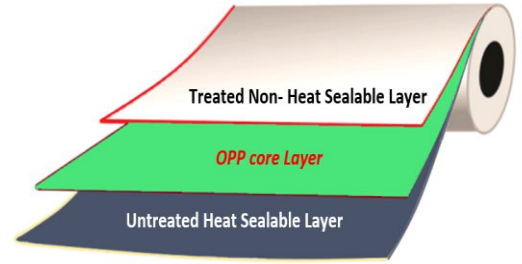
an asymmetric film with one side heat sealable, other side non-heat sealable, specially designed with high slip and low antistatic properties.

**PRODUCT FEATURES:**

- Superior transparency and high gloss
- High slip & low antistatic property
- Good optical and mechanical property
- Good Seal strength
- Good resistance to most oils and fats.

**APPLICATIONS:**

- Printing & lamination with a wide range of substrates
- High speed automatic packaging (HFFS & VFFFS)



PROPERTIES		UNIT	TYPICAL VALUES								TEST METHOD.
PHYSICAL	Thickness	Microns	15	18	20	25	30	35	40	50	ASTM D 374
		Gauge	60	72	80	100	120	140	160	200	
	Grammage	g/m <sup>2</sup>	13.65	16.38	18.20	22.75	27.30	31.85	36.40	45.5	*ABIM
		lbs./ream	8.4	10.1	11.2	14.0	16.8	19.6	22.4	28.00	
	Yield	m <sup>2</sup> /kg	73.26	61.05	54.95	43.96	36.63	31.40	27.50	22.00	
		in <sup>2</sup> /lb.	51,600	43,000	38,700	31,000	25,800	22,100	19,400	15,468	
	Coefficient of Friction (Film/Film)		0.25								ASTM D 1894
	Surface Tension (Treated Side)	dynes/cm	38								ASTM D 2578
OPTICAL	Haze	%	2.5								ASTM D 1003
	Gloss (45°)		90								ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	15								ASTM D 882
		*TD	28								
		MD	21,330								
		TD	39,816								
	Elongation at Break	MD	170								ASTM D 882
	TD	50									
THERMAL	Thermal Shrinkage	MD	< 4.0								ABIM (120oC (248oF), 5 min, air)
		TD	< 2.0								
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	7.9	7.5	7.2	6.0	5.0	4.0	3.2	2.4	ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	0.5	0.48	0.46	0.39	0.32	0.26	0.21	0.11	
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	2600	2510	2200	1800	1400	1200	1000	700	ASTM D 3985 (23°C / 0% RH)
		cc/in <sup>2</sup> /24h	162	158	142	116	90	77	64	48	

**DESCRIPTION:**

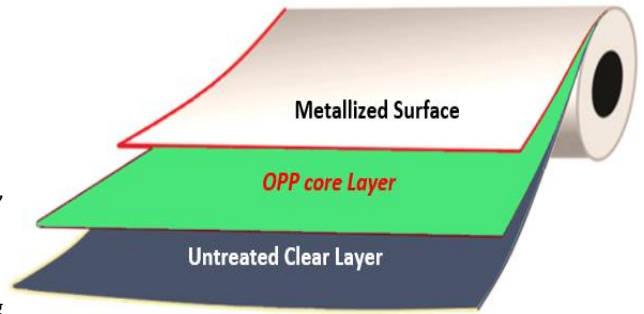
a heat sealable film, one side treated and metallized with high purity aluminum; other side untreated.

**PRODUCT FEATURES:**

- One side aluminum coated
- Excellent metal adhesion & web flatness
- Good optical density
- Outstanding barrier to moisture, gas & odors.
- Excellent light barrier enhances shelf life
- Good seal strength on non-metallized side
- Good resistance to oils, fats & flex cracking

**APPLICATIONS:**

- As inner web for adhesive lamination
- Packaging for moisture & odor sensitive Food stuffs as coffee, snack foods, chips, cookies, etc.
- Surface printed for ice cream and candy over wrap
- Specialty as gift wrap & flower designing



PROPERTIES		UNIT	TYPICAL VALUES						TEST METHOD.	
PHYSICAL	Thickness	Microns	15	17.5	18	20	25	30	35	ASTM D 374
		Gauge	60	70	72	80	100	120	140	
	Grammage	g/m <sup>2</sup>	13.65	15.92	16.38	18.20	22.75	27.30	31.85	*ABIM
		lbs./ream	8.4	9.78	10.1	11.2	14.0	16.8	19.57	
	Yield	m <sup>2</sup> /kg	73.26	62.80	61.05	54.95	43.96	36.63	31.30	
		in <sup>2</sup> /lb.	51,600	44,150	43,000	38,700	31,000	25,800	22,000	
	Coefficient of Friction (Film/Film)		0.35						ASTM D 1894	
	Surface Tension (Treated Side)	dynes/cm	38						ASTM D 2578	
OPTICAL	Optical Density	%	2.0						ABIM	
MECHANICAL	Tensile Strength at Break	*MD	15						ASTM D 882	
		*TD	27							
		MD	21,330							
		TD	38,394							
	Elongation at Break	MD	170							
		TD	50							
	Modulus of Elasticity	*MD	185							
		*TD	350							
MD		275,800								
TD		511,900								
THERMAL	Thermal Shrinkage	MD	< 4.0						ABIM (120°C (248°F), 5 min, air)	
		TD	< 2.0							
	Heat Seal Range	°C (°F)	105 – 140 (221 – 284)						ABIM	
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/15mm	275						ABIM (130°C, 1bar, 1sec)	
		lb./0.59in	0.60						ABIM (266°F, 14.5psi, 1 sec)	
BARRIER	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	0.80						ASTM F 1249 (38°C / 90% RH)	
		g/100in <sup>2</sup> /24h	0.051							
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	90						ASTM D 3985 (23°C / 0% RH)	
cc/in <sup>2</sup> /24h		5.80								



**DESCRIPTION:**

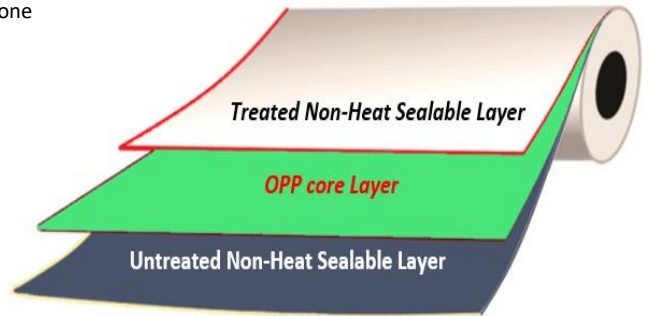
a non-heat sealable film with excellent optical and mechanical properties, one side treated to suit printing and lamination application.

**PRODUCT FEATURES:**

Good resistance to heat, oils, and chemicals.  
 Superior transparency and high gloss  
 Good machinability  
 Good dimensional stability  
 Treated side provide excellent adhesive and ink adhesion.

**APPLICATIONS:**

Printing & lamination with a wide range of substrates  
 Base web for adhesives, PVDC and cold seal coatings  
 Decorative gift wrap & flower wrapping.

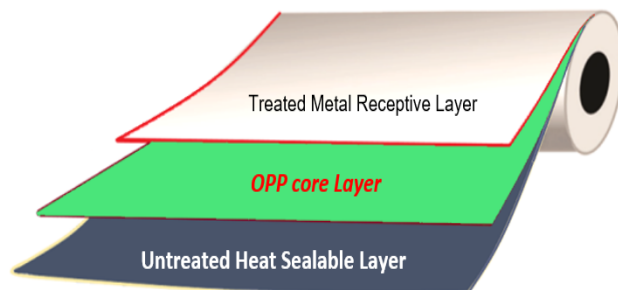


PROPERTIES		UNIT	TYPICAL VALUES								TEST METHOD.
PHYSICAL	Thickness	Microns	15	18	20	25	30	35	40	50	ASTM D 374
		Gauge	60	72	80	100	120	140	160	200	
	Grammage	g/m <sup>2</sup>	13.65	16.38	18.20	22.75	27.30	31.85	36.40	45.5	*ABIM
		lbs./ream	8.4	10.1	11.2	14.0	16.8	19.6	22.4	28.00	
	Yield	m <sup>2</sup> /kg	73.26	61.05	54.95	43.96	36.63	31.40	27.50	22.00	
		in <sup>2</sup> /lb.	51,600	43,000	38,700	31,000	25,800	22,100	19,400	15,468	
	Coefficient of Friction (Film/Film)		0.30								ASTM D 1894
	Surface Tension (Treated Side)	dynes/cm	38								ASTM D 2578
OPTICAL	Haze	%	1.5								ASTM D 1003
	Gloss (45°)		95								ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	15								ASTM D 882
		*TD	28								
		MD	21,330								
		TD	39,816								
	Elongation at Break	MD	155								ASTM D 882
		TD	50								
THERMAL	Thermal Shrinkage	MD	< 4.0								ABIM (120oC (248oF), 5 min, air)
		TD	< 2.0								
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	7.9	7.5	7.2	6.0	5.0	4.0	3.2	2.4	ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	0.5	0.48	0.46	0.39	0.32	0.26	0.21	0.11	
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	2600	2510	2200	1800	1400	1200	1000	700	ASTM D 3985 (23°C / 0% RH)
		cc/in <sup>2</sup> /24h	162	158	142	116	90	77	64	48	

**DESCRIPTION:** a coextruded, bi-axially oriented polypropylene film with both Side heat sealable. Especially design with Metal receptive layer on one side and Other side with low seal initiation temperature having good seal strength.

