Makrofol® LM 905 160009

Description and Application Information

Makrofol® LM 905 160009 (formerly Makrofol® DP 9005) is an extruded polycarbonate film filled with a light-scattering agent. It displays a smooth homogenous illumination of the front side of a backlit part even if a point source light is applied.

Makrofol® LM 905 160009 is available in standard thicknesses of 300 microns and 500 microns.
Typical applications are automotive instrument panels and backlight displays.

Preliminary guide data

General properties

Property	Value	Unit of measurement	Method
Density	1.2	g/cm³	ISO 1183, 20°C, Method C
Gloss		Digits	ISO 2813, Angle 60°, backprinted black
Top-surface	≥ 80		
Back-surface	< 6		
Roughness R3z		µm	acc. to ISO 4587/88, Lm12,5mm, lc 2,5mm, Average over 3-5 measurements
Top-surface	< 0.5		
Back-surface	< 11		

Optical properties

Property	Value	Unit of measurement	Method
Light transmission		%	ISO 13468-2
300 µm, Back-surface	81		
300 µm, Top-surface	78		
500 µm, Back-surface	73		
500 µm, Top-surface	73		
Haze		%	ASTM D1003
300 µm, Back-surface	100		
300 µm, Top-surface	100		
500 µm, Back-surface	100		
500 µm, Top-surface	100		
Half-power angle		Degree	following DIN 5036
300 µm, Top-surface	29		
500 µm, Top-surface	41		

Makrofol® LM 905 160009

Mechanical properties			
Property	**Value**	**Unit of measurement**	**Method**
Stress at break		MPa	ISO 527-1,-3
machine direction	≥ 70		
transverse direction	≥ 70		
Strain at break		%	ISO 527-1,-3
machine direction	≥ 115		
transverse direction	≥ 115		
Tensile Modulus		MPa	ISO 527-1,-3
machine direction	≥ 2400		
transverse direction	≥ 2300		
Thermal properties			
Property	**Value**	**Unit of measurement**	**Method**
Operating temperature range	-30 to 145	°C	
Melt temperature	300	°C	
Electrical properties			
Property	**Value**	**Unit of measurement**	**Method**
Surface resistivity	10^16	Ohm	following DIN IEC 60093
Other properties			
Property	**Value**	**Unit of measurement**	**Method**
Water absorption	0.2	%	following ISO 62

Labeling and REACH applications

This product data sheet is only valid in conjunction with the latest edition of the corresponding Safety Data Sheet.
Any updating of safety-relevant information – in accordance with statutory requirements – will only be reflected in the Safety Data Sheet, copies of which will be revised and distributed. Information relating to the current classification and labeling, applications and processing methods and further data relevant to safety can be found in the currently valid Safety Data Sheet.

Makrofol® LM 905 160009

Editor: Industrial Marketing Functional Films
Bayer MaterialScience Limited,
77/F The Center, 99 Queen's Road Central
HongKong. G.P.O. Box 911
www.makrofol.com