

CERTIFICATE OF ANALYSIS

Info Review: 05

Date: 1401.07.12

Product	Polyethylene Terephthalate film
Grade	SPS-3ETN1

Product Description:

SPS-3ETN1 is a Transparent Twist Polyester Film with Antistatic
It is one side corona treated & other side Coat of Antistatic Solution

Application:

Printing and packaging & Twist wrapping of Candies, Chocolates and Caramels

Key Features:

*Excellent clarity & Transparency & *Highly twistable & *Improved tensile & Elongation properties

Properties	Technical value			Unit	Test Method
Thickness	18 ± 3%	20 ± 3%	23 ± 3%	Micron	SPS
Haze	3.5±1	3.5±1	5.0±1	%	ASTM D-1003
Gloss	120±5			-	ASTM D-523
Yield	39.68	35.71	31.05	m²/Kg	SPS
Tensile	260±20			Mpa	TD
	240±20			Mpa	MD
Elongation	90±15			%	TD
	150±15			%	MD
Linear Shrinkage (Min) (30 minute at 150°C)	25 < L.SH ≤ 30			%	TD
	31 ≤ L.SH ≤ 33			%	MD
Density	1.4	1.4	1.4	g/cm³	ASTM D-1505
Grammage	25.2	28	32.2	g/m²	SPS
C.O.F (Antistatic to antistatic side)	0.25 ≤ C.O.F ≤ 0.35			-	ASTM D-1894
O.T.R.(23°C & 0%RH)	90	90	80	cc/m²/day	ASTM D-3985
	5.8	5.8	5.2	cc/100in²/day	
W.V.T.R.(38°C & 90%RH)	35	35	30	g/m²/day	ASTM F-1249
	2.3	2.3	2.0	g/100in²/day	
Treatment Level (Corona treated side)	60	60	60	mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

SPS CO film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such

material used in combination with any other material or in any process. SPS CO strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet

Info Review: 05

Date: 1401.07.12

Product	Polyethylene Terephthalate film
Grade	SPS-3MNC0

Product Description:

SPS-3MNC0 is a Chemical Metallized Polyester Film
 It is one side untreated & other side chemical treated metallized
 Metallized film is advised to be primer coated before printing

Application:

Lamination & Conversion & Board lamination & label application

Key Features:

- * High tensile strength for easy lamination & Excellent heat reflection properties
- *Mirrored metallic Surface
- * Excellent WVTR, OTR, and light barrier properties
- *Excellent adhesion and bright foil appearance

Properties	Technical value	Unit	Test Method
Thickness	12 ± 3%	Micron	SPS
Optical density	2 ± 0.2	%	ANSI PH2.19
Yield	59.52	m²/Kg	SPS
Tensile	260 ± 20	Mpa TD	ASTM D-882
	170 ± 20	Mpa MD	
Elongation	85 ± 15	% TD	ASTM D-882
	140 ± 25	% MD	
Linear Shrinkage (Min) (30 minute at 150°C)	≤ 1	% TD	ASTM D-1204
	≤ 1.5	% MD	
Density	1.4	g/cm³	ASTM D-1505
Grammage	16.8	g/m²	SPS
C.O.F (Non metallize to Non metallize)	0.30 ≤ C.O.F ≤ 0.35	-	ASTM D-1894
O.T.R. (23°C & 0%RH)	1.1	cc/m²/day	ASTM D-3985
	0.07	cc/100in²/day	
W.V.T.R. (38°C & 90%RH)	1.0	g/m²/day	ASTM F-1249
	0.06	g/100in²/day	
Treatment Level (Metallized & Primer coated 1 side)	58 ± 2	mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.
 SPS Complex film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. SPS Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet

Info Review: 05

Date: 1401.07.12

Product	Polyethylene Terephthalate film
Grade	SPS-3MNC1

Product Description:

SPS-3MNC1 is a Chemical Metallized Polyester Film
 It is one side corona treated & other side chemical treated metallized
 Metallized film is advised to be primer coated before printing

Application:

Lamination & Conversion & Board lamination & label application

Key Features:

- * High tensile strength for easy lamination & Excellent heat reflection properties
- * Mirrored metallic Surface & Excellent WVTR, OTR, and light barrier properties
- * Excellent adhesion and bright foil appearance

Properties	Technical value	Unit		Test Method
Thickness	12 ± 3%	Micron		SPS
Optical density	2 ± 0.2	%		ANSI PH2.19
Yield	59.52	m²/Kg		SPS
Tensile	260 ± 20	Mpa	TD	ASTM D-882
	170 ± 20	Mpa	MD	
Elongation	85 ± 15	%	TD	ASTM D-882
	140 ± 25	%	MD	
Linear Shrinkage (Min) (30 minute at 150°C)	≤ 1	%	TD	ASTM D-1204
	≤ 1.5	%	MD	
Density	1.4	g/cm³		ASTM D-1505
Grammage	16.8	g/m²		SPS
C.O.F (Non metallize to Non metallize)	0.30 ≤ C.O.F ≤ 0.35	-		ASTM D-1894
O.T.R. (23°C & 0%RH)	1.1	cc/m²/day		ASTM D-3985
	0.07	cc/100in²/day		
W.V.T.R. (38°C & 90%RH)	1.0	g/m²/day		ASTM F-1249
	0.06	g/100in²/day		
Treatment Level (Metallized & Primer coated 1 side)	58 ± 2	mN/m		ASTM D-2578
Treatment Level (Corona treated side)	60	mN/m		ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

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Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet

Info Review: 05

Date: 1401.07.12

Product	Polyethylene Terephthalate film
Grade	SPS-3MNN1

Product Description:

SPS-3MNN1 is a Metallized Polyester Film
 It is one side corona treated and other side untreated
 Metallized film is advised to be primer coated before printing

Application:

Lamination & Conversion & Board lamination & label application

Key Features:

- * High tensile strength for easy lamination & Excellent heat reflection properties
- *Mirrored metallic Surface & Excellent WVTR, OTR, and light barrier properties
- *Excellent adhesion and bright foil appearance

Properties	Technical value				Unit	Test Method
Thickness	10 ± 3%	12 ± 3%	18 ± 3%	23 ± 3%	Micron	SPS
Optical density	2 ± 0.2				%	ANSI PH2.19
Yield	71.43	59.52	39.68	31.05	m²/Kg	SPS
Tensile	260 ± 20				Mpa	TD
	170 ± 20				Mpa	MD
Elongation	85 ± 15				%	TD
	140 ± 25				%	MD
Linear Shrinkage (Min) (30 minute at 150°C)	≤ 1				%	TD
	≤ 1.5				%	MD
Density	1.4	1.4	1.4	1.4	g/cm³	ASTM D-1505
Grammage	14	16.8	25.2	32.2	g/m²	SPS
C.O.F (Non metallize to Non metallize)	0.30 ≤ C.O.F ≤ 0.35				-	ASTM D-1894
O.T.R. (23°C & 0%RH)	1.1	1.1	1.1	1.0	cc/m²/day	ASTM D-3985
	0.07	0.07	0.07	0.06	cc/100in²/day	
W.V.T.R. (38°C & 90%RH)	1.0	1.0	1.0	0.6	g/m²/day	ASTM F-1249
	0.06	0.06	0.06	0.04	g/100in²/day	
Treatment Level (Metallized side)	60				mN/m	ASTM D-2578

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Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet		Info Review: 00
		Date: 1402.02.11

Product	Polyethylene Terephthalate film
Grade	SPS-3MSC1

Product Description:

SPS-3MSC1 is a Super Chemical Metallized Polyester Film
It is one side corona treated & other side chemical treated metallized
Metallized film is advised to be primer coated before printing

Application:

Lamination, Conversion, Board lamination & label application

Key Features:

- * Excellent Metal Bond
- * suitable Heat Reflection properties
- * Good Hardness
- * Excellent Heat and Water / Solvent resistant
- *Excellent Wettability
- *Mirrored Metallic Surface & Excellent WVTR, OTR, and light barrier properties
- *Suitable adhesion and bright foil appearance
- *Smooth texture

