DESCRIPTION:

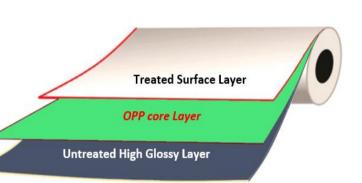
ABX-LW1000 is a transparent BOPP film with excellent optical and mechanical properties. Developed ideally as wrap around labels in bottling line applications.

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			TY	PICAL VALUI	ES			TEST METHOD.
	Thisluses		Microns	30	33	35	37	38	40	50	ACTNA D 274
	Thickness		Gauge	120	132	140	148	152	160	200	ASTM D 374
	6		g/m²	27.30	30.03	31.90	33.70	34.60	36.40	45.5	M 10
DUNCICAL	Grammage		lbs/ream	16.8	18.5	19.6	20.7	21.2	22.4	27.96	*ABIM
PHYSICAL	Yield		m²/kg	36.63	33.30	31.40	29.70	28.92	27.48	22.00	ADIIVI
	Yield		in²/lb	25,800	23,500	22,100	21,000	20,400	19,400	14,666	
	Coefficient of Friction						0.35	730			ASTM D 1894
	Surface Tension (Treat	ed Side)	dynes/cm				38	107			ASTM D 2578
OPTICAL	Haze		%				1.5				ASTM D 1003
OPTICAL	Gloss (45°)						90		400 1		ASTM D 2457
	*M		kg/mm²				16				
	Tensile Strength at Break	*TD	Kg/IIIIII-				28				ASTM D 882
		MD	noi.				22,752				ASTMI D 882
		TD	psi			39,816					
MECHANICAL	Flangation at Brook	MD	%				190				ASTM D 882
VIECHANICAL	Elongation at Break	TD	70			50					
		MD	l /				210				
	Modulus of Elasticity	TD	kg/mm²			ACTNA D 002					
	iviodulus of Elasticity	MD					298,620				ASTM D 882
		TD	psi								
THERMAN	Thormal Christer	MD	0/				< 4.0				ABIM
THERMAL	Thermal Shrinkage	TD	%				< 2.0				(120°C (248°F), 5 min, air)

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

OPP core Layer

Untreated High Glossy Layer

	PROPERTIES		UNIT			ТҮ	PICAL VALUI	ES			TEST METHOD.
	Th'alasa		Microns	30	33	35	37	38	40	50	ACTNA D 274
	Thickness		Gauge	120	132	140	148	152	160	200	ASTM D 374
			g/m²	27.30	30.03	31.90	33.70	34.60	36.40	45.5	M
BUNGLOAL	Grammage		lbs/ream	16.8	18.5	19.6	20.7	21.2	22.4	27.96	
PHYSICAL	Ve 11		m²/kg	36.63	33.30	31.40	29.70	28.92	27.48	22.00	*ABIM
	Yield		in²/lb	25,800	23,500	22,100	21,000	20,400	19,400	14,666	
	Coefficient of Friction						0.35				ASTM D 1894
	Surface Tension (Treat	ed Side)	dynes/cm				38	107			ASTM D 2578
OPTICAL	Haze		%				1.6				ASTM D 1003
OPTICAL	Gloss (45°)						90		400 1		ASTM D 2457
	Tensile Strength at Break MC	*MD	1-12				16				
		*TD	kg/mm ²				28				ACTAA D 002
		MD					22,752				ASTM D 882
		TD	psi								
MAECHANICAL	Slavasi'a at Basal	MD	0/								
MECHANICAL	Elongation at Break	TD	%		ASTM D 882						
		MD	1 - 1 2								
	Nandalan of Floridita	TD	kg/mm²				380				ASTM D 882
	Modulus of Elasticity	MD					298,620				
		TD	psi				540,360				
THEDNAM	The arrest Charles a	MD	0/				< 4.0				ABIM
THERMAL	Thermal Shrinkage	TD	%				< 2.0				(120°C (248°F), 5 min, air)

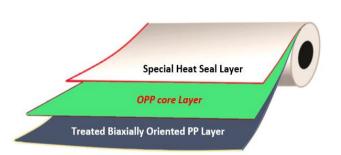
ABX- 1003TLis a transparent one side heat sealable film, treated one side.

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 VA	LUES				TEST METHOD.
	Thisleron		Microns	12	15	17	18	19	20	25	30	50	ACTM D 274
	Thickness		Gauge	48	60	68	72	76	80	100	120	200	ASTM D 374
	Crammaga		g/m²	11.0	13.65	15.47	16.38	17.29	18.2	22.75	27.3	45.5	
	Grammage		lbs./ream	6.8	8.4	9.52	10.10	10.66	11.2	14.0	16.8	27.97	*ABIM
PHYSICAL	Yield		m²/kg	90.90	73.26	64.64	61.05	57.84	54.95	43.96	36.63	21.97	ABIIVI
	i iciu		in²/lb.	64,515	51,600	45,544	43,000	0 40,740	38,700	31,000	25,800	15,479	
	Coefficient of Friction (Coefficient Side)	Corona	E.	1				< 0.3	M				ASTM D 1894
	Surface Tension		dynes/cm					40					ASTM D 2578
	Haze		%					2.0					ASTM D 1003
OPTICAL	Gloss (45°)							88					ASTM D 2457
		*MD	l. m /ma ma 2					15					
	Tensile Strength at	'TD	kg/mm ²	26									ASTM D 882
MECHANICAL	Break	MD	201					21,330					ASTIVI D 002
MECHANICAL		TD	psi -					39,816					- 10
	Elongation at Break	MD	%					155					ASTM D 882
	Elongation at break	TD	70					50					ASTIVI D 602
THERMAL	Thermal Shrinkage	MD	%	< 5.0							*ABIM		
II ILNIVIAL	memai Sililikaye	TD	/0					< 2.0					(120°C (248°F), 5 min, air)
2.00:50	Water Vapor Permea	ability	g/m²/24h	9.2	7.7	7.1	7.3	6.8	6.2	4.8	3.3	2.0	ASTM F 1249
BARRIER	(W.V.T.R.)		g/100in²/24h	0.60	0.55	0.51	0.48	0.45	0.39	0.31	0.21	0.13	(38°C / 90% RH)

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. Treated layer with antifog

OPP core Layer

Treated layer for printing

	PROPERTIES		UNIT	UNIT TYPICAL VALUES					
	Thickness		Microns	20	25	30	35	ACTM D 274	
The same of	Thickness		Gauge	80	100	120	140	ASTM D 374	
PHYSICAL	C		g/m²	18.20	22.75	27.30	31.85	7 7	
PHYSICAL	Grammage		lbs/ream	11.2	14.0	16.8	19.6	ABIM	
	Yield		m²/kg	54.95	43.96	36.63	31.40	Abilvi	
Interior	Heid		in²/lb	38,700	31,000	25,800	22,100		
	Coefficient of Friction (Film	n/Film)			0.	35		ASTM D 1894	
	Surface Tension (Treated Side)		dynes/cm		3	88		ASTM D 2578	
OPTICAL	Haze		%		2	.5		ASTM D 1003	
OPTICAL	Gloss (45°)				8	5		ASTM D 2457	
	MD		kg/mm²		1	5	-34		
	Tensile Strength at Break	TD		28				ASTM D 882	
		MD	n a i						
MECHANICAL		TD	psi		39	816			
	Elongation at Break	MD	MD	%		1	70		
		TD	70		5	50		ASTM D 882	
	The area of Oberinder and	MD	0/		ABIM				
5	Thermal Shrinkage	TD	%		<	2.0		(120°C (248°F), 5 min, air)	
	Heat Seal Range		°C (°F)		120 – 140	(248 – 284)		ABIM	
THERMAL	Used Osel Observable		g/15mm		2	75		ABIM (130°C, 1bar, 1sec)	
	Heat Seal Strength (Film/	Film)	lb/0.59in		0.	60		ABIM (266°F, 14.5psi, 1 sec	
	Water Vapor Permeabi	lity	g/m²/24h	7.1	6.2	5.3	4.4	ASTM F 1249	
DADDIED	(W.V.T.R.)	,	g/100in²/24h	0.46	0.40	0.34	0.28	(38°C / 90% RH)	
BARRIER	Oxygen Transmission R	ate	cc/m²/24h/atm	2500	2000	1600	1400	ASTM D 3985	
	(O.T.R.)		cc/in²/24h/atm	160	130	100	90	(23°C / 0% RH)	

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.). Treated layer

Intermediate layer

Core layer

Intermediate layer

Untreated Layer

PROPERTIES	UNIT			TYPICAL VALU	ES		TEST METHOD.
Thirtenan	Microns	20	25	30	35	40	467145 074
Inickness	Gauge	80	100	120	140	160	ASTM D 374
Grammage	g/m²	18.2	22.75	27.3	31.85	36.4	- * ABIM
Yield	m²/kg	54.95	43.96	36.63	31.30	27.47	ADIIVI
Coefficient of Friction (Film/Film)	-	0.35					ASTM D 1894
Surface Tension (Treated Side)	dynes/cm	38					ASTM D 2578
Haze	0/,	3.5-4.0					ASTM D 1003
Gloss(45°)	70			82-80		- 10	ASTM D 2457
Tensile Strength at	kg/mm²		ASTM D 882				
				>2.0			
			ASTM D 882				
Elongation at Break TI				>500			
Heat seal Strength	g/15mm			>1000			ABIM
Thermal Shrinkage ———	%			1			ABIM - (120°C (248°F), 5 min, air)
Water Vapor Permeability (w.v.t.r)	g/m²/24h			9			ASTM F 1249 (38°C / 90% RH)
Oxygen Transmission Rate (O.T.R.)	cc/m²/24h		ASTM D 3985 (23°C / 0% RH)				
	Thickness Grammage Yield Coefficient of Friction (Film/Film) Surface Tension (Treated Side) Haze Gloss(45°) *ME Tensile Strength at Break *TE Elongation at Break TE Heat seal Strength Thermal Shrinkage Water Vapor Permeability (W.V.T.R.) Oxygen Transmission Rate	Thickness Gauge Grammage g/m² Yield Coefficient of Friction (Film/Film) Surface Tension (Treated Side) Haze Gloss(45°) *MD Tensile Strength at Break *TD Elongation at Break TD Heat seal Strength Thermal Shrinkage MD Thermal Shrinkage MD To Water Vapor Permeability (W.V.T.R.) Microns Gauge g/m² My Mp s/kg *MD Mp TD MD MD TD Water Vapor Permeability (W.V.T.R.) Oxygen Transmission Rate	Microns 20	Microns 20 25 Gauge 80 100 Grammage g/m² 18.2 22.75 Yield m²/kg 54.95 43.96 Coefficient of Friction (Film/Film) Surface Tension (Treated Side) dynes/cm Haze % Gloss(45°) *MD Tensile Strength at Break *TD % Elongation at Break *TD % Heat seal Strength g/15mm Thermal Shrinkage MD % TD Water Vapor Permeability g/m²/24h Oxygen Transmission Rate cc/m²/24h	Thickness Microns 20 25 30	Thickness Microns 20 25 30 35	Thickness Microns 20 25 30 35 40

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 additivities 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.



