ACRYLITE® LED 8N LD24

Röhm GmbH - Polymethyl Methacrylate Acrylic

Tuesday, January 21, 2020

General Information

Product Description

ACRYLITE® LED 8N LD24 Acrylic Molding Compound is a highly transparent light guide material based on ACRYLITE® 8N.

In addition to the typical properties of ACRYLITE®, such as

- Excellent weather resistance
- UV-stability
- Good flow, high mechanical strength

ACRYLITE® LED 8N LD24 is developed for edge lit LED applications. The light scattering properties convert the light guide to a full illuminated panel. Furthermore, the material allows for a competely transparent view through the light guide when it is not illuminated. This opens a new degree of freedom for designers. ACRYLITE® 8N LD12 is recommended for panels with a distance of 12 cm to 24 cm (4.72 in to 9.45 in) between two light injecting LED strips.

Application:
Injection molding or extrusion.

General			
Material Status	• Commercial: Active		
Availability	• North America		
Features	• Good Flow • Good Weather Resistance	• High Clarity • High Strength	• UV Resistant
Uses	• Lighting Applications	• Lighting Diffusers	
Agency Ratings	• EC 1907/2006 (REACH)		
Appearance	• Clear/Transparent		
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

ASTM & ISO Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.19	g/cm³	ASTM D792
Apparent (Bulk) Density	0.66	g/cm³	ASTM D1895
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	3.3	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.40 to 0.70	%	ASTM D955
Water Absorption (Equilibrium)	< 0.30	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	3240	MPa	ASTM D638
Tensile Strength	77.9	MPa	ASTM D638
Tensile Elongation (Yield)	4.0 to 6.0	%	ASTM D638
Tensile Elongation (Break)	4.0 to 6.0	%	ASTM D638
Flexural Modulus	3450	MPa	ASTM D790
Flexural Strength	112	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact (23°C, 6.35 mm)	19	J/m	ASTM D256
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale)	95		ASTM D785

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Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Annealed, 6.35 mm	100	°C	
Vicat Softening Temperature	108	°C	ASTM D1525
CLTE - Flow (0 to 100°C)	7.2E-5	cm/cm/°C	ASTM D696
Optical	**Nominal Value**	**Unit**	**Test Method**
Transmittance (3200 µm)	91.0	%	ASTM D1003
Haze (3200 µm)	3.00	%	ASTM D1003
Yellowness Index (3.20 mm)	< 1.0	YI	ASTM D1925

Notes

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