Properties	Technical value	Unit	Test Method
Thickness	12 ± 3%	Micron	SPS
Optical density	2 ± 0.2	%	ANSI PH2.19
Yield	59.52	m²/Kg	SPS
Tensile	260 ± 20	Mpa	TD
	170 ± 20	Mpa	MD
Elongation	85 ± 15	%	TD
	140 ± 25	%	MD
Linear Shrinkage (Min) (30 minute at 150 °C)	≤ 1	%	TD
	≤ 1.5	%	MD
Density	1.4	g/cm³	ASTM D-1505
Grammage	16.8	g/m²	SPS
C.O.F (Non metallize to Non metallize)	0.30 ≤ C.O.F ≤ 0.35	-	ASTM D-1894
O.T.R. (23 °C & 0%RH)	1.1	cc/m²/day	ASTM D-3985
	0.07	cc/100in²/day	
W.V.T.R. (38 °C & 90%RH)	1.0	g/m²/day	ASTM F-1249
	0.06	g/100in²/day	
Treatment Level (Metallized & Primer coated 1 side)	58 ± 2	mN/m	ASTM D-2578
Treatment Level (Corona treated side)	60	mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

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Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

CERTIFICATE OF ANALYSIS

Info Review: 05

Date: 1401.07.12

Product	Polyethylene Terephthalate film
Grade	SPS-3MTN1

Product Description:

SPS-3MTN1 is a Metallized Twist Polyester film
 It is one side corona treated & other side untreated
 Metallized film is advised to be primer covered before printing

Application:

Printing and packaging
 Twist wrapping of Candies, Chocolates and Caramels

Key Features:

- *Highly twistable
- * High tensile strength for easy lamination
- * Excellent heat reflection properties
- *Mirrored Metallic Surface
- *Excellent WVTR, OTR, and light barrier properties

Properties	Technical value		Unit	Test Method
Thickness	18 ± 3%	23 ± 3%	Micron	SPS
Optical density	2+0.2		%	ASTM D-1003
Tensile	240±20		Mpa TD	ASTM D-882
	180±20		Mpa MD	
Elongation	90±15		% TD	ASTM D-882
	140±20		% MD	
Linear Shrinkage (Min) (30 minute at 150°C)	25 < L.SH ≤ 30		% TD	ASTM D-1204
	31 ≤ L.SH ≤ 33		% MD	
Density	1.4	1.4	g/cm³	ASTM D-1505
Grammage	25.2	32.2	g/m²	SPS
C.O.F (Non metallized to Non metallized)	0.25 ≤ C.O.F ≤ 0.35		-	ASTM D-1894
O.T.R. (23°C & 0%RH)	1.1	1.0	cc/m²/day	ASTM D-3985
	0.07	0.06	cc/100in²/day	
W.V.T.R. (38°C & 90%RH)	1.0	0.6	g/m²/day	ASTM F-1249
	0.06	0.04	g/100in²/day	
Treatment Level (Corona treated side)	60		mN/m	ASTM D-2578

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Technical Data Sheet

Info Review: 08

Date: 1402.02.11

Product	Polyethylene Terephthalate film
Grade	SPS-3PNC0

Product Description:

SPS-3PNC0 is a plain Polyester Film

It is one side chemical treated & other side untreated

Applications:

Conversion, Metallization, Printing & lamination

Key Features:

*Very good transparency & clarity

*Outside corona treated for improved bond with outer substrate properties

*Excellent machinability and hardness properties

*Smooth texture

*Provide Excellent wettability

*Good metal adhesion

Properties	Technical value				Unit	Test Method
Thickness	$10 \pm 3\%$	$12 \pm 3\%$	$23 \pm 3\%$	$36 \pm 3\%$	Micron	SPS
Haze	3 ± 1		3.5 ± 1	4.5 ± 1	%	ASTM D-1003
Gloss	≥ 120				-	ASTM D-523
Yield	71.42	59.52	31.05	19.84	m ² /Kg	SPS
Tensile	250 ± 20				Mpa	TD
	240 ± 20				Mpa	MD
Elongation	90 ± 15				%	TD
	120 ± 20				%	MD
Linear Shrinkage (Min) (30 minute at 150°C)	≤ 1				%	TD
	≤ 1.5				%	MD
Density	1.4	1.4	1.4	1.4	g/cm ³	ASTM D-1505
Grammage	14	16.8	32.2	50.4	g/m ²	SPS
C.O.F (plain to plain)	$0.25 \leq \text{C.O.F} \leq 0.35$				-	ASTM D-1894
O.T.R. (23°C & 0%RH)	155	130	80	70	cc/m ² /day	ASTM D-3985
	10.1	8.5	5.2	4.5	cc/100in ² /day	
W.V.T.R. (38°C & 90%RH)	50	45	30	20	g/m ² /day	ASTM F-1249
	3.2	2.9	2.0	1.3	g/100in ² /day	
Treatment Level (primer coated side)	58 ± 2				mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

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Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet

Info Review: 06

Date: 1402.02.11

Product	Polyethylene Terephthalate film
Grade	SPS-3PNC1

Product Description:

SPS-3PNC1 is a Chemical Transparent Polyester Film
It is one side chemical treated & other side corona treated

Application:

Conversion, Metallization, Printing & lamination

Key Features

- * Very good transparency & clarity
- * Outside corona treated for improved bond with outer substrate
- * Excellent machinability and hardness properties
- * Smooth texture
- * Provide Excellent wettability
- * Good metal adhesion

Properties	Technical value			Unit	Test Method
Thickness	$10 \pm 3\%$	$12 \pm 3\%$	$23 \pm 3\%$	Micron	SPS
Haze	3 ± 1		4 ± 1	%	ASTM D-1003
Gloss	≥ 120			-	ASTM D-523
Yield	71.42	59.52	31.05	m²/Kg	SPS
Tensile	250 ± 20			Mpa	TD
	240 ± 20			Mpa	MD
Elongation	90 ± 15			%	TD
	120 ± 20			%	MD
Linear Shrinkage (Min) (30 minute at 150°C)	≤ 1			%	TD
	≤ 1.5			%	MD
Density	1.4	1.4	1.4	g/cm³	ASTM D-1505
Grammage	14	16.8	32.2	g/m²	SPS
C.O.F (untreated to untreated)	$0.25 \leq \text{C.O.F} \leq 0.35$			-	ASTM D-1894
O.T.R. (23°C & 0%RH)	155	130	80	cc/m²/day	ASTM D-3985
	10.1	8.5	5.2	cc/100in²/day	
W.V.T.R. (38°C & 90%RH)	50	45	30	g/m²/day	ASTM F-1249
	3.2	2.9	2.0	g/100in²/day	
Treatment Level (Corona treated side)	60			mN/m	ASTM D-2578
Treatment Level (Primer coated side)	58 ± 2			mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

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Technical Data Sheet

Info Review: 07

Date: 1401.07.12

Product	Polyethylene Terephthalate film
Grade	SPS-3PNN0

Product Description:

SPS-3PNN0 is a Untreated Transparent Polyester film

It is both side untreated

Application:

Electrical insulation Motor winding, Cable over wrap & Industrial application like electrical insulation tape & High strength yarn application

Key Features:

- *Excellent dielectric properties
- *High break down voltage
- *Excellent machinability & handling properties
- *High electrical receptivity

Properties	Technical value	Unit	Test Method
Thickness	18 ± 3%	Micron	SPS
Haze	3 ± 1	%	ASTM D-1003
Gloss	≥ 120	-	ASTM D-523
Tensile	250 ± 20	Mpa TD	ASTM D-882
	240 ± 20	Mpa MD	
Elongation	90 ± 15	% TD	ASTM D-882
	120 ± 20	% MD	
Linear Shrinkage (Min) (30 minute at 150°C)	≤ 1.5	% TD	ASTM D-1204
		% MD	
Density	1.4	g/cm³	ASTM D-1505
Grammage	25.2	g/m²	SPS
C.O.F (Side to Side)	0.25 ≤ C.O.F ≤ 0.35	-	ASTM D-1894
O.T.R. (23°C & 0%RH)	110	cc/m²/day	ASTM D-3985
	7.1	cc/100in²/day	
W.V.T.R. (38°C & 90%RH)	40	g/m²/day	ASTM F-1249
	2.6	g/100in²/day	

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Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet

Info Review: 05

Date: 1401.07.12

Product	Polyethylene Terephthalate film
Grade	SPS-3PNN1

Product Description:

SPS-3PNN1 is a Transparent Polyester Film

It is one side corona treated & other side untreated

Application:

Outside printing & lamination & Lamination on films and paper without printing

Key Features:

*Excellent clarity & transparency

*Improved tensile & elongation properties

*Excellent machinability & handling properties

Properties	Technical value					Unit	Test Method
Thickness	10 ± 3%	12 ± 3%	18 ± 3%	23 ± 3%	36 ± 3%	Micron	SPS
Haze	3 ± 1					%	ASTM D-1003
Gloss	≥ 115					-	ASTM D-523
Tensile	250 ± 20					Mpa	TD
	240 ± 20					Mpa	MD
Elongation	90 ± 15					%	TD
	120 ± 20					%	MD
Linear Shrinkage (Min) (30 minute at 150°C)	≤ 1					%	TD
	≤ 1.5					%	MD
Density	1.4	1.4	1.4	1.4	1.4	g/cm ³	ASTM D-1505
Grammage	14	16.8	25.2	32.2	50.4	g/m ²	SPS
C.O.F (untreat to untreat)	0.25 ≤ C.O.F ≤ 0.35					-	ASTM D-1894
O.T.R. (23°C & 0%RH)	155	130	105	80	70	cc/m ² /day	ASTM D-3985
	10.1	8.5	6.3	5.2	4.5	cc/100in ² /day	
W.V.T.R. (38°C & 90%RH)	50	45	35	30	20	g/m ² /day	ASTM F-1249
	3.2	2.9	2.6	2.0	1.3	g/100in ² /day	
Treatment Level (Corona treated side)	60					mN/m	ASTM D-2578

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Technical Data Sheet

Info Review: 00

Date: 1402.02.11

Product	Polyethylene Terephthalate film
Grade	SPS-3PSC1

Product Description:

SPS-3PSC1 is a Super Chemical Transparent Polyester Film

It is one side chemical treated & other side corona treated

Application:

Conversion, Metallization, Printing & lamination

Key Features

- * Very good transparency & clarity
- * Provide suitable wettability
- * Outside corona treated for improved bond with outer substrate
- * Good machinability and hardness properties
- * Improved metal adhesion
- * Heat and Solvent resistant
- * Smooth texture

Properties	Technical value			Unit	Test Method
Thickness	$10 \pm 3\%$	$12 \pm 3\%$	$23 \pm 3\%$	Micron	SPS
Haze	3 ± 1		4 ± 1	%	ASTM D-1003
Gloss	≥ 120			-	ASTM D-523
Yield	71.42	59.52	31.05	m²/Kg	SPS
Tensile	250 ± 20			Mpa	TD
	240 ± 20			Mpa	MD
Elongation	90 ± 15			%	TD
	120 ± 20			%	MD
Linear Shrinkage (Min) (30 minute at 150°C)	≤ 1			%	TD
	≤ 1.5			%	MD
Density	1.4	1.4	1.4	g/cm³	ASTM D-1505
Grammage	14	16.8	32.2	g/m²	SPS
C.O.F (untreated to untreated)	$0.25 \leq \text{C.O.F} \leq 0.35$			-	ASTM D-1894
O.T.R. (23°C & 0%RH)	155	130	80	cc/m²/day	ASTM D-3985
	10.1	8.5	5.2	cc/100in²/day	
W.V.T.R. (38°C & 90%RH)	50	45	30	g/m²/day	ASTM F-1249
	3.2	2.9	2.0	g/100in²/day	
Treatment Level (Corona treated side)	60			mN/m	ASTM D-2578
Treatment Level (Primer coated side)	58 ± 2			mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

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Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

		Technical Data Sheet	Info Review: 05
			Date: 1401.07.06

Product	Polyethylene Terephthalate film
Grade	SPS-3RNN1

Product Description:

SPS-3RNN1 is a white polyester film
It is one side corona treated & other side untreated

Application:

Printing & lamination for use in packaging & Labels and tags

Key Features:

- *Low light transmission
- *Improved tensile & elongation properties
- *High opaque
- *Excellent machinability & handling properties

Properties	Technical value		Unit	Test Method
Thickness	23 ± 3%	40 ± 3%	Micron	SPS
Transmittance	39±4		%	ASTM D-1003
Gloss	65 ≤		-	ASTM D-523
Yield	31.05	17.86	m²/Kg	SPS
Tensile	240 ± 20		Mpa	TD
	180 ± 20		Mpa	MD
Elongation	90 ± 15		%	TD
	120 ± 20		%	MD
Linear Shrinkage (Min) (30 minute at 150°C)	≤ 1		%	TD
	≤ 1.5		%	MD
Density	1.4	1.4	g/cm³	ASTM D-1505
Grammage	32.2	56	g/m²	SPS
C.O.F (untreated to untreated)	0.25 < C.O.F < 0.35		-	ASTM D-1894
O.T.R. (23°C & 0%RH)	80	60	cc/m²/day	ASTM D-3985
	5.2	3.9	cc/100in²/day	
W.V.T.R. (38°C & 90%RH)	30	19	g/m²/day	ASTM F-1249
	2.0	1.2	g/100in²/day	
Treatment Level (Corona treated side)	60	60	mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

SPS Complex film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. SPS Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

CERTIFICATE OF ANALYSIS

Info Review: 05

Date: 1401.07.12

Product	Polyethylene Terephthalate film
Grade	SPS-3RTN1

Product Description:

SPS-3RTN1 is a White Twist Polyester film with Antistatic
It is one side corona treated & other side Antistatic solution coated

Application:

Printing and packaging & Twist wrapping of Candies, Chocolates and Caramels

Key Features:

- *Low light transmission
- *Highly twistable
- *Improved tensile & Elongation properties
- *High opaque

Properties	Technical value		Unit		Test Method
Thickness	20 ± 3%	23 ± 3%	Micron		SPS
Transmittance	39±4		%		ASTM D-1003
Gloss	≥ 65		-		ASTM D-523
Tensile	260±20		Mpa	TD	ASTM D-882
	240±20		Mpa	MD	
Elongation	90±15		%	TD	ASTM D-882
	150±15		%	MD	
Linear Shrinkage (Min) (30 minute at 150°C)	25 < L.SH ≤ 30		%	TD	ASTM D-1204
	31 ≤ L.SH ≤ 33		%	MD	
Static	<2000		kV		ASTM D-6216
Density	1.4	1.4	g/cm³		ASTM D-1505
Grammage	28	32.2	g/m²		SPS
C.O.F (untreated to untreated)	0.30 < C.O.F < 0.55		-		ASTM D-1894
O.T.R.(23°C & 0%RH)	90	80	cc/m²/day		ASTM D-3985
	5.8	5.2	cc/100in²/day		
W.V.T.R.(38°C & 90%RH)	35	30	g/m²/day		ASTM F-1249
	2.3	2.0	g/100in²/day		
Treatment Level (Corona treated side)	60	60	mN/m		ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

SPS CO film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. SPS CO strongly suggest that before any vast usage, make sure to test our production first.

Storage :Keep the rolls in room temperature between 10-25 ° C , humidity below 10% , Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature , The rolls should be kept in cool dry place and away from direct sunlight.

CERTIFICATE OF ANALYSIS

Info Review: 00

Date: 1401.07.12

Product	Polyethylene Terephthalate Film
Grade	SPS-3VNN1

Product Description:

SPS-3VNN1 is a White Metallized Polyester Film
 It is one side corona (metallized) & other side untreated
 Metallized film is advised to be primer coated before printing

Application:

Lamination & Conversion & Board lamination & label application

Key Features:

- * High tensile strength for easy lamination & Excellent heat reflection properties
- *Mirrored metallic Surface & Excellent WVTR, OTR, and light barrier properties
- *Excellent adhesion and bright foil appearance

Properties	Technical value	Unit		Test Method
Thickness	12 ± 3%	Micron		SPS
Transmittance	60 ± 5			
Optical density	2 ± 0.2	%		ANSI PH2.19
Yield	59.52	m²/Kg		SPS
Tensile	260 ± 20	Mpa	TD	ASTM D-882
	240 ± 20	Mpa	MD	
Elongation	90 ± 15	%	TD	ASTM D-882
	150 ± 15	%	MD	
Linear Shrinkage (Min) (30 minutes at 150°C)	≤ 1	%	TD	ASTM D-1204
	≤ 1.5	%	MD	
Density	1.4	g/cm³		ASTM D-1505
Grammage	16.8	g/m²		SPS
C.O.F (Non metallize to Non metallize)	0.30 ≤ C.O.F ≤ 0.35	-		ASTM D-1894
O.T.R. (23°C & 0%RH)	1.1	cc/m²/day		ASTM D-3985
	0.07	cc/100in²/day		
W.V.T.R. (38°C & 90%RH)	1.0	g/m²/day		ASTM F-1249
	0.06	g/100in²/day		
Treatment Level (Metallized)	60	mN/m		ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

SPS Complex film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. SPS Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet		Info Review: 01
		Date: 1401.07.12

Product	Biaxially oriented polypropylene film
Grade	1HBK1

Product Description:

1HBK1 is a low friction transparent polypropylene film It is one side corona treated and both side heat sealable

Application:

General heat seal packaging & printing & lamination

Key Features:

- *Excellent clarity & transparency & low friction
- *Improved tensile & elongation properties
- *Excellent machinability & handling properties
- *Good sealing strength on both sides
- * Low friction packages

Properties	Technical value				Unit	Test Method
Thickness	20 ± 3%	25 ± 3%	30 ± 3%	40 ± 3%	Micron	SPS
Haze	≤ 2			≤ 3	%	ASTM D-1003
Gloss	≥ 90				-	ASTM D-523
Yield	54.94	43.96	36.63	27.47	m ² /Kg	SPS
Tensile	240 ± 20				Mpa TD	ASTM D-882
	140 ± 20				Mpa MD	
Elongation	40 ± 10				% TD	ASTM D-882
	190 ± 20				% MD	
Linear Shrinkage (Min) (5 minute at 125°C)	2 ± 1				% TD	ASTM D-1204
	4 ± 1				% MD	
Density	0.91				g/cm ³	ASTM D-1505
Grammage	18.2	22.75	27.3	36.4	g/m ²	SPS
C.O.F (untreated to untreated)	≤ 0.3				-	ASTM D-1894
Sealing Strength	> 2				N/15mm	SPS
Heat Seal Initiation Temperature	≤ 120				°C	SPS
O.T.R.(23°C & 0%RH)	1800	1700	1600	1300	cc/m ² /day	ASTM D-3985
	116	110	104	98	cc/100in ² /day	
W.V.T.R.(38°C & 90%RH)	6.5	6	5.7	5	g/m ² /day	ASTM F-1249
	0.42	0.39	0.37	0.32	g/100in ² /day	
Treatment Level (Corona treated side)	≥ 38				mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values . Any data included herein is based upon analysis of representative samples and not the actual product shipped . This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

		Technical Data Sheet				Info Review: 04	
						Date: 1401.07.12	

Product	Biaxially oriented polypropylene film					
Grade	1HBN1					

Product Description:

1HBN1 is a transparent polypropylene film
It is one side corona treated and both side heat sealable

Application:

General heat seal packaging & printing & lamination

Key Features:

- *Excellent clarity & transparency
- *Improved tensile & elongation properties
- *Excellent machinability & handling properties
- *Good sealing strength on both sides

Properties	Technical value				Unit		Test Method
Thickness	20 ± 3%	25 ± 3%	30 ± 3%	40 ± 3%	Micron		SPS
Haze	≤ 2			≤ 3	%		ASTM D-1003
Gloss	≥ 90				-		ASTM D-523
Yield	54.94	43.96	36.63	27.47	m ² /Kg		SPS
Tensile	240 ± 20				Mpa	TD	ASTM D-882
	140 ± 20				Mpa	MD	
Elongation	40 ± 10				%	TD	ASTM D-882
	190 ± 20				%	MD	
Linear Shrinkage (Min) (5 minute at 125°C)	2 ± 1				%	TD	ASTM D-1204
	4 ± 1				%	MD	
Density	0.91				g/cm ³		ASTM D-1505
Grammage	18.2	22.75	27.3	36.4	g/m ²		SPS
C.O.F (untreated to untreated)	≤ 0.45				-		ASTM D-1894
Sealing Strength	> 2				N/15mm		SPS
Heat Seal Initiation Temperature	≤ 120				°C		SPS
O.T.R.(23°C & 0%RH)	1800	1700	1600	1300	cc/m ² /day		ASTM D-3985
	116	110	104	98	cc/100in ² /day		
W.V.T.R.(38°C & 90%RH)	6.5	6	5.7	5	g/m ² /day		ASTM F-1249
	0.42	0.39	0.37	0.32	g/100in ² /day		
Treatment Level (Corona treated side)	≥ 38				mN/m		ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values . Any data included herein is based upon analysis of representative samples and not the actual product shipped . This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet		Info Review: 04
		Date: 1401.07.06

Product	Biaxially oriented polypropylene film
Grade	1HCN1

Product Description:

1HCN1 is a transparent polypropylene film
It is one side corona treated and one side heat sealable

Application:

General heat seal packaging & one side printing & lamination

Key Features:

- *Excellent clarity & transparency
- *Improved tensile & elongation properties
- *Excellent machinability & handling properties
- *Good sealing strength

Properties	Technical value				Unit	Test Method
Thickness	20 ± 3%	25 ± 3%	30 ± 3%	40 ± 3%	Micron	SPS
Haze	≤ 2			≤ 3	%	ASTM D-1003
Gloss	≥ 90				-	ASTM D-523
Yield	54.94	43.96	36.63	27.47	m ² /Kg	SPS
Tensile	240 ± 20				Mpa TD	ASTM D-882
	140 ± 20				Mpa MD	
Elongation	40 ± 10				% TD	ASTM D-882
	190 ± 20				% MD	
Linear Shrinkage (Min) (5 minute at 125°C)	2 ± 1				% TD	ASTM D-1204
	4 ± 1				% MD	
Density	0.91				g/cm ³	ASTM D-1505
Grammage	18.2	22.75	27.3	36.4	g/m ²	SPS
C.O.F (plain to plain)	≤ 0.45				-	ASTM D-1894
Sealing Strength	> 2				N/15mm	SPS
Heat Seal Initiation Temperature	≤ 120				°C	SPS
O.T.R.(23°C & 0%RH)	1800	1700	1600	1300	cc/m ² /day	ASTM D-3985
	116	110	103	84	cc/100in ² /day	
W.V.T.R.(38°C & 90%RH)	6.5	6	5.7	5	g/m ² /day	ASTM F-1249
	0.42	0.39	0.37	0.32	g/100in ² /day	
Treatment Level (Corona treated side)	≥ 38				mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet		Info Review: 04
		Date: 1401.07.12

Product	Biaxially oriented polypropylene film
Grade	1HDN1

Product Description:

1HDN1 is a transparent polypropylene film
It is one side corona treated and both side unsealable

Application:

General cold seal packaging

Key Features

- *Excellent clarity & transparency
- *Improved tensile & elongation properties
- *Excellent machinability & handling properties

Properties	Technical value			Unit		Test Method
Thickness	20 ± 3%	25 ± 3%	30 ± 3%	Micron		SPS
Haze	≤ 2			%		ASTM D-1003
Gloss	≥ 90			-		ASTM D-523
Yield	54.94	43.96	36.63	m ² /Kg		SPS
Tensile	240 ± 20			Mpa	TD	ASTM D-882
	140 ± 20			Mpa	MD	
Elongation	40 ± 10			%	TD	ASTM D-882
	190 ± 20			%	MD	
Linear Shrinkage (Min) (5 minute at 125°C)	1.5 ± 0.5			%	TD	ASTM D-1204
	4 ± 1			%	MD	
Density	0.91			g/cm ³		ASTM D-1505
Grammage	18.2	22.75	27.3	g/m ²		SPS
C.O.F (untreated to untreated)	≤0.45			-		ASTM D-1894
O.T.R.(23°C & 0%RH)	1800	1700	1600	cc/m ² /day		ASTM D-3985
	116	110	104	cc/100in ² /day		
W.V.T.R.(38°C & 90%RH)	6.5	6	6	g/m ² /day		ASTM F-1249
	0.42	0.39	0.39	g/100in ² /day		
Treatment Level (Corona treated side)	≥ 38			mN/m		ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight

Technical Data Sheet		Info Review: 03
		Date: 1401.07.24

Product	Biaxially oriented polypropylene film
Grade	1IBN2

Product Description:

1IBN2 is a white pearl polypropylene film for production of in mould labels (IML) One side white matt and other side glossy
 Special antistatic properties
 Low density, high opacity, high yield and high gloss
 Both side corona treated film and both side sealable
 Glossy side for printing
 Matt side for injection moulding with polypropylene
 Without primers or coating
 Contains migratory and non-migratory additives

Application:

The basis for the production of in-mold labels (IML)
 For polypropylene injection moulding

Key Features:

- *Low light transmission
- *High opaque
- *Improved tensile & Elongation properties