Untreated Heat Sealable Layer

-	PROPERTIES	UNIT	TYPICAL VALUES	TEST METHOD.
		Microns	20	
	Thickness	Gauge	80	ASTM D 374
		g/m ²	18.2	a designation
	Grammage	lbs./ream	11.2	
PHYSICAL	Yield	m²/kg	54.95	*ABIM
	7	in²/lb.	38.70	
	Coefficient of Friction (Film/Film)		0.25	ASTM D 1894
	Surface Tension (Both Side)	dynes/cm	Untreated	ASTM D 2578
	Haze	%	2	ASTM D 1003
OPTICAL	Gloss (45°)		85	ASTM D 2457
	*MD	£1	15	/ /
	Tensile Strength at *TD	kg/mm²	30	4 OT14 D 000
	Break MD		21,330	ASTM D 882
	TD	psi	39,816	
IECHANICAL	Elongation at MD	0/	180	40TM P 000
	Break TD	%	45	ASTM D 882
	MD		220	
	Modulus of TD	kg/mm²	360	AOTA P. OOG
	Elasticity		275,868	ASTM D 882
	TD	psi	511,920	
	MD		10	ABIM
	The smeal Chainles as	%	7	(120°C
	Thermal Shrinkage _{TD}			(248°F), 5 min, air)
	Heat Seal Range	°C (°F)	105 – 140 (221 – 284)	ABIM
		, ,	,	ABIM
THERMAL	Heat Seal Strength	g/15mm	280	(130°C, 1bar, 1sec)
	(Film/Film)	lb./0.59in	0.60	ABIM (266oF, 14.5ps 1 sec)
	Water Vapor	g/m²/24h	7.0	ASTM F 1249
	Permeability	g/100in²/24h	0.45	(38°C / 90% RH)
BARRIER	(W.V.T.R.) Oxygen Transmission	cc/m ² /24h	2140	ASTM D 3985
	Rate	cc/in²/24h	140	(23°C / 0% RH)
	(O.T.R.)			

TRANSPARENT BOPP FILM DESCRIPTION:

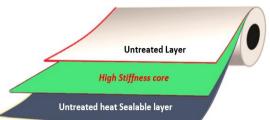
is a Transparent, heat shrinkable film with one special layer for over or naked wrap application.

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/m²	20.93	22.75	ABIM	
	Coefficient of Friction (Film/Film)		0.25	0.25	ASTM D 1894	
	Surface Tension (Both Side)	dynes/cm	Untreated	Untreated	ASTM D 2578	
OPTICAL -	Haze	%	2.0-2.5	2.0-2.5	ASTM D 1003	
	Gloss (45°)		85-88	85-88	ASTM D 2457	
		1D	15-17	15-19	-	
		kg/mm²	27-30	27-31	ACTNA D 000	
	Tensile Strength at Break —— N	ID nei	21,335-24179	21335-27024	ASTM D 882	
	172	psi D	38403-42670	38403-44092		
	Elongation at Break —	ID %	150-180	150-190	ASTM D 882	
MECHANICAL	TD TD	D	45-55	45-60	ASTIVI D 882	
	MD Modulus of Elasticity	kg/mm²	220	230	/ 48	
		D	360	370	ASTM D 882	
		I D psi	312913.5	327136.8	A31WI D 882	
	-	D	512040.4	526263.7		
	Thermal Shrinkage M	ID %	4	4	ABIM (120°C	
	1	D	4	4	(248°F), 5 min, aii	
THERMAL	Heat Seal Range	°C (°F)	120 – 160 (248 – 320)	120 – 160 (248 – 320)	ABIM	
	Hoat Soal Strongth Inc.	g/15mm	300-350	320-370	ABIM (130°C, 1bar, 1se	
	Heat Seal Strength (Film/Film)	lb./0.59in	0.66-0.77	0.70-0.81	ABIM (266oF, 14.5psi, 1 sec	
	Water Vapor Permeability	g/m²/24h	7.0	6.5	ASTM F 1249	
	(W.V.T.R.)	g/100in²/24h	0.45	0.40	(38°C / 90% RH)	
BARRIER	Oxygen Transmission Rate (O.T.R.)	cc/m²/24h cc/in²/24h	2140 140	2100 130	ASTM D 3985 (23°C / 0% RH)	

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 multicolor 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

Treated layer

Intermediate modified pigmented layer

Pigmented Core layer

Intermediate modified pigmented layer

Un treated Layer

	PROPERTIES	UNIT			TYPICAL VALUES	5		TEST METHOD.
	71.1	Microns	20	25	30	35	40	
	Thickness	Gauge	80	100	120	140	160	ASTM D 374
PHYSICAL	Grammage	g/m²	19.2	24	28.80	33.60	38.4	* ABIM
PHYSICAL	Yield	m²/kg	52.08	41.66	34.72	29.76	26.04	ABIIVI
	Coefficient of Friction (Film/Film)		0.45				ASTM D 1894	
	Surface Tension (Treated Side)	dynes/cm			38	0		ASTM D 2578
OPTICAL	Opacity	0/			60-65		-	ASTM D 1003
	Gloss(45°)	- %			48	-		ASTM D 2457
	*MD Tensile Strength at Break	kg/mm²		ASTM D 882				
MECHANICAL	*TD			>2.0				
	MD Elongation at Break	%			>500			ASTM D 882
	TD	/0						
	Heat seal Strength	g/15mm			>950			ABIM
THERMAL	MD Thermal Shrinkage	%			1			ABIM (120°C (248°F),
THERIVIAL	TD Thermal Shinkage	70			1			5 min, air)
DARRIER	Water Vapor Permeability (W.V.T.R.)	g/m²/24h		ASTM F 1249 (38°C / 90% RH)				
	Oxygen Transmission Rate (O.T.R.)	cc/m ² /24h		ASTM D 3985 (23°C / 0% RH)				
	* ABIM– Akij Biax Int	ernal Method	I	*MD – Machine Direct	ion	*TD – Transvers	e Direction	1

shelf life

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

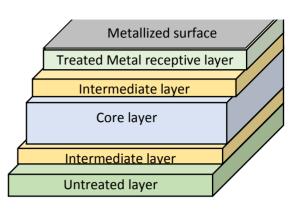
PRODUCT FEATURES:

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

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		TEST METHOD.				
Thiston	Microns	20	25	30	35	40	46714 0 074
Thickness	Gauge	80 100 120 140		160	ASTM D 374		
Grammage	g/m²	18.2	22.75	27.3	31.85	36.4	- * ABIM
Yield	m²/kg	54.95	43.96	36.63	31.30	27.47	Adlivi
Coefficient of Friction (Film/Film)				0.5-0.8	7%		ASTM D 1894
Surface Tension (Treated Side)	dyn <mark>es/cm</mark>			38	M		ASTM D 2578
Optical Density	%			2.0		3	ABIM
*MD Tensile Strength at	kg/mm²	>4.0				ASTM D 882	
*TD				>2.0			
MD Starration of Break	0/	>500				ASTM D 882	
Elongation at Break TD	- % -			>500			
MD MD	0/			1			ABIM
Thermal Shrinkage TD	%			1			(120°C (248°F), 5 min, air)
Water Vapor Permeability (w.v.t.r.)	g/m²/24h			<1			ASTM F 1249 (38°C / 90% RH)
Oxygen Transmission Rate (O.T.R.)	cc/m ² /24h	<100					
	Thickness Grammage Yield Coefficient of Friction (Film/Film) Surface Tension (Treated Side) Optical Density *MD Tensile Strength at Break *TD Elongation at Break MD Thermal Shrinkage MD TD Water Vapor Permeability (W.V.T.R.) Oxygen Transmission Rate	Microns Gauge Grammage g/m² Yield m²/kg Coefficient of Friction (Film/Film) dynes/cm Surface Tension (Treated Side) dynes/cm Optical Density *MD Tensile Strength at Break *TD Elongation at Break *TD Thermal Shrinkage MD Water Vapor Permeability (w.v.t.r.r.) g/m²/24h Oxygen Transmission Rate cc/m²/24h	Microns 20	Microns 20 25	Thickness Microns 20 25 30	Microns 20 25 30 35 Gauge 80 100 120 140 Grammage g/m² 18.2 22.75 27.3 31.85 Yield m²/kg 54.95 43.96 36.63 31.30 Coefficient of Friction (Film/Film) 0.5-0.8 Surface Tension (Treated Side) dynes/cm 38 Optical Density % 2.0 Tensile Strength at Break *TD	Thickness Microns 20 25 30 35 40

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

Metal receptive layer

Intermediate layer

Core layer

Intermediate laver

Un treated Layer

	PROPERTIES	UNIT	TEST METHOD					
	Thislman	Microns	20	25	30	35	40	ACT: 1.2.27
	Thickness	Gauge	80	100	120	140	160	ASTM D 374
PHYSICAL	Grammage	g/m²	18.2	22.75	27.3	31.85	36.4	* ABIM
THISICAL	Yield	m²/kg	54.95	43.96	36.63	31.30	27.47	ADIIVI
	Coefficient of Friction (Film/Film)	0.0			0.50-0.7	7%		ASTM D 1894
	Surface Tension (Treated Side)	dyn <mark>es/cm</mark>	38					ASTM D 2578
OPTICAL	Haze	%	3.5-4.5					ASTM D 1003
OT TIONE	Gloss(45°)	70			82-80			ASTM D 2457
	*MD Tensile Strength at Break	kg/mm²		ASTM D 882				
MECHANICAL	*TD				>2.0			
	MD Starration at Burst	0/		ASTM D 882				
	Elongation at Break TD	%			>500			
	Heat seal Strength	g/15mm			>1000			ABIM
THERMAL	Thermal Shrinkage MD	%			1			ABIM (120°C (248°F),
	TD				1			5 min, air)
DADDIED	Water Vapor Permeability (w.v.r.r.)	g/m²/24h			8			ASTM F 1249 (38°C / 90% RH)
	Oxygen Transmission Rate (O.T.R.)	cc/m ² /24h	z/m²/24h 1600					

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

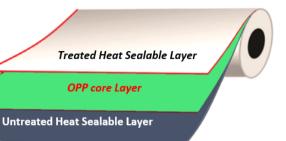
packaging applications.

