

## 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
<b>ISO Data</b>			
Melt volume-flow rate, MVR	21	cm <sup>3</sup> /10min	ISO 1133
Temperature	230	°C	-
Load	3.8	kg	-

Mechanical Properties	Value	Unit	Test Standard
<b>ISO Data</b>			
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 <sup>2</sup>	ISO 179/1eU

Thermal Properties	Value	Unit	Test Standard
<b>ISO Data</b>			
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
<b>ISO Data</b>			
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1

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

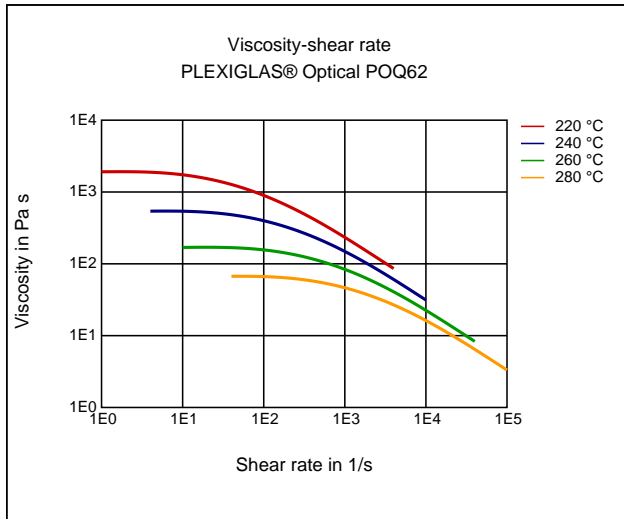
Material Specific Properties	Value	Unit	Test Standard
<b>ISO Data</b>			
Luminous transmittance	92	%	ISO 13468-1, -2

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

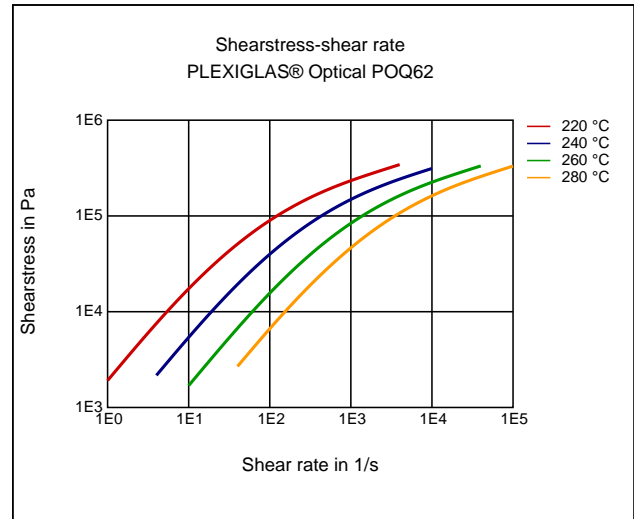
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	80	°C	-
Pre-drying - Time	2 - 3	h	-
Melt temperature	280 - 290	°C	-
Mold temperature	50 - 70	°C	-

## Diagrams

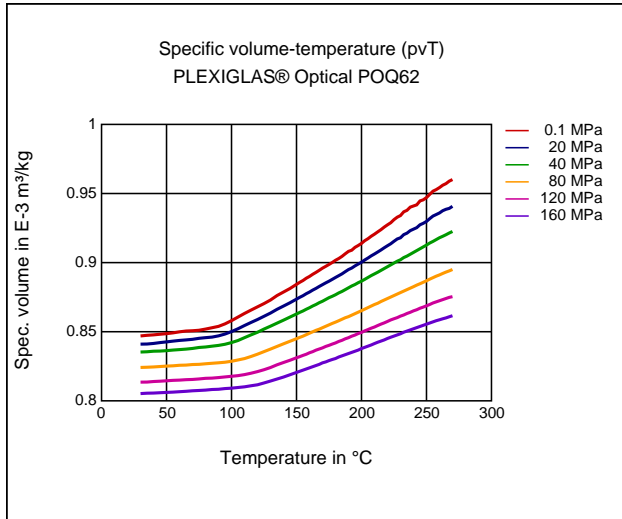
### Viscosity-shear rate



### Shearstress-shear rate



### Specific volume-temperature (pvT)



### Characteristics

#### Processing

Injection Molding, Other Extrusion, Compression Molding

#### Delivery form

Pellets

#### Special Characteristics

Light stabilized or stable to light, UV stabilized, Transparent

#### 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)

- ✓ 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)

#### Disclaimer

##### Liability Exclusion

These guide values are measured and provided by the product manufacturer and have been determined on standardised test specimens and can be affected by pigmentation, mould design and processing conditions. M-Base has taken the guide values from the producer's original Technical Data Sheet. **ALBIS AND M-BASE ARE THEREFORE NOT RESPONSIBLE FOR THE ACCURACY OF THE GUIDE VALUES AND CANNOT GIVE ANY WARRANTY WITH REGARD TO THEIR CORRECTNESS.**

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