

# ACRYLITE® Heatresist hw55

Röhm GmbH - Polymethyl Methacrylate Acrylic

Tuesday, January 21, 2020

## General Information

### Product Description

When high heat resistance and lighting efficiency is desired ACRYLITE® Heatresist acrylic compounds provide the solution. They offer all the advantages of PMMA including weatherability and optics but provide another level of heat resistance. These copolymers are based on methyl methacrylate (MMA) with comonomer constituents. They are ideal for technical parts subjected to high thermal stress.

ACRYLITE® Heatresist molding and extrusion compounds are offered in two grades. ACRYLITE® hw55 and ACRYLITE® FT15 offer the following benefits:

- Excellent weathering characteristics
- High light transmission
- High mechanical strength
- High surface hardness and mar resistance
- AMECA listed

ACRYLITE® Heatresist hw55 provides maximum heat resistant properties and the highest tensile and flexural strength of all grades of ACRYLITE® polymer. Best IPA (alcohol) resistance of any ACRYLITE® grade.

### General

Material Status	• Commercial: Active		
Availability	• North America		
Features	• Copolymer • Good Optical Properties • Good Weather Resistance	• High Clarity • High Hardness • High Heat Resistance	• High Light Transmission • High Scratch Resistance • High Strength
Uses	• Automotive Applications • Lenses	• Lighting Applications • Marine Applications	• Medical/Healthcare Applications
Agency Ratings	• EC 1907/2006 (REACH)		
Appearance	• Clear/Transparent	• Colors Available	
Forms	• Pellets		
Processing Method	• Extrusion	• Injection Molding	

## ASTM & ISO Properties <sup>1</sup>

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)	1.20	cm <sup>3</sup> /10min	ISO 1133
Molding Shrinkage	0.20 to 0.60	%	ISO 294-4
Water Absorption (Saturation, 23°C)	2.2	%	ISO 62
Water Absorption (Equilibrium, 23°C, 50% RH)	0.60	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3600	MPa	ISO 527-2/1
Tensile Stress (Break)	80.0	MPa	ISO 527-2/5
Tensile Strain (Break)	3.5	%	ISO 527-2/5
Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength	20	kJ/m <sup>2</sup>	ISO 179/1eU
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature (0.45 MPa, Unannealed)	109	°C	ISO 75-2/B
Heat Deflection Temperature (1.8 MPa, Unannealed)	106	°C	ISO 75-2/A
Vicat Softening Temperature	120	°C	ISO 306/B50

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Thermal	Nominal Value	Unit	Test Method
CLTE - Flow (0 to 50°C)	6.4E-5	cm/cm/°C	ISO 11359-2
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.6 mm)	HB		IEC 707
Fire Rating	B2		DIN 4102
Optical	Nominal Value	Unit	Test Method
Refractive Index	1.510		ISO 489
Transmittance	91.0	%	ISO 13468-2

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.