**PRODUCT FEATURES:**  
 Metal receptive layer for good aluminum Metal adhesion.  
 Good optical and mechanical properties.  
 Low Sealing Threshold (95°C).  
 Good resistance to oils, fats & chemicals.  
 Good barrier to moisture, odors & gases

**APPLICATIONS:**  
 Base film for Metallization.  
 Printing and lamination.



PROPERTIES		UNIT	TYPICAL VALUES							TEST METHOD.
PHYSICAL	Thickness	Microns	12	15	18	20	25	30	35	ASTM D 374
		Gauge	48	60	72	80	100	120	140	
	Grammage	g/m <sup>2</sup>	10.92	13.65	16.38	18.20	22.75	27.30	31.85	*ABIM
		lbs./ream	6.7	8.4	10.1	11.2	14.0	16.8	19.6	
	Yield	m <sup>2</sup> /kg	91.60	73.26	61.05	54.95	43.96	36.63	31.40	
		in <sup>2</sup> /lb.	64401	51,600	43,000	38,700	31,000	25,800	22,100	
Coefficient of Friction (Film/Film)			≤0.40							ASTM D 1894
Surface Tension (Treated Side)		dynes/cm	38							ASTM D 2578
OPTICAL	Haze	%	2.5							ASTM D 1003
	Gloss (45°)		≥85							ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	14							ASTM D 882
		*TD	28							
		MD	21,330							
		TD	39,816							
	Elongation at Break	MD	180							ASTM D 882
		TD	60							
THERMAL	Thermal Shrinkage	MD	< 4.0							ABIM (120° C (248°F), 5 min, air)
		TD	< 2.0							
	Heat Seal Range	°C (°F)	95 - 140 (203 - 284)							ABIM
	Heat Seal Strength (Film/Film)	g/15mm	275							ABIM (130°C, 1bar, 1sec)
lb./0.59in		0.60							ABIM (266°F, 14.5psi, 1 sec)	

**DESCRIPTION:**

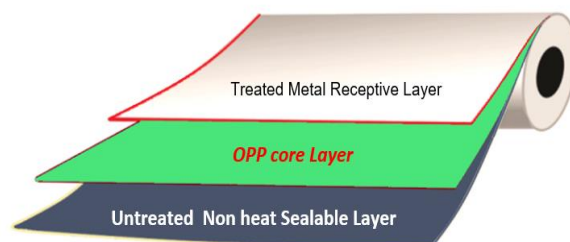
is a bi-axially oriented polypropylene film with one Side Non heat sealable. Especially design with Metal receptive layer on other side.

**PRODUCT FEATURES:**

Metal receptive layer for good aluminum metal adhesion.  
 Good optical and mechanical properties.  
 Good barrier to moisture, odors & gases

**APPLICATIONS:**

Prime substrates for film metallization  
 Printing and lamination.



PROPERTIES		UNIT	TYPICAL VALUES							TEST METHOD.
PHYSICAL	Thickness	Microns	12	15	18	20	25	30	35	ASTM D 374
		Gauge	48	60	72	80	100	120	140	
	Grammage	g/m <sup>2</sup>	10.92	13.65	16.38	18.20	22.75	27.30	31.85	*ABIM
		lbs./ream	6.7	8.4	10.1	11.2	14.0	16.8	19.57	
	Yield	m <sup>2</sup> /kg	91.60	73.26	61.05	54.95	43.96	36.63	31.30	
		in <sup>2</sup> /lb.	64401	51,600	43,000	38,700	31,000	25,800	22,000	
	Coefficient of Friction (Film/Film)		0.45							ASTM D 1894
	Surface Tension (Treated Side)	dynes/cm	38							ASTM D 2578
OPTICAL	Haze	%	2.5							ASTM D 1003
	Gloss (45°)		88							ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	15							ASTM D 882
		*TD	27							
		MD	21,330							
		TD	38,394							
	Elongation at Break	MD	170							
		TD	50							
	Modulus of Elasticity	*MD	185							
		*TD	350							
MD		275,800								
TD		511,900								
THERMAL	Thermal Shrinkage	MD	< 5.0							ABIM (120°C (248°F), 5 min, air)
		TD	< 2.0							

**DESCRIPTION:**

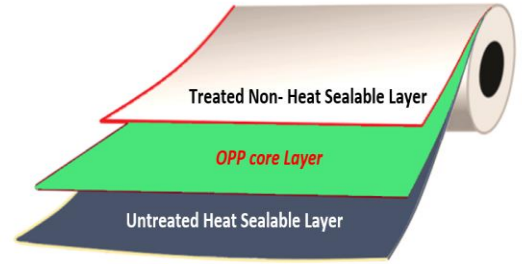
an asymmetric film with one side heat sealable, other side non-heat sealable, specially designed with low antistatic properties.

**PRODUCT FEATURES:**

- Superior transparency and high gloss
- Low antistatic property
- Good optical and mechanical property
- Good Seal strength
- Good resistance to most oils and fats.

**APPLICATIONS:**

- Printing & lamination with a wide range of substrates
- High speed automatic packaging (HFFS & VFFFS)



PROPERTIES		UNIT	TYPICAL VALUES								TEST METHOD.
PHYSICAL	Thickness	Microns	15	18	20	25	30	35	40	50	ASTM D 374
		Gauge	60	72	80	100	120	140	160	200	
	Grammage	g/m <sup>2</sup>	13.65	16.38	18.20	22.75	27.30	31.85	36.40	45.5	*ABIM
		lbs./ream	8.4	10.1	11.2	14.0	16.8	19.6	22.4	28.00	
	Yield	m <sup>2</sup> /kg	73.26	61.05	54.95	43.96	36.63	31.40	27.50	22.00	
		in <sup>2</sup> /lb.	51,600	43,000	38,700	31,000	25,800	22,100	19,400	15,468	
	Coefficient of Friction (Film/Film)		0.65								ASTM D 1894
	Surface Tension (Treated Side)	dynes/cm	38								ASTM D 2578
OPTICAL	Haze	%	2.5								ASTM D 1003
	Gloss (45°)		90								ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	15								ASTM D 882
		*TD	28								
		MD	21,330								
		TD	39,816								
	Elongation at Break	MD	170								ASTM D 882
	TD	50									
THERMAL	Thermal Shrinkage	MD	< 4.0								ABIM (120oC (248oF), 5 min, air)
		TD	< 2.0								
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	7.9	7.5	7.2	6.0	5.0	4.0	3.2	2.4	ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	0.5	0.48	0.46	0.39	0.32	0.26	0.21	0.11	
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	2600	2510	2200	1800	1400	1200	1000	700	ASTM D 3985 (23°C / 0% RH)
		cc/in <sup>2</sup> /24h	162	158	142	116	90	77	64	48	

**DESCRIPTION:**

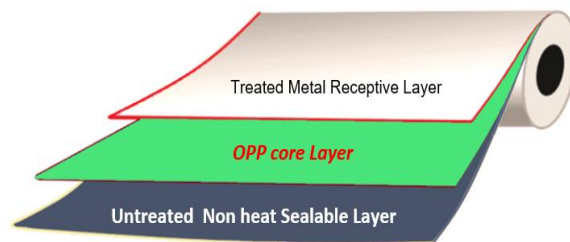
a bi-axially oriented polypropylene film with one Side Non heat sealable. Especially design with Metal receptive layer on other side.

**PRODUCT FEATURES:**

Metal receptive layer for good aluminum metal adhesion.  
 Good optical and mechanical properties.  
 Good barrier to moisture, odors & gases

**APPLICATIONS:**

Prime substrates for film metallization  
 Printing and lamination.