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		TYPICA	L VALUES		TEST METHOD.		
	Thickness		Microns	20	25	30	35	ASTM D 374		
	Inickness		Gauge	80	100	120	140	ASTM D 374		
	Caramana		g/m²	18.20	22.75	27.30	31.85			
PHYSICAL	Grammage		lbs/ream	11.2	14.0	16.8	19.6	ABIM		
PHISICAL	Yield		m²/kg	54.95	43.96	36.63	31.40	ABIM		
	field		in²/lb	38,700	31,00	25,800	22,100			
100	Coefficient of Friction				0.	.25		ASTM D 1894		
	Surface Tension (Treate	ed Side)	dynes/cm		3	38		ASTM D 2578		
OPTICAL	Haze	10	%		2	2.0		ASTM D 1003		
OFTICAL	Gloss (45°)	07			8	35		ASTM D 2457		
	*				-	15		Part Carlo		
		*TD	kg/mm²		2	27		ASTM D 882		
MECHANICAL		MD	psi		A311VI D 882					
IVILOI IAINIOAL	TD		μsι							
	Elongation at Break	MD	%		ASTM D 882					
	Liongation at break	TD	76	50				ASTIVI D 882		
	Thermal Shrinkage	MD	%		<	4.0		ABIM (120°C (248°F),		
	Thermal Shirikage	TD	70		< 2.0					
THERMAL	Heat Seal Range		°C (°F)		90 – 140	(194 – 284)		ABIM		
I I ILI XIVIZAL	Heat Coal Strongth	(Eil)	g/15mm		2	75		ABIM (130°C, 1bar, 1sec		
	Heat Seal Strength (Fil	m/Film)	lb/0.59in		0.	.60		ABIM (266oF, 14.5psi, 1		
	Water Vapor Permeab	ility	g/m²/24h	7.0	6.0	5.0	3.84	ASTM F 1249		
BARRIER	(W.V.T.R.)		g/100in²/24h	0.45	0.38	0.32	0.26	(38oC / 90% RH)		

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

Treated Heat Sealable Layer

Solid White OPP core Layer

Untreated Heat Sealable Layer

	PROPERTIES		UNIT		TYPICAI	L VALUES		TEST METHOD.
	Th'-1		Microns	20	30	35	40	ACTAA D 274
	Thickness		Gauge	80	120	140	160	ASTM D 374
			g/m²	19.20	28.80	33.60	38.40	
	Grammage		lbs./ream	11.8	17.7	20.6	23.6	
PHYSICAL	Yield		m²/kg	52.08	34.72	29.76	26.04	*ABIM
	Yield		in²/lb.	36,700	24,500	21,000	18,300	
	Coefficient of Friction			0.40	0.40	0.40	0.40	ASTM D 1894
	Surface Tension (Treate	ed Side)	dynes/cm	38	38	38	38	ASTM D 2578
OPTION	Opacity		%	63	65	68	70	ASTM D589-97
OPTICAL	Gloss (45°)	9.7			5	50		ASTM D 2457
	*MD				1	13		/ 400
	Tensile Strength at Break	*TD	kg/mm ²			46714 5 000		
		MD				ASTM D 882		
MECHANICAL		TD	psi					
	Elementing of Board	MD	0/		1	65		
	Elongation at Break	TD	%		5	50		ASTM D 882
	TI 161 : 1	MD	0/		<	4.0		ABIM
	Thermal Shrinkage	TD	%		<	2.0		(120°C (248°F), 5 min, air)
THERMAL	Heat Seal Range		°C (°F)		105 – 140	(221 – 284)		ABIM
	Hoat Coal Strongth	las (5:las)	g/15mm	200	300	300	300	ABIM (130°C, 1bar, 1sec)
	Heat Seal Strength (Fil	im/Film)	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

OPP core Layer

Untreated Heat Sealable Layer

	PROPERTIES		UNIT			TY	PICAL VA	LUES			TEST METHOD.
	Thickness		Microns	15	18	20	25	30	35	40	ASTM D 374
	THICKNESS		Gauge	60	72	80	100	120	140	160	ASIM D 374
	Grammage		g/m ²	13.65	16.38	18.20	22.75	27.30	31.85	36.40	
PHYSICAL	Graninage		lbs./ream	8.4	10.1	11.2	14.0	16.8	19.6	22.4	*ABIM
THISICAL	Yield		m ² /kg	73.26	61.05	54.95	43.96	36.63	31.40	27.48	ADIM
			in ² /lb	51,600	43,000	38,700	31,000	25,800	22,100	19,400	
	Coefficient of Friction (Film/Film)	n	13				0.25	N			ASTM D 1894
	Surface Tension (Trea	ted Side)	dynes/cm				38	10			ASTM D 2578
ODTICAL	Haze	769	%				2.5	M			ASTM D 1003
OPTICAL	Gloss (45°)						85		40	7	ASTM D 2457
	N. J.	*MD	4 11				15	-			
	Tensile Strength at Break	*TD	kg/mm ²				28				ASTM D 882
MECHANICAL	Dieak	MD	psi				21,330				ASTW D 002
MECHANICAL		TD	psi				39,816				
	Elongation at Break	MD	%				170				ASTM D 882
	ыеак	TD	70				50				A31M D 662
77	Thermal	MD	0/				< 4.0				ABIM
	Shrinkage	TD	%				< 2.0				(120° C (248°F), 5 min, air)
THERMAL	Heat Seal Range		°C (°F)			105 -	140 (221	- 284)			ABIM
I TEKNAL	Heat Seal		g/15mm				275				ABIM (130°C, 1bar, 1sec
	Strength (Film	n/Film)	lb./0.59in				0.60				ABIM (266°F, 14.5psi, 1 sec)

DESCRIPTION: 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

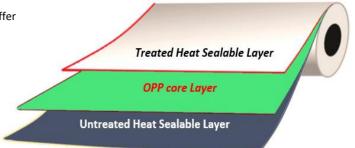
APPLICATIONS:

Packaging and converting.

High speed HFFS and VFFS machines.

High speed rotogravure &

Flexographic printing.



	PROPERTIES		UNIT			TY	PICAL VA	LUES			TEST METHOD.
	ml.:-l		Microns	15	18	20	25	30	35	40	ACTIM D 274
	Thickness		Gauge	60	72	80	100	120	140	160	ASTM D 374
	Crammaga		g/m ²	13.65	16.38	18.20	22.75	27.30	31.85	36.40	
PHYSICAL	Grammage		lbs./ream	8.4	10.1	11.2	14.0	16.8	19.6	22.4	*ABIM
FIIISICAL	Yield		m ² /kg	73.26	61.05	54.95	43.96	36.63	31.40	27.48	ADIM
	Tield		in ² /lb	51,600	43,000	38,700	31,000	25,800	22,100	19,400	
	Coefficient of Friction (Film/Film)	1	13				0.20				ASTM D 1894
	Surface Tension (Treat	ted Side)	dynes/cm				38				ASTM D 2578
	Haze	7	%				2.5	M			ASTM D 1003
OPTICAL	Gloss (45°)						85		- 400	-	ASTM D 2457
	*N										
	Tensile Strength at Break	*TD	kg/mm ²			_ 7	28				ASTM D 882
MECHANICAL	вгеак	MD	nai				21,330				AS1M D 882
MECHANICAL		TD	psi				39,816				
	Elongation at	MD	04				170				ACTIVE DOOD
	Break	TD	%				50				ASTM D 882
7,5	Thermal	MD					< 4.0				ABIM
	Shrinkage	TD	%				< 2.0				(120° C (248°F), 5 min, air)
THERMAL	Heat Seal Range		°C (°F)			105 -	140 (221	- 284)			ABIM
THERMAL	Heat Seal		g/15mm				275				ABIM (130°C, 1bar, 1sec
	Strength (Film	n/Film)	lb./0.59in				0.60			13,400	ABIM (266°F, 14.5psi, 1 sec)

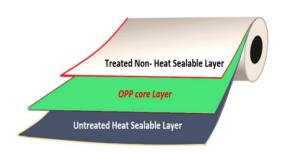
an asymmetric film with one side heat sealable, other side non-heat sealable, specially designed with high slip and low antistatic properties.

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				TYF	PICAL VALU	JES			TEST METHOD.
	Thistory		Microns	15	18	20	25	30	35	40	50	AOTM D 274
	Thickness		Gauge	60	72	80	100	120	140	160	200	ASTM D 374
	0		g/m ²	13.65	16.38	18.20	22.75	27.30	31.85	36.40	45.5	
PHYSICAL	Grammage		lbs./ream	8.4	10.1	11.2	14.0	16.8	19.6	22.4	28.00	*ABIM
PHISICAL	Yield		m ² /kg	73.26	61.05	54.95	43.96	36.63	31.40	27.50	22.00	ADIW
	Yield		in²/lb.	51,600	43,000	38,700	31,000	25,800	22,100	19,400	15.468	
	Coefficient of F	riction (Film/Film)					0.25	5				ASTM D 1894
	Surface Tension	n (Treated Side)	dynes/cm				38	- 11				ASTM D 2578
OPTICAL	Haze		%				2.5	· - /		_		ASTM D 1003
OPTICAL	Gloss (45°)						90	di .	-			ASTM D 2457
	*MD		77:11				15					
	Tensile	*TD	kg/mm ²				28					ASTM D 882
MECHANICAL	Strength at — Break	MD	:				21,	330				AS 1 W D 002
MECHANICAL		TD	psi				39,	816				
5,	Elongation	MD					170)				Ç1
	at Break	TD	%				50					ASTM D 882
	Thermal	MD					< 4	1.0				ABIM
THERMAL	Shrinkage	TD	%				< 2	2.0				(120oC (248oF), 5 min, air)
	Water Vapor Pe	ermeability	g/m ² /24h	7.9	7.5	7.2	6.0	5.0	4.0	3.2	2.4	ASTM F 1249
BARRIER	(W.V.T.R.)		g/100in ² /24h	0.5	0.48	0.46	0.39	0.32	0.26	0.21	0.11	(38°C / 90% RH)
DAKKIEK	Oxygen Transn	nission Rate	cc/m ² /24h	2600	2510	2200	1800	1400	1200	1000	700	ASTM D 3985
	(O.T.R.)		cc/in ² /24h	162	158	142	116	90	77	64	48	(23°C / 0% RH)

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

PRODUCT FEATURES:

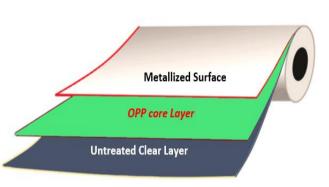
One side aluminum coated
Excellent metal adhesion & web flatness
Good optical density
Outstanding barrier to moisture, gas & odors.
Excellent light barrier enhances shelf life
Good seal strength on non-metallized side
Good resistance to oils, fats & flex cracking

