

# Plexiglas® LED 8N LD48

Polymethyl Methacrylate Acrylic

Evonik Industries AG

## Message:

PLEXIGLAS® LED 8N LD48 is a highly transparent light guide material based on PLEXIGLAS® 8N.

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

Excellent weather resistance

UV-stability

Good flow, high mechanical strength

PLEXIGLAS® LED 8N LD48 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.

PLEXIGLAS® LED 8N LD48 is recommended for panels with a distance of up to 24 cm to 48 cm between two light injecting LED strips.

Application:

Preferably, for injection molding, but can also be used for special extrusion.

Examples:

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

Processing:

PLEXIGLAS® LED 8N LD48 can be processed on injection molding machines with 3-zone general purpose screws for engineering thermoplastics.

General Information			
Features	Good Flow		
	Good Weather Resistance		
	High Clarity		
	High Strength		
	Light Stabilized		
Uses	Optical Applications		
Forms	Pellets		
Processing Method	Extrusion		
	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.19	g/cm <sup>3</sup>	ISO 1183
Melt Volume-Flow Rate (MVR) (230°C/3.8 kg)	3.00	cm <sup>3</sup> /10min	ISO 1133
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3300	MPa	ISO 527-2/1
Tensile Stress (Break)	77.0	MPa	ISO 527-2/5
Tensile Strain (Break)	5.5	%	ISO 527-2/5
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength (23°C)	20	kJ/m <sup>2</sup>	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			

0.45 MPa, Unannealed	103	°C	ISO 75-2/B
1.8 MPa, Unannealed	98.0	°C	ISO 75-2/A
Glass Transition Temperature	117	°C	ISO 11357
Vicat Softening Temperature	108	°C	ISO 306/B50
CLTE - Flow (0 to 50°C)	8.0E-5	cm/cm/°C	ISO 11359-2
Flammability	Nominal Value		Test Method
Flame Rating (1.60 mm)	HB		UL 94
Fire Rating	B2		DIN 4102
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.490		ISO 489
Transmittance <sup>1</sup>	92.0	%	ISO 13468-2
Haze	< 2.0	%	ASTM D1003
Injection	Nominal Value	Unit	
Drying Temperature - Desiccant Dryer	< 98.0	°C	
Drying Time	2.0 to 3.0	hr	
Processing (Melt) Temp	220 to 260	°C	
Mold Temperature	60.0 to 90.0	°C	
NOTE			
1.	D65		

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#### Recommended distributors for this material

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