

ACRYLITE® H12

Röhm GmbH - Polymethyl Methacrylate Acrylic

Tuesday, January 21, 2020

General Information

Product Description

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.

General

Material Status	• Commercial: Active
Availability	• North America
Additive	• Lubricant
Features	<ul style="list-style-type: none"> • Amorphous • Good Colorability • Good Weather Resistance • High Clarity • High Hardness • High Light Transmission • High Scratch Resistance • High Strength • Lubricated • Medium Flow • Medium Heat Resistance
Uses	<ul style="list-style-type: none"> • Displays • Electrical/Electronic Applications • Engineering Parts • Lenses • Lighting Applications • Medical/Healthcare Applications • Optical Applications • Piping • Profiles • Rods • Tubing
Agency Ratings	• EC 1907/2006 (REACH)
Appearance	• Clear/Transparent
Forms	• Pellets
Processing Method	<ul style="list-style-type: none"> • Extrusion • Injection Molding • Pipe Extrusion • Profile Extrusion

ASTM & ISO Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.19	g/cm ³	ASTM D792
Apparent (Bulk) Density	0.66	g/cm ³	ASTM D1895
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	7.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow	0.40 to 0.60	%	ASTM D955
Water Absorption (Equilibrium)	< 0.30	%	ASTM D570

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Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3240	MPa	ASTM D638
Tensile Strength	65.5	MPa	ASTM D638
Tensile Elongation (Yield)	4.0 to 6.0	%	ASTM D638
Tensile Elongation (Break)	4.0 to 6.0	%	ASTM D638
Flexural Modulus	3380	MPa	ASTM D790
Flexural Strength	117	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C, 6.35 mm)	19	J/m	ASTM D256
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	94		ASTM D785
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 1.8 MPa, Annealed, 6.35 mm	93.9	°C	ASTM D648
Vicat Softening Temperature	105	°C	ASTM D1525
CLTE - Flow (0 to 100°C)	7.2E-5	cm/cm/°C	ASTM D696
Optical	Nominal Value	Unit	Test Method
Transmittance (3200 µm)	92.0	%	ASTM D1003
Haze (3200 µm)	< 1.00	%	ASTM D1003
Yellowness Index (3.20 mm)	< 1.0	YI	ASTM D1925

Notes

¹ Typical properties: these are not to be construed as specifications.