PROPERTIES		UNIT	TYPICAL VALUES							TEST METHOD.
PHYSICAL	Thickness	Microns	12	15	18	20	25	30	35	ASTM D 374
		Gauge	48	60	72	80	100	120	140	
	Grammage	g/m <sup>2</sup>	10.92	13.65	16.38	18.20	22.75	27.30	31.85	*ABIM
		lbs./ream	6.7	8.4	10.1	11.2	14.0	16.8	19.57	
	Yield	m <sup>2</sup> /kg	91.60	73.26	61.05	54.95	43.96	36.63	31.30	
		in <sup>2</sup> /lb.	64401	51,600	43,000	38,700	31,000	25,800	22,000	
	Coefficient of Friction (Film/Film)		0.45							ASTM D 1894
	Surface Tension (Treated Side)	dynes/cm	38							ASTM D 2578
OPTICAL	Haze	%	2.5							ASTM D 1003
	Gloss (45°)		88							ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	15							ASTM D 882
		*TD	27							
		MD	21,330							
		TD	38,394							
	Elongation at Break	MD	170							
		TD	50							
	Modulus of Elasticity	*MD	185							
		*TD	350							
MD		275,800								
TD		511,900								
THERMAL	Thermal Shrinkage	MD	< 5.0							ABIM (120°C (248°F), 5 min, air)
		TD	< 2.0							

## TECHNICAL DATA SHEET

**DESCRIPTION :**

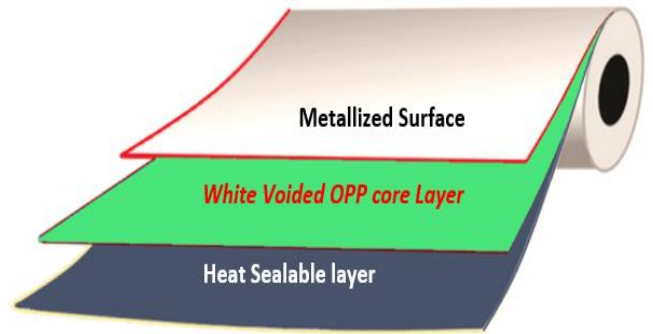
a metallized white voided film, one side heat sealable layer.

**PRODUCT FEATURES:**

High yield due to lower density  
 High gloss surface.  
 White appearance on non-metallized side.  
 Excellent hot melt anchorage.

**APPLICATIONS:**

Rotogravure and flexographic printing.  
 Single web structure.  
 Lamination.  
 Suitable for cold seal.



PROPERTIES		UNIT	TYPICAL VALUES				TEST METHOD.
PHYSICAL	Thickness	Microns	30	38	40	47	ASTM D 374
		Gauge	120	152	160	188	
	Grammage	g/m <sup>2</sup>	18.60	23.60	24.80	29.14	*ABIM
		lbs/ream	11.54	14.5	15.26	17.9	
	Yield	m <sup>2</sup> /kg	53.77	42.40	40.40	34.31	
		in <sup>2</sup> /lb	37,900	29,900	28480	24,172	
	Density	g/cc	0.62				
Coefficient of Friction		0.35				ASTM D 1894	
Surface Tension (Treated)	dynes/cm	38				ASTM D 2578	
OPTICAL	Optical density	%	3.0				ABIM
MECHANICAL	Tensile Strength at Break	*M	8				ASTM D 882
		*TD	16				
		MD	11,376				
		TD	22,752				
	Elongation at Break	MD	135				
TD		40				ASTM D 882	
THERMAL	Thermal Shrinkage	MD	< 4.0				ABIM (120°C (248°F),
		TD	< 2.0				
THERMAL	Heat Seal Range	°C (°F)	105 – 140 (221 – 284)				ABIM
	Heat Seal Strength (Film/Film)	g/15mm	200				ABIM (130°C, 1bar,
lb/0.59in		0.74				ABIM (266°F, 14.5psi, 1	
BARRIER	Water Vapor Permeability	g/m <sup>2</sup> /24h	0.30				ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	0.019				
	Oxygen Transmission Rate	cc/m <sup>2</sup> /24h	50				ASTM D 3985 (23°C / 0% RH)
		cc/in <sup>2</sup> /24h	3.22				

**DESCRIPTION:**

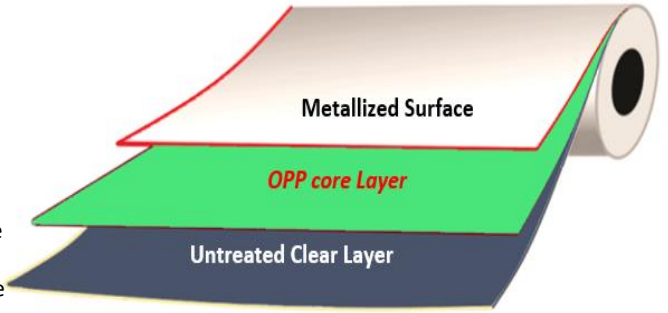
a heat sealable film, one side treated and metallized with high purity aluminum; other side untreated, High barrier film.

**PRODUCT FEATURES:**

- High light barrier property
- Excellent metal adhesion & web flatness
- Good optical density
- Outstanding barrier to moisture, gas & odors.
- Excellent light barrier enhances shelf life
- Good seal strength on non-metallized side
- Good resistance to oils, fats & flex cracking

**APPLICATIONS:**

Particularly indicated where light, moisture or gas barrier properties are required  
Typically laminated on metallized side with other film



PROPERTIES		UNIT	TYPICAL VALUES							TEST METHOD.	
PHYSICAL	Thickness	Microns	15	17.5	18	20	25	30	35	ASTM D 374	
		Gauge	60	70	72	80	100	120	140		
	Grammage	g/m <sup>2</sup>	13.65	15.92	16.38	18.20	22.75	27.30	31.85	*ABIM	
		lbs./ream	8.4	9.78	10.1	11.2	14.0	16.8	19.57		
	Yield	m <sup>2</sup> /kg	73.26	62.80	61.05	54.95	43.96	36.63	31.30		
		in <sup>2</sup> /lb.	51,600	44,150	43,000	38,700	31,000	25,800	22,000		
	Coefficient of Friction (Film/Film)		0.35							ASTM D 1894	
	Surface Tension (Treated Side)	dynes/cm	38							ASTM D 2578	
OPTICAL	Optical Density	%	2.3							ABIM	
MECHANICAL	Tensile Strength at Break	*MD	15							ASTM D 882	
		*TD	27								
		MD	psi	21,330							
		TD		38,394							
	Elongation at Break	MD	%	170							
		TD		50							
	Modulus of Elasticity	*MD	kg/mm <sup>2</sup>	185							
		*TD		350							
MD		275,800									
TD		psi		511,900							
THERMAL	Thermal Shrinkage	MD	< 4.0							ABIM (120°C (248°F), 5 min, air)	
		TD	< 2.0								
	Heat Seal Range	°C (°F)	105 – 140 (221 – 284)							ABIM	
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	0.5							ASTM F 1249 (38°C / 90% RH)	
		g/100in <sup>2</sup> /24h	0.019								
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	30							ASTM D 3985 (23°C / 0% RH)	
		cc/in <sup>2</sup> /24h	1.93								

**DESCRIPTION:**

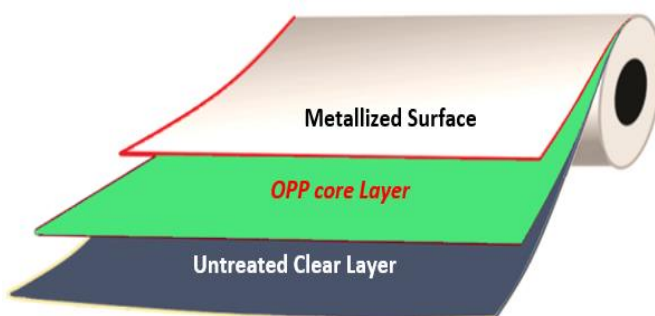
a heat sealable film, one side treated and metallized with high purity aluminum; other side untreated, High barrier film.

