Makrofol® DE 1-4 000000

Description and Application Information

Makrofol® DE 1-4 000000 is a translucent extrusion film based on Makrolon, the High Tech Polycarbonate made by Covestro. It comprises all of the well known advantages of Poylcarbonate such as excellent mechanical and optical properties.

The surface combination of Makrofol® DE 1-4 000000 is one side gloss - one side very fine matte. It stands out due to its good printing quality and formability. It is suitable for High Pressure Forming process (HPF) and Film-Insert-Molding process (FIM). It is available in various standard thicknesses from 75 microns to 750 microns. Other thicknesses on request.
Typical applications are name plates and automotive control panels.

Guide data*

General properties

Property	Value	Unit of measurement	Method
Density	1,2	g/cm³	ISO 1183, 20°C method C
Gloss, 60° top side	≥ 98	Digits	ISO 2813
Gloss, 60° reverse side	0,1 to 9,0	Digits	ISO 2813

Mechanical properties

Property	Value	Unit of measurement	Method
Tensile Modulus	≥ 2200	MPa	ISO 527-1,-3
Stress at break, parallel	≥ 70	MPa	ISO 527-1,-3
Stress at break, across	≥ 70	MPa	ISO 527-1,-3
Strain at break, parallel	140	%	ISO 527-1,-3

Thermal properties

Property	Value	Unit of measurement	Method
Coefficient of linear thermal expansion, parallel 20 to 120°C	70	10^{-6}/K	following DIN 53752
Coefficient of linear thermal expansion, across 20 to 120°C	70	10^{-6}/K	following DIN 53752
Shrinkage, parallel 130°C, 1 h	< 0,4	%	following IEC 60674-2
Shrinkage, across 130°C, 1 h	< 0,4	%	following IEC 60674-2

Burning behavior

Property	Value	Unit of measurement	Method
Burning rate (FMVSS 302)	≤ 100	mm/min	ISO 3795

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Optical properties			
Property	**Value**	**Unit of measurement**	**Method**
Light transmittance	> 80	%	ISO 13468-2, following DIN 5036

Other properties			
Property	**Value**	**Unit of measurement**	**Method**
Water absorption (saturation)	0,2	%	following ISO 62

* These values provide general information and are not part of the product specification.

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.

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