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 VAL	UES			TEST METHOD.
	Thirt		Microns	15	17.5	18	20	25	30	35	AOTAL D 074
	Thickness		Gauge	60	70	72	80	100	120	35 140 31.85 19.57 31.30 22,000	ASTM D 374
	2		g/m²	13.65	15.92	16.38	18.20	22.75	27.30	31.85	
DUNGLOAL	Grammage		lbs./ream	8.4	9.78	10.1	11.2	14.0	16.8	19.57	***
PHYSICAL	V°-1-1		m²/kg	73.26	62.80	61.05	54.95	43.96	36.63	31.30	*ABIM
10000	Yield		in²/lb.	51,600	44,150	43,000	38,700	31,000	25,800	22,000	
	Coefficient of Friction (Film/	Film)					0.35	No.			ASTM D 1894
	Surface Tension (Treated Sid	de)	dynes/cm				38	100			ASTM D 2578
OPTICAL	Optical Density	50	%				2.0				ABIM
		*MD					15				/ 400
	Totalle Ottomother Donale	*TD	kg/ <mark>mm</mark> ²				27				
	Tensile Strength at Break	MD					21,330		-00		
		TD	psi				38,394				
MEGUANIGAL	Element's and Decel	MD	0/				170				ASTM D 882
MECHANICAL	Elongation at Break	TD	%				50				
		*MD					185				
	Madeline of Floories	*TD	kg/mm²				350				
	Modulus of Elasticity	MD	!				275,800				
		TD	psi				511,900				
	The arrest Chairles are	MD	%				< 4.0				ABIM
	Thermal Shrinkage	TD	%				< 2.0				(120°C (248°F), 5 min, air)
THERMAL	Heat Seal Range		∘C (∘F)			10	5 – 140 (221	– 284)			ABIM
THERMAL			g/15mm				275				ABIM
	Heat Seal Strength (Film/Film	m)	lb./0.59in				0.60				(130°C, 1bar, 1sec) ABIM (266°F, 14.5psi, 1 sec
	Water Vapor Permeability		g/m ² /24h				0.80				ASTM F 1249
D.4.D.DIED.	(W.V.T.R.)		g/100in²/24h				0.051				(38°C / 90% RH)
BARRIER	Oxygen Transmission Rate		cc/m ² /24h				90				ASTM D 3985
	(O.T.R.)		cc/in²/24h				5.80				(23°C / 0% RH)

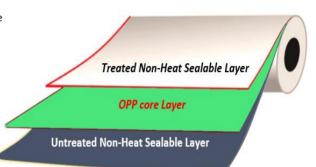
a non-heat sealable film with excellent optical and mechanical properties, one side treated to suit printing and lamination application.

PRODUCT FEATURES:

and ink adhesion.

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

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



	PROPERTIES		UNIT				TYF	PICAL VALU	JES			TEST METHOD.
	Third		Microns	15	18	20	25	30	35	40	50	ACTNA D 274
	Thickness		Gauge	60	72	80	100	120	140	160	200	ASTM D 374
	Crammaga		g/m ²	13.65	16.38	18.20	22.75	27.30	31.85	36.40	45.5	
PHYSICAL	Grammage		lbs./ream	8.4	10.1	11.2	14.0	16.8	19.6	22.4	28.00	*ABIM
PHISICAL	Yield	1	m ² /kg	73.26	61.05	54.95	43.96	36.63	31.40	27.50	22.00	ADIIVI
	Tielu		in ² /lb.	51,600	43,000	38,700	31,000	25,800	22,100	19,400	15.468	- 4
	Coefficient of Fr (Film/Film)	riction	18				0.30	0	7			ASTM D 1894
	Surface Tension	(Treated Side)	dyn <mark>es/cm</mark>				38	Dil				ASTM D 2578
OPTICAL	Haze		%				1.5					ASTM D 1003
OFTICAL	Gloss (45°)						95					ASTM D 2457
		*MD	2				15					
	Tensile Strength at —	*TD	kg/mm ²				28					ASTM D 882
MECHANICAL	Break	MD	psi				21,	330				A31101 D 882
WILCHANICAL		TD	ρ31				39,	816				
	Elongation at	MD	%				155	5				ASTM D 882
	Break	TD	70				50					ASTIVI D 002
THERMAL	Thermal	MD	%				< 4	1.0				ABIM (120oC (248oF),
THEMWAL	Shrinkage	TD	70				< 2	2.0				5 min, air)
	Water Vapor Pe	rmeability	g/m ² /24h	7.9	7.5	7.2	6.0	5.0	4.0	3.2	2.4	ASTM F 1249
BARRIER	(W.V.T.R.)		g/100in ² /24h	0.5	0.48	0.46	0.39	0.32	0.26	0.21	0.11	(38°C / 90% RH)
DAMMEN	Oxygen Transm	ission Rate	cc/m ² /24h	2600	2510	2200	1800	1400	1200	1000	700	ASTM D 3985
	(O.T.R.)		cc/in ² /24h	162	158	142	116	90	77	64	48	(23°C / 0% RH)

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.

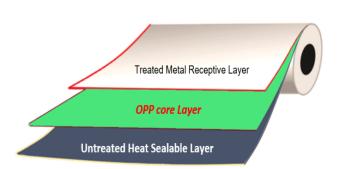
 $Good\ optical\ and\ mechanical\ properties.$

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.



Pro-	PROPERTIES		UNIT			TY	PICAL VA	LUES			TEST METHOD.
			Microns	12	15	18	20	25	30	35	
	Thickness	Microns 12 15 18 20 25 30 35 Gauge 48 60 72 80 100 120 140 g/m² 10.92 13.65 16.38 18.20 22.75 27.30 31.85 lbs./ream 6.7 8.4 10.1 11.2 14.0 16.8 19.6 m²/kg 91.60 73.26 61.05 54.95 43.96 36.63 31.40 in²/lb 64401 51,600 43,000 38,700 31,000 25,800 22,100 n	- ASTM D 374								
			g/m ²	10.92	13.65	16.38	18.20	22.75	27.30	31.85	
The state of	Grammage			6.7	8.4	10.1	11.2	14.0	16.8	19.6	
PHYSICAL	Yield		m ² /kg	91.60	73.26	61.05	54.95	43.96	36.63	31.40	*ABIM
	Ticiu	D "	in ² /lb.	64401	51,600	43,000	38,700	31,000	25,800	22,100	
	Coefficient of Friction (Film/Film)	85					≤0.40	03			ASTM D 1894
	Surface Tension (Treat	ed Side)	dynes/cm				38		400	200	ASTM D 2578
	Haze		%				2.5	1			ASTM D 1003
OPTICAL	Gloss (45°)					_ #	≥85				ASTM D 2457
		*MD					14				
	Tensile Strength at	*TD	kg/mm ²				28				
	Break	MD	11.11				21,330				ASTM D 882
MECHANICAL		TD	psi				39,816				1
9	Elongation at	MD					180				
	Break	TD	%				60				ASTM D 882
	Thermal	MD					< 4.0				ABIM
	Shrinkage	TD	%				< 2.0				(120° C (248°F), 5 min, air)
THEDMAI	Heat Seal Range		°C (°F)			95 – 1	140 (203 -	- 284)			ABIM
THERMAL	Heat Seal		g/15mm				275				ABIM (130°C, 1bar, 1sec
	Strength (Film	/Film)	lb./0.59in			_	0.60				ABIM (266°F, 14.5psi, 1 sec)

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

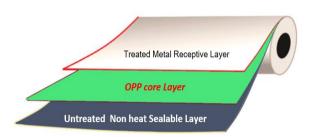
PRODUCT FEATURES:

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			1	TYPICAL VAL	UES			TEST METHOD.
	T1: 1		Microns	12	15	18	20	25	30	35	40TM D 074
	Thickness		Gauge	48	60	72	80	100	120	140	ASTM D 374
	2		g/m²	10.92	13.65	16.38	18.20	22.75	27.30	31.85	
DUVCICAL	Grammage		lbs./ream	6.7	8.4	10.1	11.2	14.0	16.8	19.57	** DIM
PHYSICAL	Viald		m²/kg	91.60	73.26	61.05	54.95	43.96	36.63	31.30	*ABIM
	Yield		in²/lb.	64401	51,600	43,000	38,700	31,000	25,800	22,000	
	Coefficient of Friction (Film/I	Film)	100				0.45	-			ASTM D 1894
	Surface Tension (Treated Sid	e)	dynes/cm	1 -			38	100			ASTM D 2578
OPTICAL	Haze	9	%				2.5	Lab			ASTM D 1003
OFTICAL	Gloss (45°)						88	100			ASTM D 2457
		*MD					15				
	Tensile Strength at Break	*TD	kg/ <mark>mm²</mark>				27		400		
	Terisile Strength at Dreak	MD	psi				21,330				
		TD	μσι				38,394				
MECHANICAL	Elongation at Break	MD	%				170				ASTM D 882
WILCHANICAL	Liongation at break	TD	70				50				
		*MD					185				
5	Modulus of Elasticity	*TD	kg/mm²				350				
	Wodalds of Elasticity	MD	psi				275,800				
		TD	μσι				511,900				
THERMAL	Thermal Shrinkage	MD	%				< 5.0				ABIM (120°C (248°F),
I I I L I NIVIL	Thomai Offilinage	TD	/0				< 2.0				(120°C (248°F), 5 min, air)

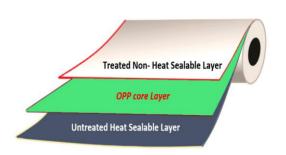
an asymmetric film with one side heat sealable, other side non-heat sealable, specially designed with low antistatic properties.