**PRODUCT FEATURES:**

- High light barrier property
- Excellent metal adhesion & web flatness
- Good optical density
- Outstanding barrier to moisture, gas & odors.
- Excellent light barrier enhances shelf life
- Good seal strength on non-metallized side
- Good resistance to oils, fats & flex cracking

**APPLICATIONS:**

- Particularly indicated where light, moisture & oxygen properties are required
- Typically laminated on metallized side with other film



PROPERTIES		UNIT	TYPICAL VALUES							TEST METHOD.
PHYSICAL	Thickness	Microns	15	17.5	18	20	25	30	35	ASTM D 374
		Gauge	60	70	72	80	100	120	140	
	Grammage	g/m <sup>2</sup>	13.65	15.92	16.38	18.20	22.75	27.30	31.85	*ABIM
		lbs./ream	8.4	9.78	10.1	11.2	14.0	16.8	19.57	
	Yield	m <sup>2</sup> /kg	73.26	62.80	61.05	54.95	43.96	36.63	31.30	
		in <sup>2</sup> /lb.	51,600	44,150	43,000	38,700	31,000	25,800	22,000	
	Coefficient of Friction (Film/Film)		0.35							ASTM D 1894
	Surface Tension (Treated Side)	dynes/cm	38							ASTM D 2578
OPTICAL	Optical Density	%	>2.5							ABIM
MECHANICAL	Tensile Strength at Break	*MD	15							ASTM D 882
		*TD	27							
		MD	21,330							
		TD	38,394							
	Elongation at Break	MD	170							
		TD	50							
Modulus of Elasticity	*MD	185								
	*TD	350								
	MD	275,800								
	TD	511,900								
THERMAL	Thermal Shrinkage	MD	< 4.0							ABIM (120°C (248°F), 5 min, air)
		TD	< 2.0							
	Heat Seal Range	°C (°F)	105 – 140 (221 – 284)							ABIM
Heat Seal Strength (Film/Film)	g/15mm	275							ABIM (130°C, 1bar, 1sec)	
	lb./0.59in	0.60							ABIM (266°F, 14.5psi, 1 sec)	
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	0.20							ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	0.014							
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	25							ASTM D 3985 (23°C / 0% RH)
		cc/in <sup>2</sup> /24h	1.60							



**DESCRIPTION:**

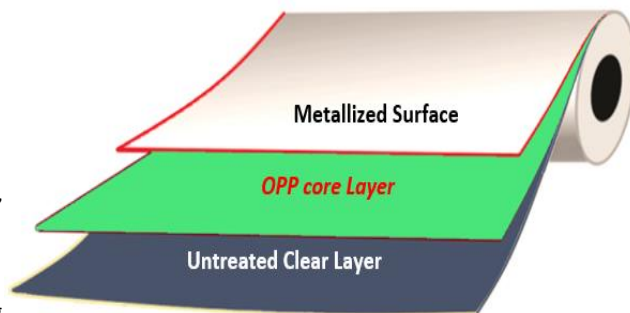
a heat sealable film, one side treated and metallized with high purity aluminum; other side untreated with low coefficient of friction (COF) property.

**PRODUCT FEATURES:**

- One side aluminum coated
- Excellent metal adhesion & web flatness
- Good optical density
- Outstanding barrier to moisture, gas & odors.
- Excellent light barrier enhances shelf life
- Good seal strength on non-metallized side
- Good resistance to oils, fats & flex cracking

**APPLICATIONS:**

- As inner web for adhesive lamination
- Packaging for moisture & odor sensitive Food stuffs as coffee, snack foods, chips, cookies, etc.
- Surface printed for ice cream and candy over wrap
- Specialty as gift wrap & flower designing



PROPERTIES		UNIT	TYPICAL VALUES					TEST METHOD.
PHYSICAL	Thickness	Microns	18	20	25	30	35	ASTM D 374
		Gauge	72	80	100	120	140	
	Grammage	g/m <sup>2</sup>	16.38	18.20	22.75	27.30	31.85	*ABIM
		lbs./ream	10.1	11.2	14.0	16.8	19.57	
	Yield	m <sup>2</sup> /kg	61.05	54.95	43.96	36.63	31.30	
		in <sup>2</sup> /lb.	43,000	38,700	31,000	25,800	22,000	
Coefficient of Friction (Film/Film)			0.25					ASTM D 1894
Surface Tension (Treated Side)		dynes/cm	38					ASTM D 2578
OPTICAL	Optical Density	%	2.0					ABIM
MECHANICAL	Tensile Strength at Break	*MD	15					ASTM D 882
		*TD	27					
		MD	21,330					
		TD	38,394					
	Elongation at Break	MD	170					
		TD	50					
	Modulus of Elasticity	*MD	185					
		*TD	350					
MD		275,800						
TD		511,900						
THERMAL	Thermal Shrinkage	MD	< 4.0					ABIM (120°C (248°F), 5 min, air)
		TD	< 2.0					
	Heat Seal Range	°C (°F)	105 – 140 (221 – 284)					ABIM
Heat Seal Strength (Film/Film)	g/15mm	275					ABIM (130°C, 1bar, 1sec)	
	lb./0.59in	0.60					ABIM (266°F, 14.5psi, 1 sec)	
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	0.80					ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	0.051					
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	90					ASTM D 3985 (23°C / 0% RH)
		cc/in <sup>2</sup> /24h	5.80					

**DESCRIPTION:**

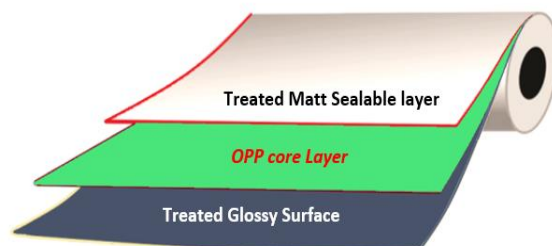
a film having one side Matte surface, other side reflective glossy surface with both sides treated, one side treated available on demand.

**PRODUCT FEATURES:**

- Excellent matte appearance
- Both sides treated
- Excellent bond strengths with inks  
And adhesives coatings
- Good mechanical properties

**APPLICATIONS:**

- Printing, Lamination to paper boards,  
book covers, etc.
- Base film for pressure sensitive tapes



PROPERTIES		UNIT	TYPICAL VALUES					TEST METHOD.	
PHYSICAL	Thickness	Microns	15	18	20	25	30	ASTM D 374	
		Gauge	60	72	80	100	120		
	Grammage	g/m <sup>2</sup>	12.92	15.45	17.20	21.50	25.80	*ABIM	
		lbs/ream	7.93	9.47	10.55	13.19	15.83		
	Yield	m <sup>2</sup> /kg	77.4	64.82	58.23	46.61	38.82		
		in <sup>2</sup> /lb	54.48	45,662	40,980	32,805	27,323		
Coefficient of Friction (Film/Film)			0.40					ASTM D 1894	
Surface Tension		dynes/cm	38					ASTM D 2578	
OPTICAL	Haze		%					75	ASTM D 1003
	Gloss (45°) GS / MS							50 / 10	ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	kg/mm <sup>2</sup>	12					ASTM D 882
		*TD		22					
		MD		17,064					
		TD		psi	31,284				
	Elongation at Break	MD	%	180					ASTM D 882
		TD		50					
	Modulus of Elasticity	MD	kg/mm <sup>2</sup>	200					ASTM D 882
		TD		375					
MD		psi	284,400						
TD			583,250						
THERMAL	Thermal Shrinkage	MD	%	< 4.0					ABIM (120° C (248°F), 5 min, air)
		TD		< 2.0					

**DESCRIPTION:**

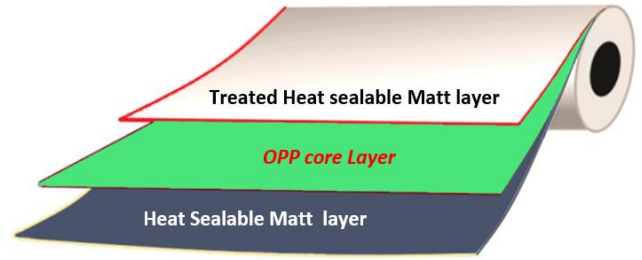
a film having both sides non reflective, heat sealable matte finish with one side treated; both sides treated available on demand.

