

# POLY METHYL METHACRYLATE

## MH

### PMMA

#### Description

MH is a Poly methyl Methacrylate general-purpose heat resistant grade. It possesses a high heat resistance and it is suitable to use for industrial components.

#### Applications

- House ware
- Rear tail lamps and speedometer for Automotive and optical lens
- Extrusion sheets, pipes and rods

Optical Properties	Typical Value	Unit	Test Method
Refractive Index	1.49	---	ISO 489
Total Light Transmittance	92	%	ISO 13468-1
Haze	<0.5	%	ISO 14782
Thermal Properties			
Coefficient of Linear Expansion	$7 \times 10^{-5}$	1/ °C	ISO 11359-2
Vicat Softening Temperature (VST)	109	°C	ISO 306
Deflection Temperature Under Load 1.82 MPa (annealed)	101	°C	ISO 75-2 Af
Melt Flow Rate (MFR) 230 °C, 37.3N (3.8kgf)	2	g/10min	ISO 1133
Mechanical Properties			
Tensile Strength at break	76	MPa	ISO 527-2
Tensile Strain at break	4	%	ISO 527-2
Flexural Strength	120	MPa	ISO 178
Flexural Modulus	3100	MPa	ISO178
Charpy Impact Strength (notched)	1.4	kJ/m <sup>2</sup>	ISO 179-1
Rockwell Hardness Scale M	100	-	ISO 2039-2
Electrical Properties			
Surface Resistivity	$> 10^{16}$	Ω	IEC 60093
Volume Resistivity	$> 10^{15}$	Ω	IEC 60093
Insulation Resistance	$> 10^{15}$	Ω	IEC 60167
Dielectric Strength	20	kV/mm	IEC 60243-1
Dielectric Constant (1MHz)	3.1	---	IEC 60250
Other Properties			
Specific Gravity	1.19	---	ISO 1183
Mold Shrinkage	0.2 -0.6	%	ISO 294-4
Water Absorption	0.3	%	ISO 62
Flammability	HB	---	UL 94

The above data are typical laboratory values and are intended to serve as guides only.

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#### Processing Conditions:

Typical processing conditions are as follows:

Recommended Injection Molding Conditions		
MH		
Pre-Drying Conditions	Temp., °C	80 - 90
	Time/h	4 - 6
Barrel Temp.	Front °C	240 - 260
	Middle °C	230 - 260
	Back °C	220
Mold Temp.	°C	60 - 85
Injection Pressure	MPa	140 - 160
Hold Pressure	MPa	20 - 80
Back Pressure	Gauge MPa	0.9 - 1.4
Screw Speed	rpm	40 - 60
Cooling Time	sec	20 - 60
Recommended Extrusion Molding Conditions		
MH		
Screw L/D		30 - 35
Cylinder Temp. °C	Hopper Side	200 - 210
	Center Side	230 - 240
	Die Side	240 - 245
Die Temp. °C		235 - 245
Recommended Annealing Conditions		
Temp. °C		75 - 85
Time/h		4

#### Storage and Handling:

PMMA is a thermoplastic and is flammable and soluble in organic solvents. Before using PMMA, please refer to the Safety Data Sheet (SDS) separately prepared by us.

PMMA should be stored in accordance with state and local regulations. In case of spillage, remove pellets immediately to prevent potential slipping hazard. PMMA should be kept away from direct sunlight, water and moisture and be stored at ambient temperature.

#### Regulatory Compliance:

Please visit Petro Rabigh website or contact Quality Assurance and Claim Handling Section:

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