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				TYP	ICAL VALU	JES			TEST METHOD.
	Thickness		Microns	15	18	20	25	30	35	40	50	ASTM D 374
	Inickness		Gauge	60	72	80	100	120	140	160	200	ASTM D374
	Crammaga		g/m ²	13.65	16.38	18.20	22.75	27.30	31.85	36.40	45.5	
PHYSICAL	Grammage		lbs./ream	8.4	10.1	11.2	14.0	16.8	19.6	22.4	28.00	*ABIM
PHISICAL	Yield		m ² /kg	73.26	61.05	54.95	43.96	36.63	31.40	27.50	22.00	ADIIVI
	rielu		in²/lb.	51,600	43,000	38,700	31,000	25,800	22,100	19,400	15.468	
	Coefficient of F	riction (Film/Film)					0.65	- 23				ASTM D 1894
	Surface Tensio	N (Treated Side)	dynes/cm				38	- 11				ASTM D 2578
OPTICAL	Haze		%				2.5	-/-		1	ĺ	ASTM D 1003
OFTICAL	Gloss (45°)						90	di l	-	9		ASTM D 2457
	*MD						15					
	Tensile Strength at —	*TD	kg/mm ²		-		28					ASTM D 882
MECHANICAL	Break	MD	no!				21,3	330				A3 1W D 002
MECHANICAL		TD	psi				39,8	816				
25	Elongation	MD					170					gr.
	at Break	TD	%				50					ASTM D 882
	Thermal	MD					< 4	1.0				ABIM
THERMAL	Shrinkage	TD	%				< 2	2.0				(120oC (248oF), 5 min, air)
	Water Vapor Pe	ermeability	g/m ² /24h	7.9	7.5	7.2	6.0	5.0	4.0	3.2	2.4	ASTM F 1249
BARRIER	(W.V.T.R.)		g/100in ² /24h	0.5	0.48	0.46	0.39	0.32	0.26	0.21	0.11	(38°C / 90% RH)
DAMILIN	Oxygen Transn	nission Rate	cc/m ² /24h	2600	2510	2200	1800	1400	1200	1000	700	ASTM D 3985
	(O.T.R.)		cc/in ² /24h	162	158	142	116	90	77	64	48	(23°C / 0% RH)

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

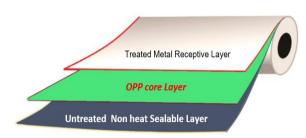
PRODUCT FEATURES:

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 VAL	UES			TEST METHOD
	T1: 1		Microns	12	15	18	20	25	30	35	40TM D 074
	Thickness		Gauge	48	60	72	80	100	120	140	ASTM D 374
	0		g/m²	10.92	13.65	16.38	18.20	22.75	27.30	31.85	7
PHYSICAL	Grammage		lbs./ream	6.7	8.4	10.1	11.2	14.0	16.8	19.57	***************************************
PHISICAL	Viald		m²/kg	91.60	73.26	61.05	54.95	43.96	36.63	31.30	*ABIM
	Yield		in²/lb.	64401	51,600	43,000	38,700	31,000	25,800	22,000	
	Coefficient of Friction (Film/I	Film)	1				0.45	-			ASTM D 1894
	Surface Tension (Treated Sid	e)	dynes/cm	10			38	100			ASTM D 2578
OPTICAL	Haze		%				2.5	100			ASTM D 1003
OPTICAL	Gloss (45°)						88	All I			ASTM D 2457
	*N						15			3.46	100
	Tanaila Oteanath at Decale	*TD	kg/mm ²				27		400 7		
	Tensile Strength at Break	MD	noi				21,330				
		TD	psi				38,394				
MECHANICAL	Claration at Drack	MD	%				170				ASTM D 882
WECHANICAL	Elongation at Break	TD	70				50				
		*MD					185				
	Madulus of Florida	*TD	kg/mm²				350				
	Modulus of Elasticity	MD					275,800				
		TD	psi				511,900				
TUEDMAL	The arrest Chairdean	MD	0/				< 5.0				ABIM
THERMAL	Thermal Shrinkage	TD	%				< 2.0				(120°C (248°F), 5 min, air)

TECHNICAL DATA SHEET

DESCRIPTION:

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

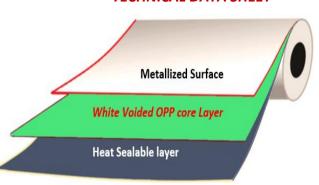
PRODUCT FEATURES:

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 Thickness		UNIT		TYPIC	CAL VALUES		TEST METHOD.
	Thistores		Microns	30	38	40	47	ACTNA D 274
The same of	Thickness		Gauge	120	152	160	188	ASTM D 374
1	Crammaga		g/m²	18.60	23.60	24.80	29.14	
	Grammage		lbs/ream	11.54	14.5	15.26	17.9	
PHYSICAL	Yield		m²/kg	53.77	42.40	40.40	34.31	*ABIM
	rielu		in²/lb	37,900	29,900	28480	24,172	
	Density	77	g/cc			0.62		
	Coefficient of Frictio	n				0.35		ASTM D 1894
	Surface Tension (Tre	ated	dynes/cm			38		ASTM D 2578
OPTICAL	Optical density	KA.	<mark>%</mark>			3.0		ABIM
		*M				8		6
	Tensile Strength at	*TD	kg/mm ²			16	and the little	ASTM D 882
MECHANICAL	Break	MD	psi –			11,376		A31W1 D 882
WILCHAMICAL		TD	μσι		2	22,752		
	Elongation at Break	MD	% _			135		
	Elongation at break	TD	70			40		ASTM D 882
	Thermal Shrinkage	MD	%			< 4.0		ABIM
	- Thermal Similitage	TD	,,			< 2.0		(120°C (248°F),
THERMAL	Heat Seal Range		°C (°F)		105 – 14	0 (221 – 284)		ABIM
THERIVIAL	Heat Seal Strength		g/15mm			200		ABIM (130°C, 1bar,
	(Film/Film)		lb/0.59in			0.74		ABIM (266°F, 14.5psi, :
	Water Vapor		g/m ² /24h			0.30		ASTM F 1249
DADDIED	Permeability		g/100in²/24			0.019		(38°C / 90% RH)
BARRIER	Oxygen Transmission	n	cc/m ² /24h			50		ASTM D 3985
	Rate		cc/in²/24h			3.22		(23°C / 0% RH)

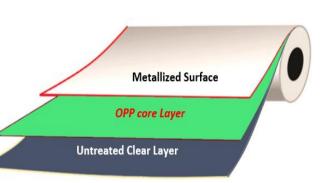
a heat sealable film, one side treated and metallized with high purity aluminum; other side untreated, High barrier film.

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 VAL	UES			TEST METHOD.
	T1 : 1		Microns	15	17.5	18	20	25	30	35	40TH D 074
	Thickness		Gauge	60	70	72	80	100	120	140	ASTM D 374
	•		g/m²	13.65	15.92	16.38	18.20	22.75	27.30	31.85	7 - 7
DUNGLOAL	Grammage		lbs./ream	8.4	9.78	10.1	11.2	14.0	16.8	19.57	***
PHYSICAL	Viola		m²/kg	73.26	62.80	61.05	54.95	43.96	36.63	31.30	*ABIM
	Yield		in²/lb.	51,600	44,150	43,000	38,700	31,000	25,800	22,000	
	Coefficient of Friction (Film/	Film)	100				0.35	No.			ASTM D 1894
	Surface Tension (Treated Sid	le)	dynes/cm	1			38	700			ASTM D 2578
OPTICAL	Optical Density	200	%				2.3				ABIM
		*MD					15	All			
	Totalle Ottomolie et Donale	*TD	kg/ <mark>mm</mark> ²				27		400	-	
	Tensile Strength at Break	MD					21,330		-03		
		TD	psi				38,394				
MECHANICAL	Classifier at Decale	MD	%				170				ASTM D 882
MECHANICAL	Elongation at Break	TD	%				50				
		*MD					185				
	Madulus of Flootisits	*TD	kg/mm²				350				
5	Modulus of Elasticity	MD					275,800				
		TD	psi				511,900				
	Thormal Chrinkaga	MD	%				< 4.0				ABIM
	Thermal Shrinkage	TD	70				< 2.0				(120°C (248°F), 5 min, air)
THERMAL	Heat Seal Range		∘C (∘F)			10	5 – 140 (221	– 284)			ABIM
			g/15mm				275				ABIM (130°C, 1bar, 1sec)
	Heat Seal Strength (Film/Fil	lm)	lb./0.59in				0.60				ABIM (266°F, 14.5psi, 1 sec)
	Water Vapor Permeability		g/m²/24h				0.5				ASTM F 1249
	(W.V.T.R.)		g/100in²/24h				0.019				(38°C / 90% RH)
BARRIER	Oxygen Transmission Rate		cc/m ² /24h				30				ASTM D 3985
	(O.T.R.)	•	cc/in²/24h				1.93				(23°C / 0% RH)

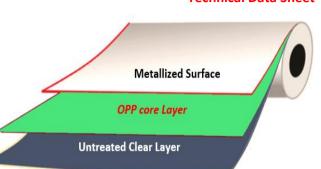
a heat sealable film, one side treated and metallized with high purity aluminum; other side untreated, High barrier film.

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,
mo r properties are
required
Typically laminated on metallized side
with other film



	PROPERTIES		UNIT				TYPICAL VAL	UES			TEST METHOD
	T1 : 1		Microns	15	17.5	18	20	25	30	35	40TH D 074
The same of	Thickness		Gauge	60	70	72	80	100	120	35 140 31.85 19.57 31.30 22,000	ASTM D 374
2000	0		g/m²	13.65	15.92	16.38	18.20	22.75	27.30	31.85	1 - 7
PHYSICAL	Grammage		lbs./ream	8.4	9.78	10.1	11.2	14.0	16.8	19.57	***
HISICAL	Viola		m²/kg	73.26	62.80	61.05	54.95	43.96	36.63	31.30	*ABIM
	Yield	105	in²/lb.	51,600	44,150	43,000	38,700	31,000	25,800	22,000	
	Coefficient of Friction (Film/	Film)	0.00				0.35	W.			ASTM D 1894
	Surface Tension (Treated Sid	de)	dynes/cm				38	730			ASTM D 2578
OPTICAL	Optical Density	971	%				>2.5	107			ABIM
	Mary Con	*MD					15			7 4	The state of the s
	Tensile Strength at Break	*TD	kg/ <mark>mm²</mark>				27		4		
	Tensile Strength at Break	MD	nai				21,330	100			
		TD	psi				38,394				
MECHANICAL	Elongation at Break	MD	%				170				ASTM D 882
IECHANICAL	Elongation at Break	TD	70				50				
		*MD					185				
	Modulus of Elasticity	*TD	kg/mm²				350				
	Widdulus of Elasticity	MD	nei				275,800				
		TD	psi				511,900				
	Thermal Shrinkage	MD	%				< 4.0				ABIM
	Thermal Shirikage	TD	/0				< 2.0				(120°C (248°F), 5 min, air)
HERMAL	Heat Seal Range		∘C (∘F)			105	5 – 140 (221	– 284)			ABIM
			g/15mm				275				ABIM (130°C, 1bar, 1sec
	Heat Seal Strength (Film/Film	m)	lb./0.59in				0.60				ABIM (266°F, 14.5psi, 1 se
	Water Vapor Permeability		g/m²/24h				0.20				ASTM F 1249
ADDIED	(W.V.T.R.)		g/100in²/24h				0.014				(38°C / 90% RH)
BARRIER	Oxygen Transmission Rate		cc/m ² /24h				25				ASTM D 3985
	(O.T.R.)		cc/in²/24h				1.60				(23°C / 0% RH)

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

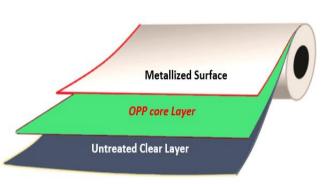
Good resistance to oils, fats & flex cracking