**PRODUCT FEATURES:**

- Both sides matte surface
- Matte surface reduces glare for paper Look
- Good mechanical properties

**APPLICATIONS:**

- Lamination to papers, cardboards, Bags
- Base materials for pressure sensitive Tapes



PROPERTIES		UNIT	TYPICAL VALUES					TEST METHOD.	
PHYSICAL	Thickness	Microns	18	20	25	30	50	ASTM D 374	
		Gauge	72	80	100	120	200		
	Grammage	g/m <sup>2</sup>	15.45	17.20	21.50	25.80	43.00	*ABIM	
		lbs./ream	9.47	10.55	13.19	15.83	26.42		
	Yield	m <sup>2</sup> /kg	64.82	58.23	46.61	38.82	23.20		
		in <sup>2</sup> /lb.	45,662	40,980	32,805	27,323	16,345		
Coefficient of Friction (Film/Film)			0.40					ASTM D 1894	
Surface Tension (Treated Side)		dynes/cm	38					ASTM D 2578	
OPTICAL	Gloss (45°)		8					ASTM D 2457	
MECHANICAL	Tensile Strength at Break	*MD	kg/mm <sup>2</sup>	12					ASTM D 882
		*TD		22					
		MD		17,064					
		TD		psi	31,284				
	Elongation at Break	MD	%	180					ASTM D 882
		TD		50					
	Modulus of Elasticity	MD	N/mm <sup>2</sup>	2,000					ASTM D 882
		TD		3,700					
		MD	psi	290,074					
		TD		536,636					
THERMAL	Thermal Shrinkage	MD	%	< 4.0					ABIM (120° C (248°F), 5 min, air)
		TD		< 2.0					

**DESCRIPTION:**

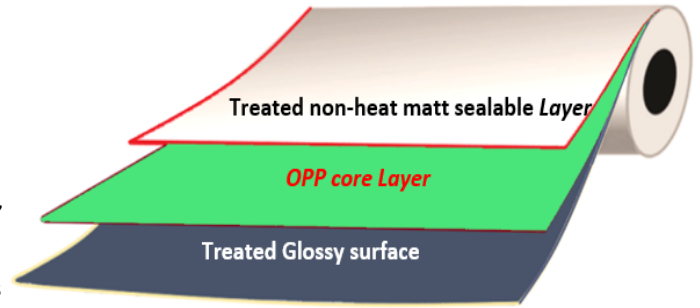
a film having one side heat sealable Matte surface, other side reflective glossy surface, both sides treated.

**PRODUCT FEATURES:**

- Excellent matte appearance
- Both sides treated
- Excellent bond strengths with inks And adhesives coatings
- Good mechanical properties

**APPLICATIONS:**

- Printing, Lamination to paper boards, book covers, etc.
- HFFS & VFFS packaging
- Base film for pressure sensitive tapes



PROPERTIES		UNIT	TYPICAL VALUES					TEST METHOD.	
PHYSICAL	Thickness	Microns	15	18	20	25	30	ASTM D 374	
		Gauge	60	72	80	100	120		
	Grammage	g/m <sup>2</sup>	12.92	15.45	17.20	21.50	25.80	*ABIM	
		lbs/ream	7.93	9.47	10.55	13.19	15.83		
	Yield	m <sup>2</sup> /kg	77.4	64.82	58.23	46.61	38.82		
		in <sup>2</sup> /lb	54.48	45,662	40,980	32,805	27,323		
Coefficient of Friction (Film/Film)			0.40					ASTM D 1894	
Surface Tension (Treated Side)		dynes/cm	38					ASTM D 2578	
OPTICAL	Gloss (45°) GS / MS		50 / 10					ASTM D 2457	
MECHANICAL	Tensile Strength at Break	*MD	kg/mm <sup>2</sup>	12					ASTM D 882
		*TD		22					
		MD	psi	17,064					
		TD		31,284					
	Elongation at Break	MD	%	180					ASTM D 882
		TD		50					
	Modulus of Elasticity	MD	kg/mm <sup>2</sup>	200					ASTM D 882
		TD		375					
MD		psi	284,400						
TD			583,250						
THERMAL	Thermal Shrinkage	MD	%	< 4.0					ABIM (120°C (248°F), 5 min, air)
		TD		< 2.0					

## Technical Data Sheet

**DESCRIPTION:**

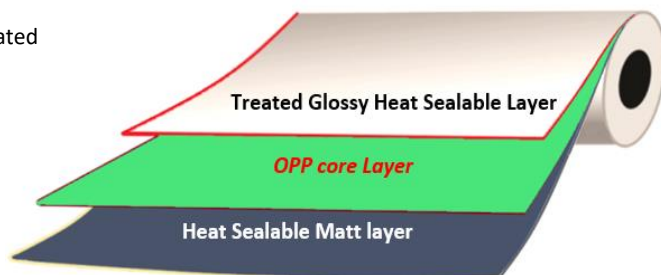
a BOPP film one side matt one side glossy both side heat sealable, treated

**PRODUCT FEATURES:**

One side matt surface, other side glossy  
Both sides heat sealable  
Glossy side treated for printing / lamination  
Good antistatic property

**APPLICATIONS:**

Paper look lamination  
Rotogravure and flexographic reverse printing  
HFFS and VFFS package



PROPERTIES		UNIT	TYPICAL VALUES					TEST METHOD.	
PHYSICAL	Thickness	Microns	15	18	20	25	30	ASTM D 374	
		Gauge	60	72	80	100	120		
	Grammage	g/m <sup>2</sup>	12.92	15.45	17.20	21.50	25.80	*ABIM	
		lbs./ream	7.93	9.47	10.55	13.19	15.83		
	Yield	m <sup>2</sup> /kg	77.4	64.82	58.23	46.61	38.82		
		in <sup>2</sup> /lb.	54.48	45,662	40,980	32,805	27,323		
Coefficient of Friction (Film/Film)			0.40					ASTM D 1894	
Surface Tension (Treated Side)		dynes/cm	38					ASTM D 2578	
OPTICAL	Haze		%					75	ASTM D 1003
	Gloss (45°) GS / MS							50 / 10	ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	kg/mm <sup>2</sup>					12	ASTM D 882
		*TD						22	
		MD	psi					17,064	
		TD						31,284	
	Elongation at Break	MD	%					180	ASTM D 882
		TD						50	
Modulus of Elasticity	MD	kg/mm <sup>2</sup>					200	ASTM D 882	
	TD						375		
	MD	psi					284,400		
	TD						583,250		
THERMAL	Thermal Shrinkage	MD	%					< 4.0	ABIM (120° C (248°F), 5 min, air)
		TD						< 2.0	
	Heat Seal Range		°C (°F)	125- 140 (257- 284)					ABIM
Heat Seal Strength (Film/Film)		g/15mm	280					ABIM (130°C, 1bar, 1sec)	
		lb./0.59in	0.617					ABIM (266°F, 14.5psi, 1 sec)	
Barrier	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	10	9	7			ASTM F 1249 (38°C / 90% RH)	
		g/100in <sup>2</sup> /24h	0.65	0.58	0.45				
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	2800	2450	2200			ASTM D 3985 (23°C / 0% RH)	
		cc/in <sup>2</sup> /24h	180	158	142				

**DESCRIPTION:**

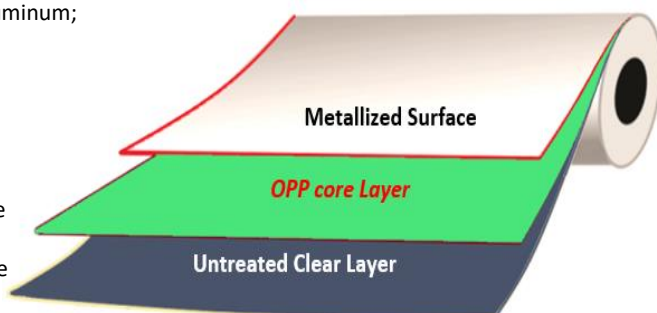
a heat sealable film, one side treated and metallized with high purity aluminum; other side untreated, High bond strength and surface energy, barrier film.

