

PRODUCT INFORMATION

ACRYLITE® Edgelight 8N LD12

Product Profile:

ACRYLITE® Edgelight 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® Edgelight 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® Edgelight 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. Manufacture of moldings without microstructured surfaces and optical structures.

Processing:

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

Physical Form / Packaging:

ACRYLITE® Edgelight 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® Edgelight 8N LD12 Typical Value |
|------------------------------------------|----------------|----------------------------|---------------|----------------------------------------------------|
| Mechanical Properties | | | | |
| Tensile Strength | | psi [MPa] | D 638 | 11600 [80] |
| Tensile Modulus | | x10 ⁶ 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 | 18700 [128.9] |
| Flexural Modulus | | x10 ⁶ psi [GPa] | D 790 | 0.42 [2.9] |
| Notched Izod | ¼" bar @23°C | ft-lb/in [J/m] | D 256 | 0.36 [19] |
| Rockwell Hardness | | M Scale | D 785 | 95 |
| Thermal Properties | | | | |
| Vicat Softening Point | 50N, 50°C/h | °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 | 1/F | D 696 | 0.00004 |
| Coeff. of Linear Therm. Expansion | 0 - 100°C | 1/C | D 696 | 0.000072 |
| Rheological Properties | | | | |
| Melt Flow Rate | 230°C & 3.8 kg | g/10min | D 1238 | 3.3 |
| Optical Properties | | | | d = 3.2 mm |
| Light Transmission | | % | D 1003 | 90 |
| Haze | | % | D 1003 | 5 |
| Yellowness Index | | | E 313 | <1 |
| Other Properties | | | | |
| 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 |
| Recommended Processing Conditions | | | | |
| Predrying Temperature | | F [°C] | | 175 [80] |
| Predrying Time in Desiccant-Type Drier | | h | | 3 – 4 |
| Melt Temperature | | F [°C] | | 465 - 485 [240 - 252] |
| Mold Temperature (Injection Molding) | | F [°C] | | 100 - 175 [38 - 80] |
| Die Temperature (Extrusion) | | F [°C] | | 465 - 485 [240 - 252] |

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

Certified to ISO 9001:2015, ISO 14001:2015 and IATF 16949:2016.

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The logo for RÖHM, featuring the word "RÖHM" in a bold, black, sans-serif font. The letter "O" is replaced by a circle with a dot above it, resembling a stylized "O" or a "U" with a dot.