Properties	Technical value		Unit	Test Method
Thickness	60	70	Micron	SPS
Transmittance	≤ 30		%	ASTM D-1003
Gloss for white side	≥ 50		-	ASTM D-523
Gloss for matt side	< 12		-	
Yield	23.8	20.4	m²/Kg	SPS
Tensile	130 ± 20		Mpa	TD
	70 ± 15		Mpa	MD
Elongation	30 ± 10		%	TD
	190 ± 20		%	MD
Linear Shrinkage (Min) (30 minute at 150°C)	2 ± 1		%	ASTM D-1204
	4 ± 1		%	
Density	0.7 ± 0.03		g/cm³	ASTM D-1505
Grammage	42	49	g/m²	SPS
Heat Seal Initiation Temperature	Matt side	≤ 135		°C
	glossy side	≤ 130		
C.O.F	Matt to Matt	≤ 0.45		-
	glossy to glossy			
O.T.R. (23°C & 0%RH)	1700	1600	cc/m²/day	ASTM D-3985
	110	104	cc/100in²/day	
W.V.T.R. (38°C & 90%RH)	6	6	g/m²/day	ASTM F-1249
	0.39	0.39	g/100in²/day	
Treatment Level (both side)	Matt side	36		mN/m
	glossy side	38		

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet		Info Review: 00
		Date: 1401.07.07

Product	Biaxially oriented polypropylene film
Grade	1MCK1

Product Description:

1MCK1 is a metallized low friction polypropylene film
It is one side metallized & corona treated and other side sealable

Application:

Heat seal lamination & Conversion
Board, paper and film lamination & General printing & for low friction packages

Key Features:

- * Excellent heat reflection properties
- * One side metallic Surface
- * Excellent adhesion
- * Low light transmission
- * Good sealing strength

Properties	Technical value	Unit	Test Method
Thickness	20 ± 3%	Micron	SPS
Optical density	2 ± 0.2	%	ANSI PH2.19
Yield	54.94	m ² /Kg	SPS
Tensile	240 ± 30	Mpa TD	ASTM D-882
	130 ± 20	Mpa MD	
Elongation	50 ± 10	% TD	ASTM D-882
	190 ± 20	% MD	
Linear Shrinkage (Min) (5 minute at 125°C)	≤ 2.0	% TD	ASTM D-1204
	≤ 5.0	% MD	
Density	0.91	g/cm ³	ASTM D-1505
Grammage	18.2	g/m ²	SPS
C.O.F (plain to plain)	≤ 0.35	-	ASTM D-1894
Sealing Strength	> 2	N/15mm	SPS
Heat Seal Initiation Temperature	120 ± 5	°C	SPS
O.T.R. (23°C & 0%RH)	80	cc/m ² /day	ASTM D-3985
	5.16	cc/100in ² /day	
W.V.T.R. (38°C & 90%RH)	0.5	g/m ² /day	ASTM F-1249
	0.03	g/100in ² /day	
Treatment Level (one side)	≥ 36	mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet		Info Review: 04
		Date: 1401.07.12

Product	Biaxially oriented polypropylene film
Grade	1MCN1

Product Description:

1MCN1 is a metallized polypropylene film
It is one side corona treated (metallized) and other side sealable

Application:

Heat seal lamination & Conversion
Board, paper and film lamination & General printing

Key Features:

- * Excellent heat reflection properties
- * One side metallic Surface
- * Excellent adhesion
- * Low light transmission
- * Good sealing strength
- * Excellent WVTR, OTR, and light barrier properties

Properties	Technical value	Unit	Test Method
Thickness	20 ± 3%	Micron	SPS
Optical density	2 ± 0.2	%	ANSI PH2.19
Yield	54.94	m ² /Kg	SPS
Tensile	240 ± 30	Mpa TD	ASTM D-882
	130 ± 20	Mpa MD	
Elongation	50 ± 10	% TD	ASTM D-882
	190 ± 20	% MD	
Linear Shrinkage (Min) (5 minute at 125°C)	≤ 2.0	% TD	ASTM D-1204
	≤ 5.0	% MD	
Density	0.91	g/cm ³	ASTM D-1505
Grammage	18.2	g/m ²	SPS
C.O.F (untreated to untreated)	≤ 0.45	-	ASTM D-1894
Sealing Strength	> 2	N/15mm	SPS
Heat Seal Initiation Temperature	120 ± 5	°C	SPS
O.T.R. (23°C & 0%RH)	80	cc/m ² /day	ASTM D-3985
	5.16	cc/100in ² /day	
W.V.T.R. (38°C & 90%RH)	0.5	g/m ² /day	ASTM F-1249
	0.03	g/100in ² /day	
Treatment Level (one side)	≥ 36	mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet		Info Review: 04
		Date: 1401.07.12

Product	Biaxially oriented polypropylene film
Grade	1MCN2

Product Description:

1MCN2 is a metallized polypropylene film It is both side corona treated and one side sealable (Non metallized side)

Application:

Heat seal lamination & Conversion
Board, paper and film lamination & General printing

Key Features:

- * Excellent heat reflection properties
- * One side metallic Surface
- * Excellent adhesion
- * Low light transmission
- * Good sealing strength
- * Excellent WVTR, OTR, and light barrier properties

Properties	Technical value	Unit	Test Method
Thickness	20 ± 3%	Micron	SPS
Optical density	2 ± 0.2	%	ANSI PH2.19
Yield	54.94	m ² /Kg	SPS
Tensile	240 ± 30	Mpa TD	ASTM D-882
	130 ± 20	Mpa MD	
Elongation	50 ± 10	% TD	ASTM D-882
	190 ± 20	% MD	
Linear Shrinkage (Min) (5 minute at 125°C)	4 ± 1	% TD	ASTM D-1204
	2 ± 1	% MD	
Density	0.91	g/cm ³	ASTM D-1505
Grammage	18.2	g/m ²	SPS
C.O.F (Non metallized to Non metallized)	≤ 0.45	-	ASTM D-1894
Sealing Strength	> 2	N/15mm	SPS
Heat Seal Initiation Temperature	120 ± 5	°C	SPS
O.T.R. (23°C & 0%RH)	80	cc/m ² /day	ASTM D-3985
	5.16	cc/100in ² /day	
W.V.T.R. (38°C & 90%RH)	0.5	g/m ² /day	ASTM F-1249
	0.03	g/100in ² /day	
Treatment Level (both side)	≥ 36	mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 °C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight

Technical Data Sheet		Info Review: 05
		Date: 1401.07.06

Product	Biaxially oriented polypropylene film
Grade	1PAN1

Product Description:

1PAN1 is a plain polypropylene film
It is one side corona treated and unsealable

Application:

Decorative wrapping or other packaging & Production of adhesive tapes & Labels and tags

Key Features

- *Excellent clarity & transparency
- *Improved tensile & elongation properties
- *Excellent machinability & handling properties
- *High electrical receptivity

Properties	Technical value			Unit	Test Method
Thickness	20 ± 3%	25 ± 3%	30 ± 3%	Micron	SPS
Haze	≤ 2			%	ASTM D-1003
Gloss	≥ 90			-	ASTM D-523
Yield	54.94	43.96	36.63	m²/Kg	SPS
Tensile	240 ± 20			Mpa TD	ASTM D-882
	140 ± 20			Mpa MD	
Elongation	40 ± 10			% TD	ASTM D-882
	190 ± 20			% MD	
Linear Shrinkage (Min) (5 minute at 125°C)	1.5 ± 0.5			% TD	ASTM D-1204
	4 ± 1			% MD	
Density	0.91			g/cm³	ASTM D-1505
Grammage	18.2	22.75	27.3	g/m²	SPS
C.O.F (plain to plain)	≤ 0.45			-	ASTM D-1894
O.T.R.(23°C & 0%RH)	1800	1700	1600	cc/m²/day	ASTM D-3985
	116	110	104	cc/100in²/day	
W.V.T.R.(38°C & 90%RH)	6.5	6	6	g/m²/day	ASTM F-1249
	0.42	0.39	0.39	g/100in²/day	
Treatment Level (Corona treated side)	≥ 36			mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values . Any data included herein is based upon analysis of representative samples and not the actual product shipped . This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

		Technical Data Sheet	Info Review: 05
			Date: 1401.07.06

Product	Biaxially oriented polypropylene film
Grade	1PAN2

Product Description:

1PAN2 is a Plain Polypropylene film
Both side corona treated and unsealable

Application:

both side corona for printing & Lamination on paper and card board

Key Features:

- *Excellent clarity & transparency
- *Improved tensile & elongation properties
- *Excellent machinability & handling properties
- *Good sealing strength