**PRODUCT FEATURES:**

High light barrier property, High dyne level retention & delay dyne level decay.  
 Excellent metal adhesion & metal Bond strength.  
 Good optical density  
 Outstanding barrier to moisture, gas & odors.  
 Excellent light barrier enhances shelf life  
 High bond strength on any substrate,

**APPLICATIONS:**

Particularly indicated where light, moisture or gas barrier properties are required  
 Typically laminated on metallized side with other film



PROPERTIES		UNIT	TYPICAL VALUES							TEST METHOD.	
PHYSICAL	Thickness	Microns	15	17.5	18	20	25	30	35	ASTM D 374	
		Gauge	60	70	72	80	100	120	140		
	Grammage	g/m <sup>2</sup>	13.65	15.92	16.38	18.20	22.75	27.30	31.85	*ABIM	
		lbs./ream	8.4	9.78	10.1	11.2	14.0	16.8	19.57		
	Yield	m <sup>2</sup> /kg	73.26	62.80	61.05	54.95	43.96	36.63	31.30		
		in <sup>2</sup> /lb.	51,600	44,150	43,000	38,700	31,000	25,800	22,000		
	Coefficient of Friction (Film/Film)		0.35							ASTM D 1894	
	Surface Tension (Treated Side)	dynes/cm	38							ASTM D 2578	
OPTICAL	Optical Density	%	2.5							ABIM	
MECHANICAL	Metal Adhesion	N/15mm	>3.5							ABIM	
	Tensile Strength at Break	*MD	15							ASTM D 882	
		*TD	27								
		MD	psi	21,330							
		TD		38,394							
	Elongation at Break	MD	%	170							
		TD		50							
	Modulus of Elasticity	*MD	kg/mm <sup>2</sup>	185							
		*TD		350							
		MD		psi	275,800						
TD		511,900									
THERMAL	Thermal Shrinkage	MD	< 4.0							ABIM (120°C (248°F), 5 min, air)	
		TD	< 2.0								
	Heat Seal Range	°C (°F)	105 – 140 (221 – 284)							ABIM	
	Heat Seal Strength (Film/Film)	g/15mm	275							ABIM (130°C, 1bar, 1sec)	
lb./0.59in		0.60							ABIM (266°F, 14.5psi, 1 sec)		
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	0.20							ASTM F 1249 (38°C / 90% RH)	
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	25							ASTM D 3985 (23°C / 0% RH)	

**DESCRIPTION:**

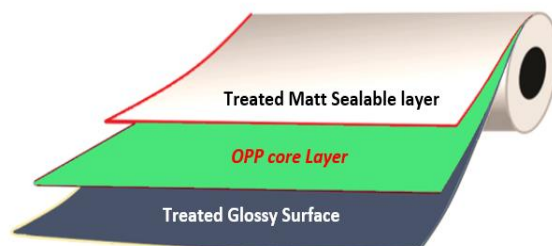
a Bopp film having one side Matte finish surface, other side glossy specially develop for Extrusion coating with both sides treated, Also one side treated available on demand.

**PRODUCT FEATURES:**

Excellent matte appearance  
 No Bright spot  
 Excellent extrusion lamination bonds  
 Special Design for thermal coating

**APPLICATIONS:**

Outer-Web of packaging laminations  
 film/film, film/paper/ Thermal  
 Lamination/ EVA Extrusion coating.



PROPERTIES		UNIT	TYPICAL VALUES					TEST METHOD.	
PHYSICAL	Thickness	Microns	13	15	20	25	30	ASTM D 374	
		Gauge	52	60	80	100	120		
	Grammage	g/m <sup>2</sup>	11.19	12.92	17.20	21.50	25.80	*ABIM	
		lbs/ream	6.87	7.93	10.55	13.19	15.83		
	Yield	m <sup>2</sup> /kg	89.37	77.4	58.23	46.61	38.82		
		in <sup>2</sup> /lb	62,833	54,417	40,980	32,805	27,323		
Coefficient of Friction (Film/Film)			0.45					ASTM D 1894	
Surface Tension		dynes/cm	38					ASTM D 2578	
OPTICAL	Haze		%					77	ASTM D 1003
	Gloss (45°) GS / MS							51 / 8	ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	kg/mm <sup>2</sup>	12					ASTM D 882
		*TD		22					
		MD		17,064					
		TD		31,284					
	Elongation at Break	MD	%	180					ASTM D 882
		TD		50					
	Modulus of Elasticity	MD	kg/mm <sup>2</sup>	200					ASTM D 882
		TD		375					
MD		psi	284,400						
TD			583,250						
THERMAL	Thermal Shrinkage	MD	%	< 5.0					ABIM (120° C (248°F), 5 min, air)
		TD		< 2.0					

**DESCRIPTION:**

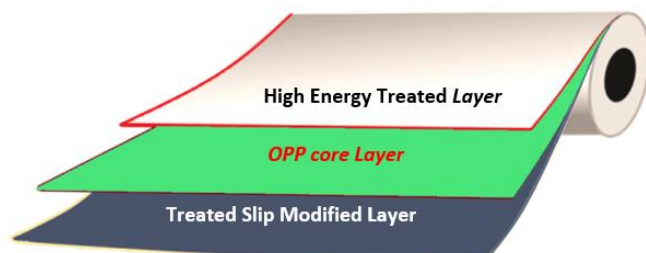
a transparent non heat sealable film, treated both side. One side treated available on demand.

**PRODUCT FEATURES:**

Superior transparency and high gloss  
Both side treated  
Stable slip  
Excellent extrusion lamination bonds

**APPLICATIONS:**

Outer-Web of packaging laminations  
film/film, film/paper/ Board



PROPERTIES		UNIT	TYPICAL VALUES		TEST METHOD.
PHYSICAL	Thickness	Microns	12	15	ASTM D 374
		Gauge	48	60	
	Grammage	g/m <sup>2</sup>	10.92	13.65	*ABIM
		lbs./ream	6.8	8.4	
	Yield	m <sup>2</sup> /kg	91.57	73.26	
		in <sup>2</sup> /lb.	64,515	51,600	
	Coefficient of Friction		0.30		ASTM D 1894
Surface Tension (High energy Side)	dynes/cm	40		ASTM D 2578	
Surface Tension (Corona treatment Side)		38		ASTM D 2578	
OPTICAL	Haze	%	1.4		ASTM D 1003
	Gloss (45°)		92		ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	15		ASTM D 882
		TD	28		
		MD	21,330		
		TD	39,816		
	Elongation at Break	MD	155		ASTM D 882
		TD	50		
THERMAL	Thermal Shrinkage	MD	< 4.0		*ABIM (120°C (248°F), 5 min, air)
		TD	< 2.0		
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	9.2	7.7	ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	0.60	0.55	



**DESCRIPTION:**

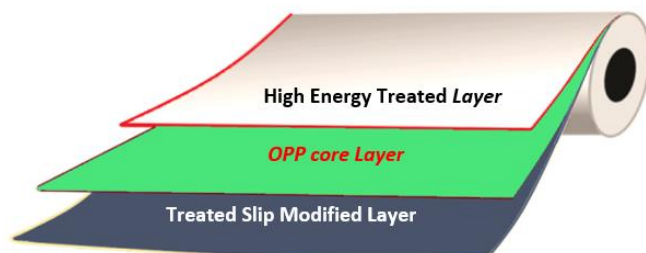
a transparent non heat sealable film, treated both side.

**PRODUCT FEATURES:**

Superior transparency and high gloss  
Both side treated  
Stable slip  
Excellent extrusion lamination bonds

**APPLICATIONS:**

Outer-Web of packaging laminations  
film/film, film/paper/ Board



PROPERTIES		UNIT	TYPICAL VALUES									TEST METHOD.
PHYSICAL	Thickness	Microns	12	15	17	18	19	20	25	30	50	ASTM D 374
		Gauge	48	60	68	72	76	80	100	120	200	
	Grammage	g/m <sup>2</sup>	10.92	13.65	15.47	16.38	17.29	18.2	22.75	27.3	45.5	*ABIM
		lbs./ream	6.8	8.4	9.52	10.10	10.66	11.2	14.0	16.8	27.97	
	Yield	m <sup>2</sup> /kg	91.57	73.26	64.64	61.05	57.84	54.95	43.96	36.63	21.97	ASTM D 1894
		in <sup>2</sup> /lb.	64,515	51,600	45,544	43,000	40,740	38,700	31,000	25,800	15,479	
	Coefficient of Friction			0.25								
Surface Tension (High energy Side)		dynes/cm	40									ASTM D 2578
Surface Tension (Corona treatment Side)			38									ASTM D 2578
OPTICAL	Haze	%	2.0									ASTM D 1003
	Gloss (45°)		90									ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	15									ASTM D 882
		*TD	28									
		MD	21,330									
		TD	39,816									
	Elongation at Break	MD	155									ASTM D 882
		TD	50									
THERMAL	Thermal Shrinkage	MD	< 4.0									*ABIM (120°C (248°F), 5 min, air)
		TD	< 2.0									
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	9.2	7.7	7.1	7.3	6.8	6.2	4.8	3.3	2.0	ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	0.60	0.55	0.51	0.48	0.45	0.39	0.31	0.21	0.13	

**DESCRIPTION:**

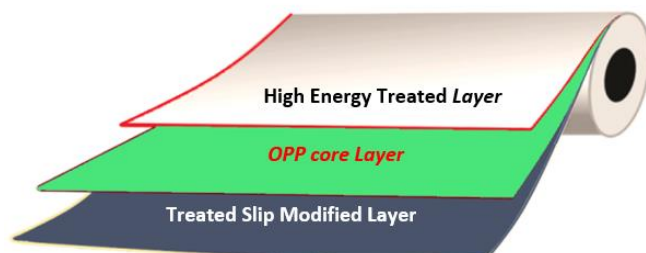
a transparent non heat sealable film, treated both side.

