

PLEXIGLAS® Optical POQ62

PMMA

Röhm GmbH

Productprofil:

PLEXIGLAS® Optical POQ62 is an amorphous thermoplastic molding compound based on polymethyl methacrylate (PMMA).

In addition to the familiar properties of PLEXIGLAS® molding compounds, such as

- excellent light transmission and brilliance,
- very good weather resistance,
- high mechanical strength, surface hardness and mar resistance,

PLEXIGLAS® Optical POQ62 is distinguished by its

- guaranteed purity and clarity,
- outstanding flow properties due to its low melt viscosity and its
- extremely accurate mold surface reproduction.

Application:

PLEXIGLAS® Optical POQ62 is particularly suitable for injection-compression molding and for injection-molding thin-walled parts with long flow paths. Further fields of application are two-component injection molding and special extrusion.

Example:

Manufacture of moldings with microstructured surfaces and optical structures.

Processing:

PLEXIGLAS® Optical POQ62 can be processed on injection molding machines and extruders with conventional three-section screws for engineering thermoplastics.

Physical Form / Packaging:

PLEXIGLAS® Optical POQ62 is supplied as uniform pellets in 500kg boxes with PE lining, other types of packaging on request.

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	21	cm ³ /10min	ISO 1133
Temperature	230	°C	-
Load	3.8	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	3300	MPa	ISO 527
Stress at Break	63	MPa	ISO 527
Strain at Break	2.8	%	ISO 527
Impact Strength (Charpy), +23°C	20	kJ/m ²	ISO 179/1eU

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Vicat softening temperature, 50°C/h 50N	97	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	80	E-6/K	ISO 11359-1/-2

Electrical Properties	Value	Unit	Test Standard
ISO Data			
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1

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Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	1.7	%	Sim. to ISO 62
Humidity absorption	0.6	%	Sim. to ISO 62
Density	1190	kg/m³	ISO 1183

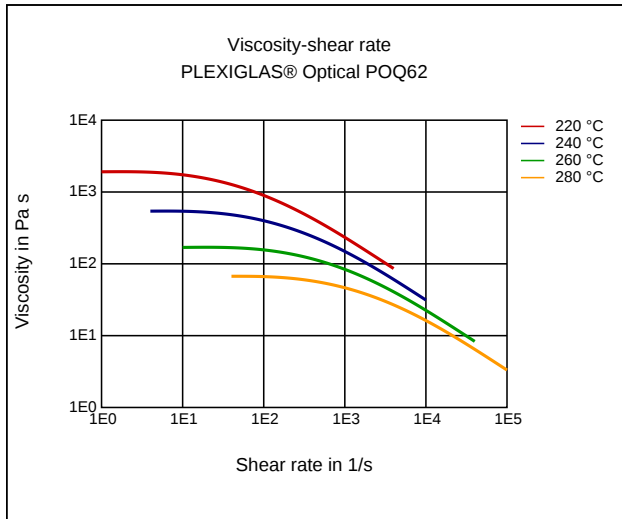
Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Luminous transmittance	92	%	ISO 13468-1, -2

Test specimen production	Value	Unit	Test Standard
ISO Data			
Processing conditions acc. ISO	8257	-	ISO-2
Injection Molding, mold temperature	57	°C	ISO 294
Injection Molding, injection velocity	195	mm/s	ISO 294

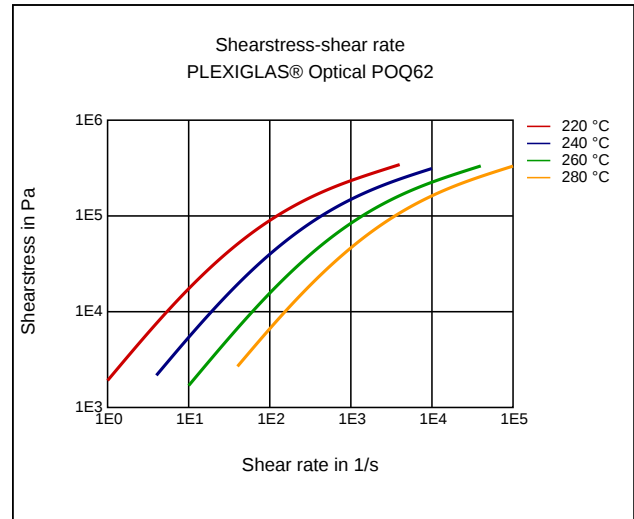
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 3	h	-
Melt temperature	280 - 290	°C	-
Mold temperature	50 - 70	°C	-

Diagrams

Viscosity-shear rate



Shearstress-shear rate

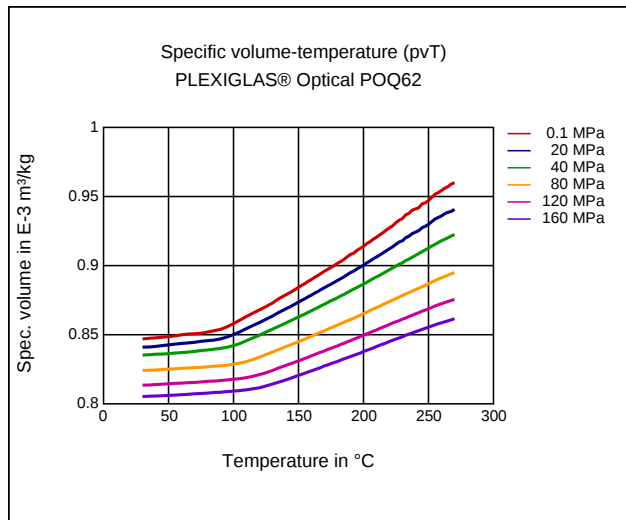


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Specific volume-temperature (pvT)



Characteristics

Processing

Injection Molding, Other Extrusion, Compression Molding

Special Characteristics

Light stabilized or stable to light, UV stabilized, Transparent

Delivery form

Pellets

Features

Amorphous

Injection Molding

PREPROCESSING

Predrying temperature: max. 80 °C

Predrying time in a desiccant-type drier: 2 - 3 h

PROCESSING

Melt temperature: 280 - 290 °C

Mold temperature: 50 - 70 °C

Chemical Media Resistance

Acids

- ✓ Citric Acid solution (10% by mass) (23 °C)
- ✓ Lactic Acid (10% by mass) (23 °C)
- ✓ Nitric Acid (40% by mass) (23 °C)
- ✓ Sulfuric Acid (38% by mass) (23 °C)
- ✓ Sulfuric Acid (5% by mass) (23 °C)

Bases

- ✓ Sodium Hydroxide solution (35% by mass) (23 °C)
- ✓ Sodium Hydroxide solution (1% by mass) (23 °C)
- ✓ Ammonium Hydroxide solution (10% by mass) (23 °C)

Hydrocarbons

- ✓ n-Hexane (23 °C)
- ✓ iso-Octane (23 °C)

Standard Fuels

- ✓ Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23 °C)
- ✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23 °C)

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- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (23°C)

Salt solutions

- ✓ Sodium Carbonate solution (20% by mass) (23°C)
- ✓ Sodium Carbonate solution (2% by mass) (23°C)

Other

- ✓ 50% Oleic acid + 50% Olive Oil (23°C)
 - ✓ Water (23°C)
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