



SML Films Ltd.



## SM 110 N

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

**DESCRIPTION :** SM 110 N, Grade film is a co-extruded transparent and untreated bi-axially oriented plain polyester film having **isotropic characteristics**.

**APPLICATION :** Suitable for lid application in dairy products especially yoghurt cups.

**SALIENT FEATURES :**

- Good clarity and transparency.
- Excellent isotropic characteristics.
- Balance mechanical properties in all direction.

## TECHNICAL DATA SHEET ( SM 110 N )

Properties		Test Method	Unit	SM 110 N					
<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
Width		-	mm	500-3100	500-3100	500-3100	500-3100	500-3100	500-3100
Length		-	mtr	Up to 60000	Up to 60000	Up to 60000	Up to 36000	Up to 24000	Up to 21000
Joints			%	80% (NIL)					
				20% (1 Joint)					
<b>OPTICAL</b>									
Haze		ASTM D-1003	%	2.0~3.0	2.0~3.0	2.0~3.0	2.0~3.0	2.0~3.0	2.0~3.0
Transmittance		ASTM D-1003	%	88.0~89.0	88.0~89.0	88.0~89.0	88.0~89.0	88.0~89.0	88.0~89.0
<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 (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	Outside	ASTM D-2578	Dyne/cm	44-46	44-46	44-46	44-46	44-46	44-46
	Inside			44-46	44-46	44-46	44-46	44-46	44-46

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

- Notes:**
- 1- Tolerance in width +3mm and -0mm.
  - 2- The above properties are indicative only. Film can be produced to suit customer's requirements.