**PRODUCT FEATURES:**

- Superior transparency and high gloss
- Both side treated
- Excellent hot slip characteristics
- Stable slip
- Excellent extrusion lamination bonds

**APPLICATIONS:**

Outer-Web of packaging laminations  
film/film, film/paper



PROPERTIES		UNIT	TYPICAL VALUES									TEST METHOD.
PHYSICAL	Thickness	Microns	12	15	17	18	19	20	25	30	50	ASTM D 374
		Gauge	48	60	68	72	76	80	100	120	200	
	Grammage	g/m <sup>2</sup>	11.0	13.65	15.47	16.38	17.29	18.2	22.75	27.3	45.5	*ABIM
		lbs./ream	6.8	8.4	9.52	10.10	10.66	11.2	14.0	16.8	27.97	
	Yield	m <sup>2</sup> /kg	90.90	73.26	64.64	61.05	57.84	54.95	43.96	36.63	21.97	*ABIM
		in <sup>2</sup> /lb.	64,515	51,600	45,544	43,000	40,740	38,700	31,000	25,800	15,479	
	Coefficient of Friction (Corona treatment Side)		< 0.4									ASTM D 1894
Surface Tension (higher corona treatment Side)	dynes/cm	40									ASTM D 2578	
Surface Tension (Corona treatment Side)		38									ASTM D 2578	
OPTICAL	Haze	%	2.0									ASTM D 1003
	Gloss (45°)		90									ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	15									ASTM D 882
		*TD	28									
		MD	21,330									
		TD	39,816									
	Elongation at Break	MD	155									ASTM D 882
		TD	50									
THERMAL	Thermal Shrinkage	MD	< 4.0									*ABIM (120°C (248°F), 5 min, air)
		TD	< 2.0									
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	9.2	7.7	7.1	7.3	6.8	6.2	4.8	3.3	2.0	ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	0.60	0.55	0.51	0.48	0.45	0.39	0.31	0.21	0.13	

**DESCRIPTION:**

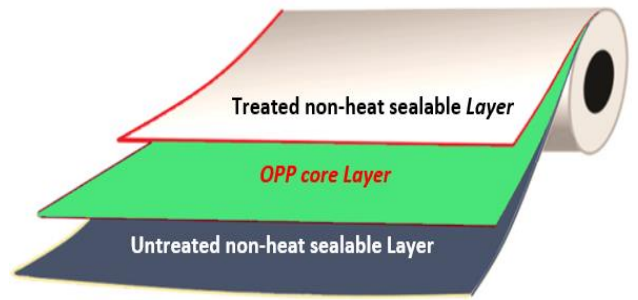
a non-heat sealable film with excellent optical and mechanical properties, one side treated to suit printing and lamination application.

**PRODUCT FEATURES:**

- Superior transparency and high gloss
- Good machinability
- Good dimensional stability
- Treated side provide excellent adhesive And ink adhesion.

**APPLICATIONS:**

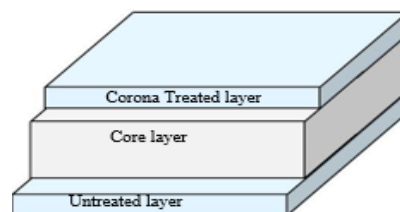
- Printing & lamination with a wide range of substrates
- Base web for adhesives, PVDC and cold seal coatings
- Decorative gift wrap & flower wrapping.



PROPERTIES		UNIT	TYPICAL VALUES								TEST METHOD.
PHYSICAL	Thickness	Microns	15	18	20	25	30	35	40	50	ASTM D 374
		Gauge	60	72	80	100	120	140	160	200	
	Grammage	g/m <sup>2</sup>	13.65	16.38	18.20	22.75	27.30	31.85	36.40	45.5	*ABIM
		lbs./ream	8.4	10.1	11.2	14.0	16.8	19.6	22.4	28.00	
	Yield	m <sup>2</sup> /kg	73.26	61.05	54.95	43.96	36.63	31.40	27.50	22.00	
		in <sup>2</sup> /lb.	51,600	43,000	38,700	31,000	25,800	22,100	19,400	15,468	
	Coefficient of Friction (Film/Film)		0.40								ASTM D 1894
	Surface Tension (Treated Side)	dynes/cm	38								ASTM D 2578
OPTICAL	Haze	%	1.5								ASTM D 1003
	Gloss (45°)		95								ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	15								ASTM D 882
		*TD	28								
		MD	21,330								
		TD	psi	39,816							
Elongation at Break	MD		155								ASTM D 882
	TD	%	50								
THERMAL	Thermal Shrinkage	MD	< 4.0								ABIM (120oC (248oF), 5 min, air)
		TD	%	< 2.0							
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	7.9	7.5	7.2	6.0	5.0	4.0	3.2	2.4	ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	0.5	0.48	0.46	0.39	0.32	0.26	0.21	0.11	
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	2600	2510	2200	1800	1400	1200	1000	700	ASTM D 3985 (23°C / 0% RH)
		cc/in <sup>2</sup> /24h	162	158	142	116	90	77	64	48	

**DESCRIPTION:**

a Biaxially oriented transparent Polyester film with one side corona treatment. The treated surface has higher surface energy which provides excellent adhesion to printing inks and laminating adhesives. The film with excellent optical and mechanical properties.



**PRODUCT FEATURES:**

Superior transparency and high gloss good machinability Good dimensional stability

**APPLICATIONS:**

Printing, Metallizing & lamination process in flexible packaging applications.

PROPERTIES		UNIT	TYPICAL VALUES								TEST METHOD.
PHYSICAL	Thickness	Microns	8	10	11	12	15	19	23	30	ASTM D 374
		Gauge	32	40	44	48	60	76	92	120	
	Grammage	g/m <sup>2</sup>	11.2	14	15.4	16.8	21	26.6	32.2	42	* ABIM
	Yield	m <sup>2</sup> /kg	89.3	71.4	64.9	59.5	47.6	37.5	31.1	23.81	
	Coefficient of Friction (Film/Film)		0.50								
	Surface Tension (Plain Side)	dynes/cm	44								ASTM D 2578
	Surface Tension (corona side)		52								
OPTICAL	Haze	%	≤4.0								ASTM D 1003
	Transmittance		90								ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	2000								ASTM D 882
		*TD	2100								
		MD	29								
		TD	30								
	Elongation at Break	MD	%	115							
TD		100									
THERMAL	Thermal Shrinkage	MD	2.4								ABIM (150°C, 30 min)
		TD	0.4								
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	<60	<50	<40	<40	<<40	<35	<<30	25	ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	<3.8	<3.2	<2.5	<2.5	<2.5	<2.2	<1.9	<1.6	
	Oxygen Transmission Rate (O.T.R.)	cc/m <sup>2</sup> /24h	<140	<135	<130	<130	<130	<110	<90	<70	ASTM D 3985 (23°C / 0% RH)
		cc/in <sup>2</sup> /24h	<8.8	<8.4	<8.1	<8.1	<<8.1	<6.9	<5.6	<4.4	
* ABIM – Akij BOPET Internal Method			*MD – Machine Direction				*TD – Transverse Direction				

**DESCRIPTION:**

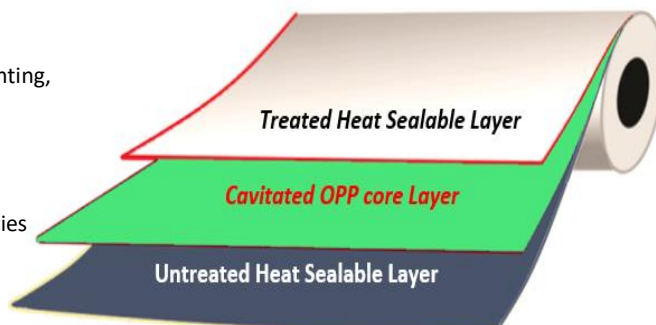
is a white voided film with both sides heat sealable; treated to suit printing, coating and lamination on a wide range of packaging applications.

