

Plexiglas® LED 8N LD24

Polymethyl Methacrylate Acrylic

Evonik Industries AG

Message:

PLEXIGLAS® LED 8N LD24 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 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 completely transparent view through the light guide when it is not illuminated. This opens a new degree of freedom for designers.

PLEXIGLAS® LED 8N LD24 is recommended for panels with a distance of up to 12 cm to 24 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 LD24 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 ³ | ISO 1183 |
| Melt Volume-Flow Rate (MVR) (230°C/3.8 kg) | 3.00 | cm ³ /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 ² | 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 ¹ | 91.0 | % | ISO 13468-2 |
| Haze | 3.0 | % | 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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