Properties	Technical value		Unit	Test Method
Thickness	15 ± 3%	20 ± 3%	Micron	SPS
Haze	≤ 2		%	ASTM D-1003
Gloss	≥ 90		-	ASTM D-523
Yield	73.3	54.94	m²/Kg	SPS
Tensile	240 ± 20		Mpa	ASTM D-882
	140 ± 20		Mpa	
Elongation	40 ± 10		%	ASTM D-882
	190 ± 20		%	
Linear Shrinkage (Min) (30 minute at 150°C)	1.5 ± 0.5		%	ASTM D-1204
	4 ± 1		%	
Density	0.91	0.91	g/cm³	ASTM D-1505
Grammage	13.65	18.2	g/m²	SPS
C.O.F (plain to plain)	≤ 0.45		-	ASTM D-1894
O.T.R.(23°C & 0%RH)	1800	1700	cc/m²/day	ASTM D-3985
	116	110	cc/100in²/day	
W.V.T.R.(38°C & 90%RH)	6.5	6	g/m²/day	ASTM F-1249
	0.42	0.39	g/100in²/day	
Treatment Level (Corona treated side)	≥ 38		mN/m	ASTM D-2578
	≥ 36			

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet		Info Review: 04
		Date: 1401.07.06

Product	Biaxially oriented polypropylene film
Grade	1SAN1

Product Description:

1SAN1 is a white cavitated polypropylene film It is one side corona treated and un sealable

Application:

Labels and tags

Key Features:

*Low light transmission

*Improved tensile & elongation properties

*High opaque

Properties	Technical value				Unit	Test Method
Thickness	25 ± 5%	30 ± 5%	35 ± 5%	40 ± 5%	Micron	SPS
Transmittance	38 ± 5				%	ASTM D-1003
Gloss	≥ 50				-	ASTM D-523
Yield	57.14	47.62	40.82	35.71	m ² /Kg	SPS
Tensile	150 ± 25				Mpa TD	ASTM D-882
	70 ± 10				Mpa MD	
Elongation	30 ± 10				% TD	ASTM D-882
	140 ± 25				% MD	
Linear Shrinkage (Min) (5 minute at 125°C)	2 ± 1				% TD	ASTM D-1204
	4 ± 1				% MD	
Density	0.7 ± 0.03				g/cm ³	ASTM D-1505
Grammage	17.5	21	24.5	28	g/m ²	SPS
C.O.F (plain to plain)	≤0.45				-	ASTM D-1894
Sealing Strength	> 2				N/15mm	SPS
Heat Seal Initiation Temperature	≤ 120				°C	SPS
O.T.R.(23°C & 0%RH)	1700	1600	1550	1500	cc/m ² /day	ASTM D-3985
	110	104	100	98	cc/100in ² /day	
W.V.T.R.(38°C & 90%RH)	6	6	5.5	5.5	g/m ² /day	ASTM F-1249
	0.39	0.39	0.36	0.36	g/100in ² /day	
Treatment Level (Corona treated side)	≥ 38				mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values . Any data included herein is based upon analysis of representative samples and not the actual product shipped . This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process . Complex strongly suggest that before any vast usage , make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet		Info Review: 04
		Date: 1401.07.06

Product	Biaxially oriented polypropylene film
Grade	1SAN2

Product Description:

1SAN2 is a white cavitated polypropylene film It is both side corona treated and unsealable

Application:

Labels and tags

Key Features:

*Low light transmission

*Improved tensile & Elongation properties

*High opaque

Properties	Technical value				Unit	Test Method
Thickness	25 ± 5%	30 ± 5%	35 ± 5%	40 ± 5%	Micron	SPS
Transmittance	38 ± 5				%	ASTM D-1003
Gloss	≥ 50				-	ASTM D-523
Yield	57.14	47.62	40.82	35.71	m ² /Kg	SPS
Tensile	150 ± 25				Mpa TD	ASTM D-882
	70 ± 10				Mpa MD	
Elongation	30 ± 10				% TD	ASTM D-882
	140 ± 25				% MD	
Linear Shrinkage (Min) (5 minute at 125°C)	2 ± 1				% TD	ASTM D-1204
	4 ± 1				% MD	
Density	0.7 ± 0.03				g/cm ³	ASTM D-1505
Grammage	17.5	21	24.5	28	g/m ²	SPS
C.O.F (plain to plain)	≤ 0.45				-	ASTM D-1894
O.T.R.(23°C & 0%RH)	1700	1600	1550	1500	cc/m ² /day	ASTM D-3985
	110	104	100	98	cc/100in ² /day	
W.V.T.R.(38°C & 90%RH)	6	6	5.5	5.5	g/m ² /day	ASTM F-1249
	0.39	0.39	0.36	0.36	g/100in ² /day	
Treatment Level (both side)	≥ 38				mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values . Any data included herein is based upon analysis of representative samples and not the actual product shipped . This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process . Complex strongly suggest that before any vast usage , make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet

Info Review: 02

Date: 1401.07.12

Product	Biaxially oriented polypropylene film
Grade	1SBN1

Product Description:

1SBN1 is a white cavitated polypropylene film
It is one side corona treated and both side heat sealable

Application:

General printing and lamination & Heat seal packaging

Key Features:

- *Low light transmission
- *Improved tensile & Elongation properties
- *High opaque
- *Good sealing strength

Properties	Technical value				Unit		Test Method
Thickness	25 ± 5%	30 ± 5%	35 ± 5%	40 ± 5%	Micron		SPS
Transmittance	38 ± 5				%		ASTM D-1003
Gloss	≥ 50				-		ASTM D-523
Yield	57.14	47.62	40.82	35.71	m ² /Kg		SPS
Tensile	150 ± 25				Mpa	TD	ASTM D-882
	70 ± 10				Mpa	MD	
Elongation	30 ± 10				%	TD	ASTM D-882
	140 ± 25				%	MD	
Linear Shrinkage (Min) (5 minute at 125°C)	2 ± 1				%	TD	ASTM D-1204
	4 ± 1				%	MD	
Density	0.7 ± 0.03				g/cm ³		ASTM D-1505
Grammage	17.5	21	24.5	28	g/m ²		SPS
C.O.F (untreated to untreated)	≤ 0.45				-		ASTM D-1894
Sealing Strength	> 2				N/15mm		SPS
Heat Seal Initiation Temperature	≤ 120				°C		SPS
O.T.R.(23°C & 0%RH)	1700	1600	1550	1500	cc/m ² /day		ASTM D-3985
	110	104	100	98	cc/100in ² /day		
W.V.T.R.(38°C & 90%RH)	6	6	5.5	5.5	g/m ² /day		ASTM F-1249
	0.39	0.39	0.36	0.36	g/100in ² /day		
Treatment Level (Corona Treated Side)	≥ 38				mN/m		ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values . Any data included herein is based upon analysis of representative samples and not the actual product shipped . This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

		Technical Data Sheet				Info Review: 04	
						Date: 1401.07.12	

Product	Biaxially oriented polypropylene film					
Grade	1SBN2					

Product Description:

1SBN2 is a white cavitated polypropylene film
It is Both side corona treated and Both side heat sealable

Application:

General printing and lamination
Heat seal packaging

Key Features:

- *Low light transmission
- *Improved tensile & Elongation properties
- *High opaque
- *Good sealing strength

Properties	Technical value				Unit	Test Method
Thickness	25 ± 5%	30 ± 5%	35 ± 5%	40 ± 5%	Micron	SPS
Transmittance	38 ± 5				%	ASTM D-1003
Gloss	≥ 50				-	ASTM D-523
Opacity	73				%	ASTM D-2457
Yield	57.14	47.62	40.82	35.71	m ² /Kg	SPS
Tensile	150 ± 25				Mpa TD	ASTM D-882
	70 ± 10				Mpa MD	
Elongation	30 ± 10				% TD	ASTM D-882
	140 ± 25				% MD	
Linear Shrinkage (Min) (5 minute at 125°C)	2 ± 1				% TD	ASTM D-1204
	4 ± 1				% MD	
Density	0.7 ± 0.03				g/cm ³	ASTM D-1505
Grammage	17.5	21	24.5	28	g/m ²	SPS
C.O.F (Side to Side)	≤ 0.45				-	ASTM D-1894
Sealing Strength	1.5	1.5	2	2	N/15mm	SPS
Heat Seal Initiation Temperature(both side)	≤ 120				°C	SPS
O.T.R.(23°C & 0%RH)	1700	1600	1550	1500	cc/m ² /day	ASTM D-3985
	110	104	100	98	cc/100in ² /day	
W.V.T.R.(38°C & 90%RH)	6	6	5.5	5.5	gm/m ² /day	ASTM F-1249
	0.39	0.39	0.36	0.36	gm/100in ² /day	
Treatment Level (Corona Both side)	≥ 38				mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request. film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet		Info Review: 04
		Date: 1401.07.12