**PRODUCT FEATURES:**

- High yield due to lower density
- White appearance eliminates use of White ink in multi-color printing
- Good opacity
- Good antistatic properties
- Good dead fold properties

**APPLICATIONS:**

- Printing and lamination, pouch application, packaging confectioneries and overwrap



PROPERTIES		UNIT	TYPICAL VALUES						TEST METHOD.
PHYSICAL	Thickness	Microns	20	25	30	35	40	55	ASTM D 374
		Gauge	80	100	120	140	160	220	
	Grammage	g/m <sup>2</sup>	13.4	16.72	20.10	23.45	26.80	36.85	*ABIM
		lbs./ream	8.24	10.3	12.3	14.4	16.5	22.64	
	Yield	m <sup>2</sup> /kg	74.63	59.70	49.75	42.64	37.31	27.10	
		in <sup>2</sup> /lb.	52,580	42,060	35,010	30,000	26,200	19,093	
	Density	g/cc	0.67						
Coefficient of Friction (Film/Film)		0.40						ASTM D 1894	
Surface Tension (Treated Side)	dynes/cm	38						ASTM D 2578	
OPTICAL	Opacity	%	64	65	66	68	70	77	ASTM D589-97
	Gloss (45°)		80						ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD	8						ASTM D 882
		*TD	16						
		MD	11,376						
		TD	22,752						
Elongation at Break	MD	135						ASTM D 882	
	TD	40							
THERMAL	Thermal Shrinkage	MD	< 4.0						ABIM (120° C (248°F), 5 min, air)
		TD	< 2.0						
	Heat Seal Range	°C (°F)	105 – 140 (221 – 284)						ABIM
Heat Seal Strength (Film/Film)	g/15mm	300						ABIM (130°C, 1bar, 1sec)	
	lb./0.59in	0.66						ABIM (266°F, 14.5psi, 1 sec)	
BARRIER	Water Vapor Permeability (W.V.T.R.)	g/m <sup>2</sup> /24h	6.9 - 7.1			6.3 – 6.6			ASTM F 1249 (38°C / 90% RH)
		g/100in <sup>2</sup> /24h	0.44 – 0.45			0.40 – 0.42			

**DESCRIPTION:**

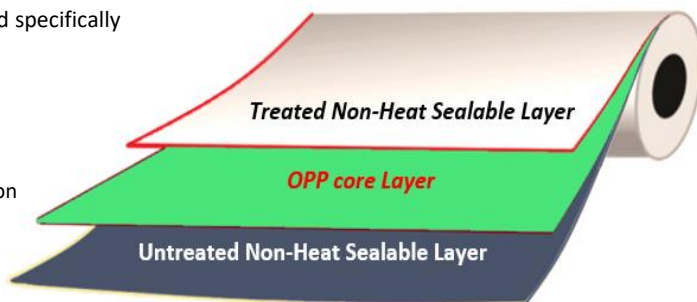
is a non-heat sealable transparent film, one side treated, designed specifically for the production of adhesive tapes.

**PRODUCT FEATURES:**

- High tensile strength
- Lower longitudinal elongation
- Good puncture resistance
- One side treated for water and acrylic Based adhesive coatings and hot melt Applications

**APPLICATIONS:**

- primarily as base web for pressure sensitive adhesive tapes production
- Gift wraps and flower wrapping applications



PROPERTIES		UNIT	TYPICAL VALUES									TEST METHOD.	
PHYSICAL	Thickness	Microns	16	21	23	25	28	30	35	40	50	ASTM D 374	
		Gauge	64	84	92	100	112	120	140	160	200		
	Grammage	g/m <sup>2</sup>	14.56	19.11	20.93	22.75	25.48	27.30	31.85	36.40	45.5	*ABIM	
		lbs./ream	9.0	11.8	12.9	14.0	15.7	16.8	19.6	22.4	28.00		
	Yield	m <sup>2</sup> /kg	68.68	52.32	47.78	43.96	39.25	36.63	31.40	27.50	22.00		
		in <sup>2</sup> /lb.	48,390	36,200	33,600	31,000	27,600	25,800	22,100	19,400	15,468		
Coefficient of Friction (Film/Film)			0.45									ASTM D 1894	
Surface Tension (Treated Side)		dynes/cm	38									ASTM D 2578	
OPTICAL	Haze		%									1.5	ASTM D 1003
	Gloss (45°)											95	ASTM D 2457
MECHANICAL	Tensile Strength at Break	*MD										16	ASTM D 882
		*TD										28	
		MD										22,752	
		TD										39,816	
	Elongation at Break	MD										150	ASTM D 882
		TD										50	
	Modulus of Elasticity	MD										220	ASTM D 882
		TD										370	
MD											312,840		
TD											526,140		
THERMAL	Thermal Shrinkage	MD										< 4.0	ABIM (120° C (248°F), 5 min, air)
		TD										< 2.0	

FOOD PACKAGING				
Category	Film	Film Description	Thickness (µm)	
	Type		Standard	Restricted
Transparent	THo	Transparent Both Side Heat Sealable, One Side Corona Treated BOPP Film	15, 18, 20, 25, 30, 40	
	TNo	Transparent Non Heat Sealable, One Side Corona Treated BOPP Film	15, 18, 20, 25, 30, 40	
	THoW	Transparent Both Side Heat Sealable, One Side Mild Corona Treated BOPP Film for Overwrapping	18, 20, 25, 30	
	TNb-PL	Transparent Thin Non Heat Sealable, Both Side Corona Treated BOPP Film	10	
	TNn	Transparent Non Heat Sealable, One Side Mild Corona Treated BOPP Film	25, 30	
Matt	Matt-WL	Matt Both Side Heat Sealable, one side Corona Treated BOPP Film	15, 18, 20	
	Matt-PL	Matt One Side Heat Sealable, Both Side Corona Treated BOPP Film	12, 15	
White Voided	PRL	Pearlized Cavitated Both Side Heat Sealable, One Side Corona Treated BOPP Film	25, 30	
	PRL-LD	Pearlized Cavitated Both Side Heat Sealable, One Side Corona Treated, Low Density BOPP Film	25, 30	

FOOD PACKAGING				
Category	Film	Film Description	Thickness (µm)	
	Type		Standard	Restricted
Solid White	WSo	Solid White Both Side Heat Sealable, One Side Corona Treated BOPP Film	20, 40	
Metallized	MZ	Standard Barrier, Metallized One Side, Other Side Heat Sealable BOPP Film	15, 18, 20, 25, 30, 40	
	MZ-111	Standard Barrier, Metallized One Side, Other Side Improved SIT, Heat Sealable BOPP Film	15, 18	
	MZ-HB	Medium Barrier, Metallized One Side, Other Side Heat Sealable BOPP Film	15, 18	
	MZ-UHB	High Barrier, Metallized One Side, Other Side Heat Sealable BOPP Film	15, 18	

CPP				
Category	Film	Film Description	Thickness (µm)	
	Type		Standard	Restricted
Transparent	CTHo	Transparent Both Side Heat Sealable, One Side Corona Treated CPP Film	20, 25, 30, 40	
Metallized	CMZ	Metallized One Side, Other Side Heat Sealable CPP Film	15, 18, 20, 25, 30, 40, 50	
	CMZ-HB	High barrier Metallized One Side, Other Side Heat Sealable CPP Film	20, 25	
	CMZ-WS	White Metallized One Side, Other Side Heat Sealable CPP Film	40	
Solid White	CWSo	Solid White Both Side Heat Sealable, One Side Corona Treated CPP Film	20, 25	

LABELS					
Category	Label Application	Film	Film Description	Thickness (µ)	
		Type		Standard	Restricted
Transparent	WAL	THoL	Transparent Label One Side Corona Treated BOPP Film	40	
		TNoL	Transparent Label High Gloss One Side Corona Treated BOPP Film	40	
White Voided	WAL	PWL	White Cavitated Label, One Side Corona Treated BOPP Film	38	
Solid White					
Metallized					

INDUSTRIAL				
Category	Film Type	Film Description	Thickness (µ)	
			Standard	Restricted
Transparent	CG44H	Cigarette Inner Wrap, Both Side Sealable Non-Treated BOPP Film	20	
	THo-SG	Transparent Both Side Heat Sealable, One Side Corona Treated BOPP Film for Soap Grade	20, 40	
	TNoT	Transparent Non Heat Sealable, One Side Corona Treated BOPP Film for Tape Grade	23, 25	
Transparent	PRL-SG	Pearlized Cavitated Both Side Heat Sealable, One Side Corona Treated BOPP Film for Soap Wrap	25	

DEVELOPMENTAL				
Category	Application	Film Type	Film Description	Thickness (µ)
Transparent	Cigarette Over Wrap	CG99N	Cigarette Naked Wrap, Both Side Sealable Non-Treated BOPP Film	23
White Voided				
Metallized				