

## ACRYLITE® LED 8N LD12

### Product Profile:

ACRYLITE® LED 8N LD12 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 LD12 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 completely 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 up to 12 cm (4.72 in) between two light injecting LED strips.

### Application:

Injection molding or extrusion.

### Examples:

BLU (Back lighting) for LCD-Displays, illuminated freeform panels, ambient lighting, illuminated handle bars and switches. Illuminated outline contours for devices.

### Processing:

ACRYLITE® LED 8N LD12 can be processed on injection molding machines with 3-zone general purpose screws for engineering thermoplastics.

### Packaging:

ACRYLITE® LED 8N LD molding compounds are supplied as pellets of uniform size, packaged in 1500 pound gaylords; other packaging on request.

## Properties:

	Parameter	Unit	ASTM-Standard	ACRYLITE® LED 8N LD12
<b>Mechanical Properties</b>				Typical Value
Tensile Strength		psi [MPa]	D 638	11300 [77.9]
Tensile Modulus		x10 <sup>6</sup> psi [GPa]	D 638	0.47 [3.2]
Tensile Elongation @ Yield		%	D 638	4 - 6
Tensile Elongation @ Break		%	D 638	4 - 6
Flexural Strength		psi [MPa]	D 790	16200 [111.7]
Flexural Modulus		x10 <sup>6</sup> psi [GPa]	D 790	0.5 [3.5]
Notched Izod	¼" bar @23°C	ft-lb/in [J/m]	D 256	0.36 [19]
Rockwell Hardness		M Scale	D 785	95
<b>Thermal Properties</b>				
Vicat Softening Point	264 psi	°F [°C]	D 1525	226[108]
Deflection Temperature, Annealed	1.8MPa, 0.250"	°F [°C]	D 648	212 [100]
Coeff. of Linear Therm. Expansion	32 - 312°F	in/ in/°F	D 696	0.00004
Coeff. of Linear Therm. Expansion	0 - 100°C	mm/mm/°C	D 696	0.000072
<b>Rheological Properties</b>				
Melt Flow Rate	230°C & 3.8 kg	g/10min	D 1238	3.3
<b>Optical Properties</b>				d = 3.2 mm
Light Transmission		%	D 1003	90
Haze		%	D 1003	5
Yellowness Index			D 1925	<1
<b>Other Properties</b>				
Specific Gravity			D 792	1.19
Water Absorption		% Max	D 570	0.3
Mold Shrinkage		in/in, mm/mm	D 955	0.004 - 0.007
Bulk Density		g/cc	D 1895	0.66

All listed technical data are typical values intended for your guidance. They are given without obligation and do not constitute a materials specification.

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