

ACRYLITE® Optical POQ66

Röhm GmbH - Polymethyl Methacrylate Acrylic

Tuesday, January 21, 2020

General Information

Product Description

ACRYLITE® Optical POQ compounds are specialty crystal-clear acrylic polymers that provide high optical purity for applications that require high transmission efficiency in long light paths.

ACRYLITE® Optical POQ compounds are available in three grades: POQ66, POQ64 and POQ62. The grades differ in flow properties, which are adjusted to optimize the results for different processing methods.

ACRYLITE® Optical POQ molding compounds achieve the maximum purity in acrylic polymers. These compounds use proprietary purification processes that ensures the polymers are free of any visible dust, fines and contaminant. The specialty compounds provide the high optical purity needed for applications that require high transmission efficiency in long light paths. The low absorption coefficient characteristics provide the best possible outcome for sophisticated light pipes, and edge-lit, interior lighting lenses.

ACRYLITE® Optical POQ compounds have formulation refinements that further ensure its high optical pureness. Millions of pounds of ACRYLITE® Optical POQ have been sold into the manufacture of optical light guides for backlight units in TFT-LCE displays. Specially designed packaging options ensure that purity is maintained during delivery.

ACRYLITE® Optical POQ compounds are excellent for long path light guide applications but they should not be used for outdoor applications and are engineered to be used with LED lighting sources.

General

Material Status	• Commercial: Active		
Availability	• North America		
Features	• High Clarity	• High Light Transmission	• High Purity
Uses	• Lenses	• Lighting Applications	• Optical Applications
Agency Ratings	• EC 1907/2006 (REACH)		
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Extrusion		

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density	1.19	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (230°C/3.8 kg)	2.30	cm ³ /10min	ISO 1133
Water Absorption (Equilibrium, 23°C, 50% RH)	< 2.0	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3200	MPa	ISO 527-2/1
Tensile Stress (Break)	69.0	MPa	ISO 527-2/5
Tensile Strain (Break)	4.0	%	ISO 527-2/5
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength	20	kJ/m ²	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (1.8 MPa, Unannealed)	94.5	°C	ISO 75-2/A
Vicat Softening Temperature	104	°C	ISO 306/B50
CLTE - Flow (0 to 50°C)	8.0E-5	cm/cm/°C	ISO 11359-2
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.6 mm)	HB		IEC 707

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Flammability	Nominal Value	Unit	Test Method
Fire Rating		B2	DIN 4102

Optical	Nominal Value	Unit	Test Method
Refractive Index	1.490		ISO 489
Transmittance ²	92.0	%	ISO 13468-2

Notes

¹ Typical properties: these are not to be construed as specifications.

² D65