Product	Biaxially oriented polypropylene film
Grade	1SCN1

Product Description:

1SCN1 is a white cavitated polypropylene film
It is one side corona treated and one side heat sealable

Application:

General printing and lamination & Heat seal packaging

Key Features:

- *Low light transmission
- *Improved tensile & Elongation properties
- *High opaque
- *Good sealing strength

Properties	Technical value				Unit	Test Method
Thickness	25 ± 5%	30 ± 5%	35 ± 5%	40 ± 5%	Micron	SPS
Transmittance	38 ± 5				%	ASTM D-1003
Gloss	≥ 50				-	ASTM D-523
Yield	57.14	47.62	40.82	35.71	m ² /Kg	SPS
Tensile	150 ± 25				Mpa TD	ASTM D-882
	70 ± 10				Mpa MD	
Elongation	30 ± 10				% TD	ASTM D-882
	140 ± 25				% MD	
Linear Shrinkage (Min) (5 minute at 125°C)	2 ± 1				% TD	ASTM D-1204
	4 ± 1				% MD	
Density	0.7 ± 0.03				g/cm ³	ASTM D-1505
Grammage	17.5	21	24.5	28	g/m ²	SPS
C.O.F (untreated to untreated)	≤0.45				-	ASTM D-1894
Sealing Strength	> 2				N/15mm	SPS
Heat Seal Initiation Temperature	≤ 120				°C	SPS
O.T.R.(23°C & 0%RH)	1700	1600	1550	1500	cc/m ² /day	ASTM D-3985
	110	104	100	98	cc/100in ² /day	
W.V.T.R.(38°C & 90%RH)	6	6	5.5	5.5	g/m ² /day	ASTM F-1249
	0.39	0.39	0.36	0.36	g/100in ² /day	
Treatment Level (Corona treated side)	≥ 38				mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values . Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet

Info Review: 00

Date: 1401.07.04

Product **Biaxially oriented polypropylene film**

Grade **1SDN1**

Product Description:

1SDN1 is a white cavitated cold seal polypropylene film It is one side corona treated and un sealable

Application:

Labels and tags

Key Features:

*Low light transmission

*Improved tensile & elongation properties

*High opaque

Properties	Technical value				Unit	Test Method
Thickness	25 ± 5%	30 ± 5%	35 ± 5%	40 ± 5%	Micron	SPS
Transmittance	38 ± 5				%	ASTM D-1003
Gloss	≥ 50				-	ASTM D-523
Yield	57.14	47.62	40.82	35.71	m ² /Kg	SPS
Tensile	150 ± 25				Mpa TD	ASTM D-882
	70 ± 10				Mpa MD	
Elongation	30 ± 10				% TD	ASTM D-882
	140 ± 25				% MD	
Linear Shrinkage (Min) (5 minute at 125°C)	2 ± 1				% TD	ASTM D-1204
	4 ± 1				% MD	
Density	0.7 ± 0.03				g/cm ³	ASTM D-1505
Grammage	17.5	21	24.5	28	g/m ²	SPS
C.O.F (plain to plain)	≤0.45				-	ASTM D-1894
O.T.R.(23°C & 0%RH)	1700	1600	1550	1500	cc/m ² /day	ASTM D-3985
	110	104	100	98	cc/100in ² /day	
W.V.T.R.(38°C & 90%RH)	6	6	5.5	5.5	g/m ² /day	ASTM F-1249
	0.39	0.39	0.36	0.36	g/100in ² /day	
Treatment Level (Corona treated side)	≥ 38				mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values . Any data included herein is based upon analysis of representative samples and not the actual product shipped . This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process . Complex strongly suggest that before any vast usage , make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet		Info Review: 00
		Date: 1401.07.04

Product	Biaxially oriented polypropylene film
Grade	1SDN2

Product Description:

1SDN2 is a white cavitated cold seal polypropylene film It is both side Corona treated and un sealable

Application:

Labels and tags

Key Features:

*Low light transmission

*Improved tensile & Elongation properties

*High opaque

Properties	Technical value				Unit	Test Method
Thickness	25 ± 5%	30 ± 5%	35 ± 5%	40 ± 5%	Micron	SPS
Transmittance	38 ± 5				%	ASTM D-1003
Gloss	≥ 50				-	ASTM D-523
Yield	57.14	47.62	40.82	35.71	m ² /Kg	SPS
Tensile	150 ± 25				Mpa TD	ASTM D-882
	70 ± 10				Mpa MD	
Elongation	30 ± 10				% TD	ASTM D-882
	140 ± 25				% MD	
Linear Shrinkage (Min) (5 minute at 125°C)	2 ± 1				% TD	ASTM D-1204
	4 ± 1				% MD	
Density	0.7 ± 0.03				g/cm ³	ASTM D-1505
Grammage	17.5	21	24.5	28	g/m ²	SPS
C.O.F (plain to plain)	≤ 0.45				-	ASTM D-1894
O.T.R.(23°C & 0%RH)	1700	1600	1550	1500	cc/m ² /day	ASTM D-3985
	110	104	100	98	cc/100in ² /day	
W.V.T.R.(38°C & 90%RH)	6	6	5.5	5.5	g/m ² /day	ASTM F-1249
	0.39	0.39	0.36	0.36	g/100in ² /day	
Treatment Level (Corona treated both side)	≥ 38				mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values . Any data included herein is based upon analysis of representative samples and not the actual product shipped . This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process . Complex strongly suggest that before any vast usage , make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

		Technical Data Sheet	Info Review: 01
			Date: 1401.07.06

Product	Biaxially oriented polypropylene film
Grade	1TBN1

Product Description:

1TBN1 is a matt polypropylene film
It is one side corona treated and both side sealable

Application:

Printing and lamination on paper and card board & Labels and tags

Key Features:

- * Very good matt effect
- * Low surface gloss
- * Improved tensile & elongation properties

Properties		Technical value		Unit	Test Method
Thickness		15 ± 3%	21 ± 3%	Micron	SPS
Haze		70 ± 3		%	ASTM D-1003
Gloss	Matt	≤ 15		-	ASTM D-523
	Trans	≥ 50		-	
Yield		75.80	54.11	m²/Kg	SPS
Tensile		220 ± 20		Mpa	TD
		130 ± 20		Mpa	MD
Elongation		40 ± 10		%	TD
		180 ± 20		%	MD
Linear Shrinkage (Min) (30 minute at 150°C)		2 ± 1		%	TD
		4 ± 1		%	MD
Density		0.88	0.88	g/cm³	ASTM D-1505
Grammage		13.2	18.48	g/m²	SPS
Sealing Strength		1.5	2	N/15mm	SPS
Heat Seal Initiation	Matt Side	≤ 125		°C	SPS
	Treated Side	≤ 125			
C.O. F (Matt Side)		≤ 0.45		-	ASTM D-1894
O.T.R. (23°C & 0%RH)		1900	1800	cc/m²/day	ASTM D-3985
		122	116	cc/100in²/day	
W.V.T.R. (38°C & 90%RH)		6.5	6.5	g/m²/day	ASTM F-1249
		0.42	0.42	g/100in²/day	
Treatment Level (Corona treated side)		≥ 38		mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 °C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

		Technical Data Sheet	Info Review: 04
			Date: 1401.07.24

Product	Biaxially oriented polypropylene film
Grade	1TCN1

Product Description:

1TCN1 is a matt polypropylene film

It is one side corona treated and one side sealable

Application:

Printing and lamination on paper and card board & Labels and tags

Key Features:

* Very good matt effect

* Low surface gloss

*Improved tensile & elongation properties

Properties	Technical value		Unit	Test Method
Thickness	15 ± 3%	21 ± 3%	Micron	SPS
Haze	70 ± 3		%	ASTM D-1003
Gloss	Matt	≤ 15	-	ASTM D-523
	glossy	≥ 50	-	
Yield	75.80	54.11	m²/Kg	SPS
Tensile	220 ± 20		Mpa	TD
	130 ± 20		Mpa	MD
Elongation	40 ± 10		%	TD
	180 ± 20		%	MD
Linear Shrinkage (Min) (30 minute at 150°C)	2 ± 1		%	TD
	4 ± 1		%	MD
Density	0.88	0.88	g/cm³	ASTM D-1505
Grammage	13.2	18.48	g/m²	SPS
Sealing Strength	1.5	2	N/15mm	SPS
Heat Seal Initiation Temperature(Matt Side)	≤ 125		°C	SPS
C.O.F	Matt	≤ 0.45	-	ASTM D-1894
	glossy			
O.T.R.(23°C & 0%RH)	1900	1800	cc/m²/day	ASTM D-3985
	122	116	cc/100in²/day	
W.V.T.R.(38°C & 90%RH)	6.5	6.5	g/m²/day	ASTM F-1249
	0.42	0.42	g/100in²/day	
Treatment Level (Corona treated side)	≥ 38		mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

film does not guarantee the typical values . Any data included herein is based upon analysis of representative samples and not the actual product shipped . This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight.