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.
			Microns	18	20	25	30	35	10711 5 071
	Thickness		Gauge	72	80	100	120	140	ASTM D 374
			g/m²	16.38	18.20	22.75	27.30	31.85	
DUNGIONI	Grammage		lbs./ream	10.1	11.2	14.0	16.8	19.57	***
PHYSICAL	X6.11		m²/kg	61.05	54.95	43.96	36.63	31.30	*ABIM
	Yield		in²/lb.	43,000	38,700	31,00 0	25,800	22,000	
	Coefficient of Friction (Film/	Film)				0.25			ASTM D 1894
	Surface Tension (Treated Sid	ie)	dynes/cm			38			ASTM D 2578
OPTICAL	Optical Density	50	%			2.0			ABIM
		*MD				15			F 400
	T " 0' " 'D '	*TD	kg/mm ²			27			
	Tensile Strength at Break	MD				21,330			
		TD	psi –			38,394			
		MD				170			ASTM D 882
MECHANICAL	Elongation at Break	TD	%			50			
		*MD				185			
		*TD	kg/mm²			350			
	Modulus of Elasticity	MD				275,800			
		TD	psi			511,900			
	T. 10111	MD	0/			< 4.0			ABIM
	Thermal Shrinkage	TD	%			< 2.0			(120°C (248°F), 5 min, air)
THERMAL	Heat Seal Range		∘C (∘F)		1	05 – 140 (221 – 28	4)		ABIM
ITERWAL			g/15mm			275			ABIM
	Heat Seal Strength (Film/Film	m)							(130°C, 1bar, 1sec) ABIM
			lb./0.59in			0.60			(266°F, 14.5psi, 1 sec
	Water Vapor Permeability		g/m ² /24h			0.80			ASTM F 1249
BARRIER	(W.V.T.R.)		g/100in²/24h			0.051			(38°C / 90% RH)
	Oxygen Transmission Rate		cc/m ² /24h			90			ASTM D 3985
	(O.T.R.)		cc/in ² /24h			5.80			(23°C / 0% RH)

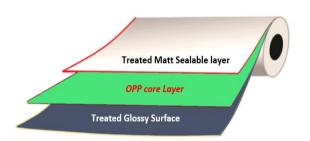
a film having one side Matte surface, other side reflective glossy surface with both sides treated, one side treated available on demand.

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 VALU	ES		TEST METHOD.
	Thisleres		Microns	15	18	20	25	30	ACTM D 274
	Thickness		Gauge	60	72	80	100	120	ASTM D 374
	C		g/m²	12.92	15.45	17.20	21.50	25.80	
PHYSICAL	Grammage		lbs/ream	7.93	9.47	10.55	13.19	15.83	*ABIM
PHISICAL	Yield		m²/kg	77.4	64.82	58.23	46.61	38.82	ADIIVI
	rieid	K.	in²/lb	54.48	45,662	40,980	32,805	27,323	
	Coefficient of Friction (Film	n/Film)	130			0.40	M		ASTM D 1894
	Surface Tension		dynes/cm			38	///		ASTM D 2578
OPTICAL	Haze		%			75			ASTM D 1003
OPTICAL	Gloss (45°) GS /	/ MS	7 7			50 / 10			ASTM D 2457
		*MD	1/2			12			
	To a "le Otaca elle el Danale	*TD	kg/mm ²			22			AOTA D 000
	Tensile Strength at Break	MD				17,064			ASTM D 882
5		TD	psi			31,284			
MEQUANIQAI	Element's and Decel	MD	0/			180			AOTA D 000
MECHANICAL	Elongation at Break	TD	%			50			ASTM D 882
		MD	1/2			200			
		TD	kg/mm²			375			
	Modulus of Elasticity	MD				284,400			ASTM D 882
		TD	psi			583,250			
T. (50.44)	T	MD	0/			< 4.0			ABIM
THERMAL	Thermal Shrinkage	Thermal Shrinkage MD 7D %				< 2.0			(120°C (248°F), 5 min, air)

DESCRIPTION:

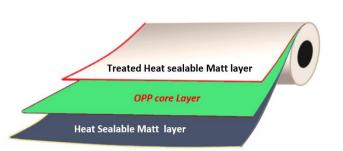
a film having both sides non reflective, heat sealable matte finish with one side treated; both sides treated available on demand.

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



	PROPERTIES		UNIT			TYPICAL VALU	JES		TEST METHOD.
	Thisleres		Microns	18	20	25	30	50	ACTM D 274
	Thickness		Gauge	72	80	100	120	200	- ASTM D 374
	0		g/m²	15.45	17.20	21.50	25.80	43.00	
DUVCIOAL	Grammage		lbs./ream	9.47	10.55	13.19	15.83	26.42	*ABIM
PHYSICAL	Yield		m²/kg	64.82	58.23	46.61	38.82	23.20	ABIIVI
	Yieid	9)	in²/lb.	45,662	40,980	32,805	27,323	16,345	7 30
	Coefficient of Friction (Film/	Film)				0.40	All I		ASTM D 1894
	Surface Tension (Treated Sid	e)	dynes/cm			38			ASTM D 2578
OPTICAL	Gloss (45°)		7. 7			8			ASTM D 2457
		*MD	lea/mana?			12			
	Tanaila Channath at Danail	*TD	kg/mm ²			22			ASTM D 882
	Tensile Strength at Break	MD				17,064			ASTWID 002
		TD	psi			31,284			
AECHANIICAL	Florestics at Decel	MD	0/			180			- ASTM D 882
MECHANICAL	Elongation at Break	TD	%			50			AS I W D 002
		MD	N/2			2,000			
	Madelia of Floridate	TD	N/mm ²			3,700			A O TAA D 000
	Modulus of Elasticity	MD				290,074			- ASTM D 882
		TD	psi			536,636			
THEDMAI	The arrest Chairchean	MD	0/			< 4.0			ABIM
THERMAL	Thermal Shrinkage	TD	%			< 2.0			(120°C (248°F), 5 min, air)

DESCRIPTION:

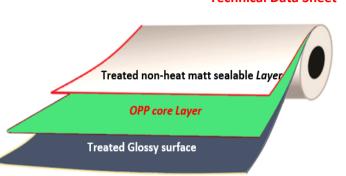
a film having one side heat sealable Matte surface, other side reflective glossy surface, both sides treated.

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 VALU	ES		TEST METHOD.
	Thirtenan	Microns	15	18	20	25	30	AOTM D 274
	Thickness	Gauge	60	72	80	100	120	ASTM D 374
	0	g/m²	12.92	15.45	17.20	21.50	25.80	
DUVCIONI	Grammage	lbs/ream	7.93	9.47	10.55	13.19	15.83	***
PHYSICAL	Violal	m²/kg	77.4	64.82	58.23	46.61	38.82	*ABIM
	Yield	in²/lb	54.48	45,662	40,980	32,805	27,323	
	Coefficient of Friction (Film/	Film)			0.40	M		ASTM D 1894
	Surface Tension (Treated Sid	dynes/cm			38	///		ASTM D 2578
OPTICAL	Gloss (45°) GS /	MS			50 / 10			ASTM D 2457
		*MD			12			
	T 1 01 11 15 1	*TD kg/mm²			22			40TM D 000
	Tensile Strength at Break	MD .			17,064			ASTM D 882
	-	TD psi			31,284			
	51 # 15	MD			180			40TM D 000
MECHANICAL	Elongation at Break	TD %			50			ASTM D 882
		MD			200			
	-	TD kg/mm ²			375			
	Modulus of Elasticity	MD			284,400			ASTM D 882
		TD psi			583,250			
		MD			< 4.0			ABIM
THERMAL	Thermal Shrinkage	TD %			< 2.0			(120°C (248°F), 5 min, air)

DESCRIPTION:

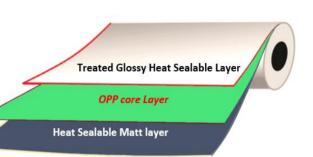
a BOPP film one side matt one side glossy both side heat sealable, treated

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 VALUE	S		TEST METHOD.
	Thisleres		Microns	15	18	20	25	30	ACTIM D 274
	Thickness		Gauge	60	72	80	100	120	ASTM D 374
	Crammaga		g/m ²	12.92	15.45	17.20	21.50	25.80	and the same of
PHYSICAL	Grammage		lbs./ream	7.93	9.47	10.55	13.19	15.83	*ABIM
FITISICAL	Yield		m ² /kg	77.4	64.82	58.23	46.61	38.82	ADIIVI
	Held		in ² /lb.	54.48	45,662	40,980	32,805	27,323	
	Coefficient of Friction (Film	/Film)				0.40			ASTM D 1894
	Surface Tension (Treated S	Side)	dynes/cm			38	No.		ASTM D 2578
OPTICAL	Haze	6	%			75			ASTM D 1003
OFTICAL	Gloss (45°) GS /	MS				50 / 10			ASTM D 2457
		*MD				12			6 15
	Tensile Strength at Break	*TD	kg <mark>/mm²</mark>			22			ASTM D 882
	Telislie Strengtii at break	MD	psi			17,064			A311VI D 002
		TD	рзі			31,284			
MECHANICAL	Elongation at Break	MD	%			180			4CT14 D 002
WEET WITH CHE	Elongation at break	TD	70			50			ASTM D 882
		MD	. , 2			200			
	Modulus of Elasticity	TD	kg/mm ²			375			ASTM D 882
	,	MD	psi			284,400			
		TD				583,250			
	Thermal Shrinkage	MD	%			< 4.0			ABIM (120° C (248°F),
		TD				< 2.0			5 min, air)
THERMAL	Heat Seal Range		°C (°F)		1	25– 140 <i>(257– 284</i>)		ABIM
	Heat Seal Strength (Film/F	ilm)	g/15mm			280			ABIM (130°C, 1bar, 1sec
	(Fillity F		lb./0.59in			0.617			ABIM (266°F, 14.5psi, 1 sec)
	Water Vapor Permeability		g/m ² /24h		10	9		7	ASTM F 1249
	(W.V.T.R.)		g/100in ² /24h		0.65	0.58		0.45	(38°C / 90% RH)
Barrier	Oxygen Transmission Rate		cc/m ² /24h		2800	2450		2200	ASTM D 3985
	(O.T.R.)		cc/in ² /24h		180	158		142	(23°C / 0% RH)

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.

