

PRODUCT INFORMATION

ACRYLITE® H12 acrylic polymer

Product Profile:

ACRYLITE® H12 acrylic polymer is an amorphous thermoplastic molding and extrusion compound based on polymethyl methacrylate (PMMA).

Typical properties of ACRYLITE® acrylic polymers are:

- excellent weather resistance
- high light transmission
- high mechanical strength
- high surface hardness and mar resistance
- good melt flow rate
- versatile colorability due to crystal clarity

The special properties of ACRYLITE® H12 polymer are:

- medium heat resistance
- medium melt flow rate
- UV light transmitting
- Low levels of lubricant

Application:

Used for injection molding and extrusion of optical and technical parts.

Examples:

Extruded rods, tubes and profiles, light guides, pipes, cutting boards, medical and electronic instrument lenses, medical analysis devices and point-of-purchase displays.

Processing:

ACRYLITE® H12 polymer can be processed in injection molding machines and extrusion lines with 3-zone general purpose screws.

Physical Form / Packaging:

Available in 1500 lb. gaylord boxes; other packaging available on request.

Properties:

| | Parameter | Unit | ASTM-Standard | ACRYLITE® H12 acrylic polymer Typical Value |
|-----------------------------------|----------------|----------------------------|---------------|--|
| Mechanical Properties | | | | |
| Tensile Strength | | psi [MPa] | D 638 | 9500 [65.5] |
| 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 | 17000 [117.2] |
| Flexural Modulus | | x10 ⁶ psi [GPa] | D 790 | 0.49 [3.4] |
| Notched Izod | ¼" bar @23°C | ft-lb/in [J/m] | D 256 | 0.36 [19] |
| Rockwell Hardness | | M Scale | D 785 | 94 |
| Thermal Properties | | | | |
| Vicat Softening Point | 50N, 50°C/h | °F [°C] | D 1525 | 221 [105] |
| Deflection Temperature, Annealed | 1.8MPa, 0.250" | °F [°C] | D 648 | 201 [95] |
| 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 | 7.0 |
| Optical Properties | | | | |
| | d = 3.2 mm | | | |
| Light Transmission | | % | D 1003 | 92 |
| Haze | | % | D 1003 | <1 |
| 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 - 0.006 |
| 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.

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 stylized "Ö" with two dots above it.