Technical Data Sheet

Product	Cast Polypropylene film
Grade	SPS-2HBK1

Product Description:

SPS-2HBK1 is a Transparent low friction Cast Polypropylene film

It is one side corona treated and both side heat sealable

Application:

General heat seal packaging & for low friction packages & food packaging

Key Features:

- *Excellent clarity & transparency
- *Excellent machinability & handling properties
- *Good sealing strength
- * Low friction packages

Properties	Technical value			Unit	Test Method
Thickness	20±3%	25±3%	30±3%	Micron	SPS
Haze	2.2 ± 1	2.5 ± 1	2.7 ± 1	%	ASTM D-1003
Gloss	≥ 75			-	ASTM D-523
Tensile	30	30	30	Mpa TD	ASTM D-882
	40	40	40	Mpa MD	
Elongation	650	650	650	% TD	ASTM D-882
	500	500	500	% MD	
Density	0.91	0.91	0.91	g/cm ³	ASTM D-1505
Grammage	18.2	22.75	27.3	g/m ²	SPS
C.O.F (untreated to untreated)	0.2 ≤ C.O.F ≤ 0.25			-	ASTM D-1894
Sealing Strength	> 3			N/15mm	SPS
Heat Seal Initiation Temperature	treated	≥ 115		°C	SPS
	untreated	≥ 112			
Treatment Level (Corona treated side)	≥ 38			mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

SPS Complex film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. SPS Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight

		Technical Data Sheet			Info Review: 01	
					Date: 1401.09.06	

Product	Cast Polypropylene film
Grade	SPS-2HBN1

Product Description:

SPS-2HBN1 is a Transparent Cast Polypropylene film

It is one side corona treated and both side heat sealable

Application:

General heat seal packaging & food packaging

Key Features:

*Excellent clarity & transparency

*Excellent machinability & handling properties

*Good sealing strength

Properties	Technical value			Unit	Test Method
Thickness	20±3%	25±3%	30±3%	Micron	SPS
Haze	2.2 ± 1	2.5 ± 1	2.7 ± 1	%	ASTM D-1003
Gloss	≥ 75			-	ASTM D-523
Tensile	30	30	30	Mpa TD	ASTM D-882
	40	40	40	Mpa MD	
Elongation	650	650	650	% TD	ASTM D-882
	500	500	500	% MD	
Density	0.91	0.91	0.91	g/cm ³	ASTM D-1505
Grammage	18.2	22.75	27.3	g/m ²	SPS
C.O.F (untreated to untreated)	0.3 ≤ C.O.F ≤ 0.35			-	ASTM D-1894
Sealing Strength	> 3			N/15mm	SPS
Heat Seal Initiation Temperature	treated	≥ 115		°C	SPS
	untreated	≥ 112			
Treatment Level (Corona treated side)	≥ 38			mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

SPS Complex film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. SPS Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight

		Technical Data Sheet						Info Review: 00	
								Date: 1401.07.12	

Product	Cast Polypropylene film
Grade	SPS-2HCK1

Product Description:

SPS-2HCK1 is a Transparent low friction Cast Polypropylene film

It is one side corona treated and one side heat sealable

Application:

General heat seal packaging & for low friction packages & food packaging

Key Features:

- *Excellent clarity & transparency
- *Excellent machinability & handling properties
- *Good sealing strength
- * Low friction packages

Properties	Technical value							Unit	Test Method
Thickness	20±3%	25±3%	30±3%	35±3%	40±3%	50±3%	60±3%	Micron	SPS
Haze	2.2 ± 1	2.5 ± 1	2.7 ± 1	3 ± 1	3.3 ± 1	4 ± 1	5 ± 1	%	ASTM D-1003
Gloss	≥ 75							-	ASTM D-523
Tensile	30	30	30	30	30	30	30	Mpa TD	ASTM D-882
	40	40	40	40	40	40	40	Mpa MD	
Elongation	650	650	650	650	650	650	650	% TD	ASTM D-882
	500	500	500	500	500	500	500	% MD	
Density	0.91	0.91	0.91	0.91	0.91	0.91	0.91	g/cm ³	ASTM D-1505
Grammage	18.2	22.75	27.3	31.85	36.4	45.5	54.6	g/m ²	SPS
C.O.F (untreated to untreated)	0.2 ≤ C.O.F ≤ 0.25							-	ASTM D-1894
Sealing Strength	> 3							N/15mm	SPS
Heat Seal Initiation Temperature	treated		≥ 115					°C	SPS
	untreated		≥ 112						
Treatment Level (Corona treated side)	≥ 38							mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

SPS Complex film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. SPS Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight

Technical Data Sheet		Info Review: 07
		Date: 1401.09.06

Product	Cast Polypropylene film
Grade	SPS-2HCN1

Product Description:

SPS-2HCN1 is a Transparent Cast Polypropylene film

It is one side corona treated and one side heat sealable

Application:

General heat seal packaging

Key Features:

*Excellent clarity & transparency

*Excellent machinability & handling properties

*Good sealing strength

Properties	Technical value							Unit	Test Method
Thickness	20±3%	25±3%	30±3%	35±3%	40±3%	50±3%	60±3%	Micron	SPS
Haze	2.2 ± 1	2.5 ± 1	2.7 ± 1	3 ± 1	3.3 ± 1	4 ± 1	5 ± 1	%	ASTM D-1003
Gloss	≥ 75							-	ASTM D-523
Tensile	30	30	30	30	30	30	30	Mpa TD	ASTM D-882
	40	40	40	40	40	40	40	Mpa MD	
Elongation	650	650	650	650	650	650	650	% TD	ASTM D-882
	500	500	500	500	500	500	500	% MD	
Density	0.91	0.91	0.91	0.91	0.91	0.91	0.91	g/cm ³	ASTM D-1505
Grammage	18.2	22.75	27.3	31.85	36.4	45.5	54.5	g/m ²	SPS
C.O.F (untreated to untreated)	0.3 ≤ C.O.F ≤ 0.35							-	ASTM D-1894
Sealing Strength	> 3							N/15mm	SPS
Heat Seal Initiation Temperature (untreated)	≥ 112							°C	SPS
Treatment Level (Corona treated side)	≥ 38							mN/m	ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

SPS Complex film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. SPS Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight

Technical Data Sheet		Info Review: 05
		Date: 1401.07.12

Product	Cast Polypropylene film
Grade	SPS-2MCN1

Product Description:

SPS-2MCN1 is a Metallized Cast Polypropylene film
It is one side corona (metallized) and other side heat sealable

Application:

General heat seal packaging

Key Features:

- *Excellent machinability & handling properties
- *Good sealing strength
- * Excellent heat reflection properties
- *Mirrored metallic Surface
- *Excellent adhesion and bright foil appearance

Properties	Technical value		Unit		Test Method
Thickness	25 ± 3%	26 ± 3%	Micron		SPS
Optical density	2 ± 0.2		%		ANSI PH2.19
Tensile	30	30	Mpa	TD	ASTM D-882
	40	40	Mpa	MD	
Elongation	650	650	%	TD	ASTM D-882
	500	500	%	MD	
Density	0.91	0.91	g/cm³		ASTM D-1505
Grammage	22.75	23.66	g/m²		SPS
C.O.F (Non Met to Non Met)	0.35 ≤ C.O.F ≤ 0.45		-		ASTM D-1894
Sealing Strength	> 3		N/15mm		SPS
Heat Seal Initiation Temperature (unmetallized side)	≥ 115		°C		SPS
Treatment Level (Metallized side)	≥ 36		mN/m		ASTM D-2578

This film complies with the food standards. Full detail can be provided on request.

SPS Complex film does not guarantee the typical values. Any data included herein is based upon analysis of representative samples and not the actual product shipped. This Information relates only to specific material designated and may not be valid for such material used in combination with any other material or in any process. SPS Complex strongly suggest that before any vast usage, make sure to test our production first.

Storage: Keep the rolls in room temperature between 10-25 ° C, humidity below 10%, Rolls should be transferred to the production line 24 hours before use in order to keep them at ambient temperature, The rolls should be kept in cool dry place and away from direct sunlight