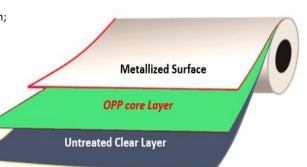
Good optical density

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 VAL	UES			TEST METHOD.
			Microns	15	17.5	18	20	25	30	35	10711 5 071
	Thickness		Gauge	60	70	72	80	100	120	140	ASTM D 374
-			g/m²	13.65	15.92	16.38	18.20	22.75	27.30	31.85	
DUNGLOAL	Grammage		lbs./ream	8.4	9.78	10.1	11.2	14.0	16.8	19.57	***
PHYSICAL	VC 11		m²/kg	73.26	62.80	61.05	54.95	43.96	36.63	31.30	*ABIM
	Yield		in²/lb.	51,600	44,150	43,000	38,700	31,000	25,800	22,000	
	Coefficient of Friction (Film/F	Film)	100				0.35	No.			ASTM D 1894
	Surface Tension (Treated Sid	e)	dynes/cm				38	700			ASTM D 2578
OPTICAL	Optical Density	201	%				2.5				ABIM
	Metal Adhesion	5	N/15mm				>3.5	All			ABIM
	Alleria	*MD					15		4		
	Tanaila Ctrongth at Drook	*TD	kg/mm ²				27	-	-037		
	Tensile Strength at Break	MD	noi				21,330				
		TD	psi				38,394				
MECHANICAL	Claration at Drook	MD	%				170				ASTM D 882
	Elongation at Break	TD	70				50				
		*MD					185				
,	Madulus of Floaticity	*TD	kg/mm ²				350				
	Modulus of Elasticity	MD	noi				275,800				
		TD	psi				511,900				
	Thormal Chrinkaga	MD	%				< 4.0				ABIM
	Thermal Shrinkage	TD	70				< 2.0				(120°C (248°F), 5 min, air)
THERMAL	Heat Seal Range		∘C (∘F)			105	5 – 140 (221 -	– 284)			ABIM
	Heat Seal Strength (Film/Fili		g/15mm				275				ABIM (130°C, 1bar, 1sec)
	neat Seal Strength (Film/Fill	m)	lb./0.59in				0.60				ABIM (266°F, 14.5psi, 1 sec
BARRIER	Water Vapor Permeability (W.V.T.R.)		g/m²/24h				0.20	-			ASTM F 1249 (38°C / 90% RH)
DAMILIN	Oxygen Transmission Rate (O.T.R.)		cc/m ² /24h				25				ASTM D 3985 (23°C / 0% RH)

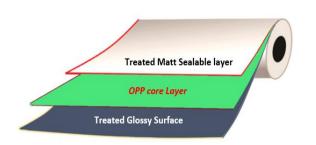
a Bopp film having one side Matte finish surface, other side glossy specially develop for Extrusion coating with both sides treated, Also one side treated available on demand.

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 VALU	ES		TEST METHOD.
	T1 : 1		Microns	13	15	20	25	30	40TM D 074
	Thickness		Gauge	52	60	80	100	120	ASTM D 374
	0		g/m²	11.19	12.92	17.20	21.50	25.80	
PHYSICAL	Grammage		lbs/ream	6.87	7.93	10.55	13.19	15.83	*ABIM
PHYSICAL	Yield		m²/kg	89.37	77.4	58.23	46.61	38.82	ABIIVI
	rieia		in²/lb	62,833	54,417	40,980	32,805	27,323	_ 2
	Coefficient of Friction (Film	n/Film)	1			0.45	M		ASTM D 1894
	Surface Tension		dynes/cm			38	100		ASTM D 2578
OPTION	Haze		%			77			ASTM D 1003
OPTICAL	Gloss (45°) GS /	MS	7.7			51 / 8			ASTM D 2457
		*MD	1 / 2	100		12			
	T 11 01 11 15 1	*TD	kg/mm ²			22			40TH B 000
	Tensile Strength at Break	MD				17,064			ASTM D 882
-		TD	psi			31,284			
450114411041		MD	0/			180			AOTH D 000
MECHANICAL	Elongation at Break	TD	%			50			ASTM D 882
		MD				200			
		TD	kg/mm ²			375			
	Modulus of Elasticity	MD				284,400			ASTM D 882
		TD	psi			583,250			
T. 150.444	T	MD	٠,			< 5.0			ABIM
THERMAL	Thermal Shrinkage	TD	%			< 2.0			(120°C (248°F), 5 min, air)

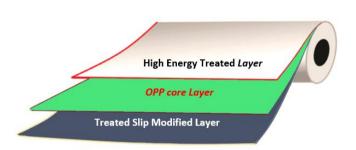
a transparent non heat sealable film, treated both side. One side treated available on demand.

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	ı	JNIT	TYP	ICAL VALUES	TEST METHOD.
	Thickness	М	icrons	12	15	ASTM D 374
	THICKNESS	G	auge	48	60	ASTM D 374
	Crammaga	,	g/m²	10.92	13.65	-
	Grammage	lbs	:/ream	6.8	8.4	*ABIM
	Yield	n	n²/kg	91.57	73.26	ADIIVI
PHYSICAL	rieid	i	1²/lb.	64,515	51,600	
	Coefficient of Friction				0.30	ASTM D 1894
	Surface Tension (Hig Side)	th energy dyr	nes/cm		40	ASTM D 2578
	Surface Tension (Cor treatment Side)	rona	7:1		38	ASTM D 2578
OPTICAL	Haze		%		1.4	ASTM D 1003
OPTICAL	Gloss (45°)				92	ASTM D 2457
		*MD	ı/mm²		15	
35	Tensile Strength at	TD \\(\frac{1}{2}\)	J/11111-		28	ASTM D 882
MECHANICAL	Break	MD	noi		21,330	ASTW D 002
WECHANICAL		TD	psi		39,816	
	Clarection at Decale	MD	%		155	ASTM D 882
	Elongation at Break	TD	%		50	ASTW D 002
THEDMAN	The second Oberial con-	MD	0/		< 4.0	*ABIM
THERMAL	Thermal Shrinkage	TD	%		< 2.0	(120°C (248°F), 5 min, air)
	Water Vapor Perme	eability g/r	n²/24h	9.2	7.7	ASTM F 1249
BARRIER	(W.V.T.R.)		0in²/24h	0.60	0.55	(38°C / 90% RH)

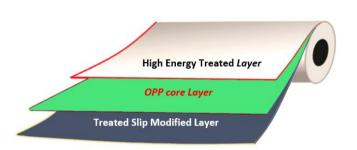
a transparent non heat sealable film, treated both side.

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 VA	LUES				TEST METHOD.
	Thirdness		Microns	12	15	17	18	19	20	25	30	50	AOTM D 274
	Thickness		Gauge	48	60	68	72	76	80	100	120	200	ASTM D 374
	C		g/m²	10.92	13.65	15.47	16.38	17.29	18.2	22.75	27.3	45.5	
	Grammage		lbs./ream	6.8	8.4	9.52	10.10	10.66	11.2	14.0	16.8	27.97	*ADIM
	Yield		m²/kg	91.57	73.26	64.64	61.05	57.84	54.95	43.96	36.63	21.97	*ABIM
PHYSICAL	Yieid		in²/lb.	64,515	51,600	45,544	43,000	40,740	38,700	31,000	25,800	15,479	
	Coefficient of Friction	9	1	1				0.25	М				ASTM D 1894
	Surface Tension (Hig Side)	h energy	dynes/cm	1				40		-	-	ef l	ASTM D 2578
	Surface Tension (Cor treatment Side)	ona	77				_	38					ASTM D 2578
OPTION	Haze		%					2.0					ASTM D 1003
OPTICAL	Gloss (45°)							90					ASTM D 2457
		*MD	kg/mm²					15					
61	Tensile Strength at	'TD	kg/IIIII-					28					ASTM D 882
MECHANICAL	Break	MD	noi					21,330					ASTWID 662
WECHANICAL		TD	psi					39,816					
	Elongation at Break	MD	%					155					ASTM D 882
	Elorigation at break	TD	/0					50					ASTIVID 002
THERMAL	Thormal Chrinkass	MD	%					< 4.0					*ABIM
I TEKIVIAL	Thermal Shrinkage	TD	70		-			< 2.0					(120°C (248°F), 5 min, air)
	Water Vapor Perm	eability	g/m²/24h	9.2	7.7	7.1	7.3	6.8	6.2	4.8	3.3	2.0	ASTM F 1249
BARRIER	(W.V.T.R.)	,	g/100in²/24h	0.60	0.55	0.51	0.48	0.45	0.39	0.31	0.21	0.13	(38°C / 90% RH)

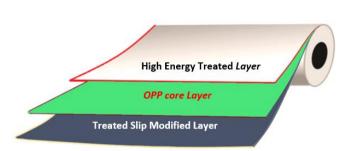
a transparent non heat sealable film, treated both side.

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 VA	LUES				TEST METHOD.
	Thistory		Microns	12	15	17	18	19	20	25	30	50	AOTM D 274
	Thickness		Gauge	48	60	68	72	76	80	100	120	200	ASTM D 374
	0		g/m²	11.0	13.65	15.47	16.38	17.29	18.2	22.75	27.3	45.5	
	Grammage		lbs./ream	6.8	8.4	9.52	10.10	10.66	11.2	14.0	16.8	27.97	*ABIM
	Yield		m²/kg	90.90	73.26	64.64	61.05	57.84	54.95	43.96	36.63	21.97	ADIIVI
PHYSICAL	rieid		in²/lb.	64,515	51,600	45,544	43,000	40,740	38,700	31,000	25,800	15,479	
	Coefficient of Friction treatment Side)	(Corona	1	4				< 0.4	М				ASTM D 1894
	Surface Tension (hig corona treatment Si		dynes/cm	1				40		-	- mil	ef l	ASTM D 2578
	Surface Tension (Cor treatment Side)	rona	7				_	38					ASTM D 2578
OPTION	Haze		%					2.0					ASTM D 1003
OPTICAL	Gloss (45°)							90					ASTM D 2457
		*MD	kg/mm²					15					
	Tensile Strength at	'TD	Kg/IIIII-					28					ASTM D 882
MECHANICAL	Break	MD	psi					21,330					ASTWID 662
WILCHAMICAL		TD	μδί					39,816					
	Elongation at Break	MD	- %					155					ASTM D 882
	Liongation at break	TD	/0					50					ASTW D 002
THERMAL	Thermal Shrinkage	MD	%					< 4.0					*ABIM
HILKIVIAL	memai Sililikaye	TD	/0					< 2.0					(120°C (248°F), 5 min, air)
DADDIED	Water Vapor Perm	eability	g/m²/24h	9.2	7.7	7.1	7.3	6.8	6.2	4.8	3.3	2.0	ASTM F 1249
BARRIER	(W.V.T.R.)	•	g/100in²/24h	0.60	0.55	0.51	0.48	0.45	0.39	0.31	0.21	0.13	(38°C / 90% RH)

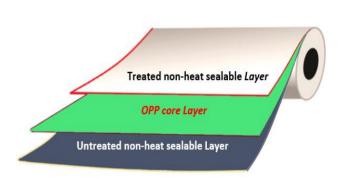
a non-heat sealable film with excellent optical and mechanical properties, one side treated to suit printing and lamination application.

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.



