



SML Films Ltd.



## SM 113 M

Doc No.-F/PRD/02, Rev.-01, Dt.-01.06.2016

**DESCRIPTION :** SM 113 M, **Isotropic film** is a co-extruded bi-axially oriented polyester film vacuum aluminium metallised on corona side and other side plain.

**APPLICATION :** Suitable for flexible packaging application.

**SALIENT FEATURES :**

- Excellent isotropic characteristics.
- Good Metal Bond Strength.
- Excellent Machineability.
- Good Water Vapour and Gas Barrier properties.

## TECHNICAL DATA SHEET ( SM 113 M )

Properties	Test Method	Unit	SM 113 M						
<b>PHYSICAL</b>									
Thickness	ASTM D-374	Micron	<b>8</b>	<b>10</b>	<b>12</b>	<b>15</b>	<b>19</b>	<b>23</b>	
Thickness Variation	SMLTM	%	±5	±5	±5	±5	±5	±5	
Average Grammage	SMLTM	g/m <sup>2</sup>	11.2	14.0	16.8	21.0	26.6	32.2	
Density	ASTM D-1505	g/cc	1.4	1.4	1.4	1.4	1.4	1.4	
Metal Bond Strength	SMLTM	g/25mm	200	200	200	200	200	200	
Width	—	mm	510~2450	510~2450	510~2450	510~2450	510~2450	510~2450	
Length	—	mtr	Up to 48000	Up to 48000	Up to 48000	Up to 36000	Up to 24000	Up to 21000	
<b>OPTICAL</b>									
Optical Density	SMLTM	—	2.2 ± 5%	2.2 ± 5%	2.2 ± 5%	2.2 ± 5%	2.2 ± 5%	2.2 ± 5%	
<b>MECHANICAL</b>									
Tensile Strength ( Min )	MD	ASTM D-882	Kg/cm <sup>2</sup>	2200	2200	2200	2200	2100	2100
	TD			2400	2400	2400	2400	2300	2300
Elongation ( Min )	MD	ASTM D-882	%	100	100	100	100	100	100
	TD			90	90	90	90	90	90
Coefficient of friction (Base Film), (Max )	Static	ASTM D-1894	—	0.50	0.50	0.50	0.50	0.50	0.50
	Kinetic			0.45	0.45	0.45	0.45	0.45	0.45
<b>ISOTROPIC</b>									
Ratio of T.S. @ +45° & -45°	SMLTM	—	0.66 to 1.50	0.66 to 1.50	0.66 to 1.50	0.66 to 1.50	0.66 to 1.50	0.66 to 1.50	
Ratio of Elongation @ +45° & -45°	SMLTM	—	0.50 to 2.00	0.50 to 2.00	0.50 to 2.00	0.50 to 2.00	0.50 to 2.00	0.50 to 2.00	
<b>THERMAL</b>									
Shrinkage ( Max ) ( 150°C /30 Min )	MD	ASTM D-1204	%	2.4	2.4	2.4	2.4	2.4	2.4
	TD			0.4	0.4	0.4	0.4	0.4	0.4
<b>SURFACE</b>									
Wetting Tension	Metal Side	ASTM D-2578	Dyne/cm	54	54	54	54	54	54
	Plain Side			44-46	44-46	44-46	44-46	44-46	44-46
<b>BARRIER</b>									
WVTR (38°C & 90% RH) (Max)	ASTM F-1249	g/m <sup>2</sup> /day	1.2	1.0	1.0	1.0	1.0	1.0	
OTR (23°C & 0% RH) (Max)	ASTM D-3985	cc/m <sup>2</sup> /day	1.4	1.2	1.2	1.2	1.2	1.2	

**SMLTM :** SML TEST METHOD, **MD :** MACHINE DIRECTION , **TD :** TRANSVERSE DIRECTION

- Notes:**
- 1- Optical Density up to 2.8 is available on request.
  - 2- Tolerance in width +3mm and -0mm.
  - 3- The above properties are indicative only. Film can be produced to suit customer's requirements.

