



SML Films Ltd.



SM 111 M

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

DESCRIPTION : SM 111 M, **Isotropic film** is a co-extruded bi-axially oriented polyester film vacuum aluminium metallised on plain 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 111 M)

Properties		Test Method	Unit	SM 111 M					
PHYSICAL									
Thickness		ASTM D-374	Micron	8	10	12	15	19	23
Thickness Variation		SMLTM	%	±5	±5	±5	±5	±5	±5
Average Grammage		SMLTM	g/m ²	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	100	100	100	100	100	100
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
OPTICAL									
Optical Density		SMLTM	—	2.2 ± 5%	2.2 ± 5%	2.2 ± 5%	2.2 ± 5%	2.2 ± 5%	2.2 ± 5%
MECHANICAL									
Tensile Strength (Min)	MD	ASTM D-882	Kg/cm ²	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
ISOTROPIC									
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
THERMAL									
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
SURFACE									
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
BARRIER									
WVTR (38°C & 90% RH) (Max)		ASTM F-1249	g/m ² /day	1.2	1.0	1.0	1.0	1.0	1.0
OTR (23°C & 0% RH) (Max)		ASTM D-3985	cc/m ² /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.