	PROPERTIE S	UNIT				TYF	PICAL VALU	JES			TEST METHOD.
	Thickness	Microns	15	18	20	25	30	35	40	50	ASTM D 374
The same	THICKNESS	Gauge	60	72	80	100	120	140	160	200	ASTM D 374
	Grammage	g/m ²	13.65	16.38	18.20	22.75	27.30	31.85	36.40	45.5	
PHYSICAL	Oraninage	lbs./ream	8.4	10.1	11.2	14.0	16.8	19.6	22.4	28.00	*ABIM
THISIOAL	Yield	m ² /kg	73.26	61.05	54.95	43.96	36.63	31.40	27.50	22.00	ADIM
	i iciu	in²/lb.	51,600	43,000	38,700	31,000	25,800	22,100	19,400	15.468	
	Coefficient of Friction (Film/Film)	7				0.40)				ASTM D 1894
	Surface Tension (Treated Side)	dynes/cm				38	- //				ASTM D 2578
OPTICAL	Haze	%				1.5			40		ASTM D 1003
OFTICAL	Gloss (45°)					95		7			ASTM D 2457
	*MD					15					
	Tensile *TD Strength at	kg/mm ²				28					ASTM D 882
MECHANICAL	Break MD	nei				21,	330				ASTIVID 002
MECHANICAL	TD	psi				39,8	316				
10	Elongation MD at					155					
	Break TD	%				50					ASTM D 882
	Thermal MD					< 4	1.0				ABIM
THERMAL	Shrinkage TD	%				< 2	2.0				(120oC (248oF), 5 min, air)
	Water Vapor Permeability	g/m ² /24h	7.9	7.5	7.2	6.0	5.0	4.0	3.2	2.4	ASTM F 1249
BARRIER	(W.V.T.R.)	g/100in ² /24h	0.5	0.48	0.46	0.39	0.32	0.26	0.21	0.11	(38°C / 90% RH)
DARRIER	Oxygen Transmission Rate	cc/m ² /24h	2600	2510	2200	1800	1400	1200	1000	700	ASTM D 3985
	(O.T.R.)	cc/in ² /24h	162	158	142	116	90	77	64	48	(23°C / 0% RH)

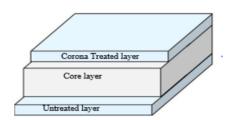
a Biaxially oriented transparent Polyester film with one side corona treatment. The treated surface has higher surface anergy which provides excellent adhesion to printing inks and laminating adhesives. The film with excellent optical and mechanical properties.

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
	Thislenge		Microns	8	10	11	12	15	19	23	30	ACTNA D 274
	Thickness		Gauge	32	40	44	48	60	76	92	120	ASTM D 374
PHYSICAL	Grammage		g/m²	11.2	14	15.4	16.8	21	26.6	32.2	42	* ABIM
PHYSICAL	Yield		m²/kg	89.3	71.4	64.9	59.5	47.6	37.5	31.1	23.81	* ABIIVI
	Coefficient of Friction (Film/Film)	107				0.	50				ASTM D 1894
	Surface Tension (Plain	Side)	dun a a la m				4	4	k-		-	ASTM D 2578
	Surface Tension (coro	na side)	dynes/cm				5	52				A31WI D 2378
OPTICAL	Haze		%				≤4	1.0				ASTM D 1003
OFTICAL	Transmittance		70				g	0		4	-	ASTM D 2457
	11/1	*MD	kg/cm ²				20	000	-			
	Tensile Strength at	*TD	kg/cm²			_	21	.00				ASTM D 882
MECHANICAL	Break	MD	kpsi				2	.9				ASTIVI D 882
WILCHANICAL		TD	κρδί				3	0				
	Elongation at Break	MD	%				1	15				ASTM D 882
	Liongation at break	TD	/0				1	00				
THERMAL	Thermal Shrinkage	MD	%				2	.4				ABIM
THERWAL	Thermal Similkage	TD	70				0	.4				(150°C ,30 min)
	Water Vapor Permeabi	ility	g/m²/24h	<60	<50	<40	<40	<<40	<35	<<30	25	ASTM F 1249
BARRIER	(W.V.T.R.)		g/100in²/24h	<3.8	<3.2	<2.5	<2.5	<2.5	<2.2	<1.9	<1.6	(38°C / 90% RH)
DAMMEN	Oxygen Transmission F	Rate	cc/m ² /24h	<140	<135	<130	<130	<130	<110	<90	<70	ASTM D 3985
	(O.T.R.)		cc/in²/24h	<8.8	<8.4	<8.1	<8.1	<<8.1	<6.9	<5.6	<4.4	(23°C / 0% RH)
	* ABIM – A	Akij BOPET Int	ernal Method		*MI	D – Machine D	irection		*TD – Tra	nsverse Direc	tion	

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

Treated Heat Sealable Layer

Cavitated OPP core Layer

Untreated Heat Sealable Layer

	PROPERTIES	UNIT			TYPICA	L VALUES			TEST METHOD.	
		Microns	20	25	30	35	40	55		
	Thickness	Gauge	80	100	120	140	160	220	ASTM D 374	
		g/m ²	13.4	16.72	20.10	23.45	26.80	36.85		
PHYSICAL	Grammage	lbs./ream	8.24	10.3	12.3	14.4	16.5	22.64		
		m ² /kg	74.63	59.70	49.75	42.64	37.31	27.10	*ABIM	
	Yield	in²/lb.	52,580	42,060	35,010	30,000	26,200	19,093		
	Density	g/cc			0.	67				
	Coefficient of Friction (Film/Film	n)			0.	40			ASTM D 1894	
	Surface Tension (Treated Side)	dynes/cm			3	8			ASTM D 2578	
OPTICAL -	Opacity	%	64	65	66	68	70	77	ASTM D589-97	
	Gloss (45°)		80					ASTM D 2457		
	*N	MD			8	3				
	Tensile Strength at Break MD	TD kg/mm ²	16 11,376					ASTM D 882		
MECHANICAL										
IECHANICAL	Ī	D psi			22,752					
	Florantion at Break	1D %	135					ASTM D 882		
		D	40							
	Thermal Shrinkage M	1D %	< 4.0 < 2.0				ABIM			
	Thermal Shillikaye	D /*						(120° C (248°F), 5 min, air)		
TUEDA44	Heat Seal Range	°C (°F)			105 – 140	(221 – 284)			ABIM	
THERMAL	Heat Seal Strength	g/15mm	300					ABIM (130°C, 1bar, 1sec)		
	(Film/Film)	lb./0.59in	0.66					ABIM (266°F, 14.5psi, 1 sec)		
	Water Vapor Permeability	g/m ² /24h		6.9 - 7.1			6.3 – 6.6		ASTM F 1249	
BARRIER	(W.V.T.R.)	g/100in ² /24h		0.44 - 0.45			0.40 - 0.42		(38°C / 90% RH)	

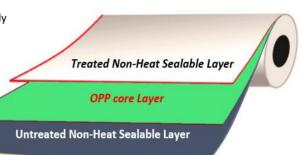
is a non-heat sealable transparent film, one side treated, designed specifically for the production of adhesive tapes.

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				TY	PICAL VA	LUES				TEST METHOD.
	Thickness		Microns	16	21	23	25	28	30	35	40	50	ACTM D 274
	THICKHESS		Gauge	64	84	92	100	112	120	140	160	200	ASTM D 374
	Grammage		g/m ²	14.56	19.11	20.93	22.75	25.48	27.30	31.85	36.40	45.5	*ABIM
PHYSICAL	Grammage		lbs./ream	9.0	11.8	12.9	14.0	15.7	16.8	19.6	22,4	28.00	
FITISICAL	Yield		m ² /kg	68.68	52.32	47.78	43.96	39.25	36.63	31.40	27.50	22.00	ADIIVI
			in²/lb.	48,390	36,200	33,600	31,000	27,600	25,800	22,100	19400	15.468	_ 2
	Coefficient of Friction (Film/Film)	on	97					0.45	- 1	0			ASTM D 1894
	Surface Tension (Treate	ed Side)	dynes/cm					38					ASTM D 2578
OPTICAL	Haze Gloss (45°)		%	-1				1.5	1		GS /		ASTM D 1003
								95					ASTM D 2457
	*MD							16					
	Break	*TD	kg/mm ²	28									
		MD psi	22,752							ASTM D 882			
5		TD	psi	39,816							Ç0		
MECHANICAL	Elongotion at Brook	MD	%	150							ASTM D 882		
VIECHAINICAL		TD	70	50									
		MD	0	220							ASTM D 882		
	Modulus of Elasticity	TD	kg/mm ²	370									
		MD	noi	312,840									
	TD		psi	526,140									
THERMAL	Thormal Chrinkogo	MD	0/					< 4.0					ABIM
ITEKWAL	Thermal Shrinkage TD		%		< 2.0							(120° C (248°F), 5 min, air)	

FOOD PACKAGING								
Category	Film	Film Description	Thickness (µm)					
Category	Туре	riiii bescription	Standard	Restricted				
	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					
Transparent	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-WL	Matt Both Side Heat Sealable, one side Corona Treated BOPP Film	15, 18, 20					
Matt	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								
C-1	Film	Film Bernietien	Thickne	ss (µm)				
Category	Туре	Film Description	Standard	Restricted				
Solid White	WSo	Solid White Both Side Heat Sealable, One Side Corona Treated BOPP Film	20, 40					
Solid White								
	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					
Metallized	мz-нв	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					

		Heat Sealable BOPP Film				
Metallized	мz-нв	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			
		СРР				
	Film	Film Description	Thickness (µm)			
Category	Туре	riim Description	Standard	Restricted		
	СТНо	Transparent Both Side Heat Sealable, One Side Corona Treated CPP Film	20, 25, 30, 40			
Transparent						
	смz	Metallized One Side, Other Side Heat Sealable CPP Film	15, 18, 20, 25, 30, 40, 50			
Metallized	СМZ-НВ	High barrier Metallized One Side, Other Side Heat Sealable CPP Film	20, 25			
	CMZ-WS	White Metallized One Side, Other Side Heat Sealable CPP	40			

CWSo Solid White Both Side Heat Sealable, One Side Corona Treated CPP Film

20, 25

LABELS								
	Label	Film	Film Description	Thickn	ess (µ)			
Category	Application	Туре	riim Description	Standard	Restricted			
	WAL	THoL	Transparent Label One Side Corona Treated BOPP Film	40				
Transparent	WAL	TNoL	Transparent Label High Gloss One Side Corona Treated BOPP Film	40		١,		
White Voided	WAL	PWL	White Cavitated Label, One Side Corona Treated BOPP Film	38],		
Totaca						Ľ		
Solid White						Ī		
Solia White								
Metallized								

INDUSTRIAL							
			Thickn	ess (µ)			
Category	Film Type	Film Description	Standard	Restricted			
	CG44H	Cigarette Inner Wrap, Both Side Sealable Non-Treated BOPP Film	20				
Transparent	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							
Application	Film Type	Film Description	Thickness (μ)				
Cigarette Over Wrap	CG99N	Cigarette Naked Wrap, Both Side Sealable Non-Treated BOPP Film	23				
	Cigarette	Application Film Type	Application Film Type Film Description Cigarette CG99N Side Sealable Non-Treated				