



SML Films Ltd.



### SM 211 M

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

**DESCRIPTION** : SM 211 M, **Stamping Foil grade** film is a co-extruded bi-axially oriented polyester film vacuum aluminium metallised on plain and other side plain.

**APPLICATION** : Suitable for Stamping foil, Metallic yarn & flexible packaging application.

**SALIENT FEATURES :**

- Excellent dimensional/thermal stability.
- Good Water Vapour and Gas Barrier properties.
- Excellent Machineability.
- Good Lamination Adhesion.

## TECHNICAL DATA SHEET ( SM 211 M )

Properties	Test Method	Unit	SM 211 M				
<b>PHYSICAL</b>							
Thickness	ASTM D-374	Micron	<b>12</b>	<b>15</b>	<b>23</b>	<b>36</b>	
Thickness Variation	SMLTM	%	±5	±5	±5	±5	
Average Grammage	SMLTM	g/m <sup>2</sup>	16.8	21.0	32.2	50.4	
Density	ASTM D-1505	g/cc	1.4	1.4	1.4	1.4	
Metal Bond Strength (Min)	SMLTM	g/25 mm	100	100	100	100	
Width	-	mm	510-2450	510-2450	510-2450	510-2450	
Length	-	mtr	Up to 48000	Up to 36000	Up to 21000	Up to 21000	
<b>OPTICAL</b>							
Optical Density	SMLTM	-	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>	2400	2400	2300	2200
	TD			2300	2300	2200	2100
Elongation (Min)	MD	ASTM D-882	%	100	100	110	120
	TD			90	90	100	110
Coefficient of friction (Base Film), (Max)	Static	ASTM D-1894	-	0.50	0.50	0.50	0.50
	Kinetic			0.45	0.45	0.45	0.45
<b>THERMAL</b>							
Shrinkage (Max) (190°C / 05 Min)	MD	ASTM D-1204	%	3.2	3.2	3.2	3.2
	TD			-0.4	-0.4	-0.2	-0.2
<b>SURFACE</b>							
Wetting Tension	Metal Side	ASTM D-2578	Dyne/cm	54	54	54	54
	Plain Side			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	1.0	1.0	1.0	1.0	
OTR (23°C & 0% RH) (Max)	ASTM D-3985	cc/m <sup>2</sup> /day	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.

