

PLEXIGLAS® Resist zk6HF

Röhm GmbH
PMMA-I

Processing

Injection molding, Profile extrusion, Sheet extrusion

Delivery Form

Pellets

Additives

Release agent

Special Characteristics

High impact or impact modified, Light stabilized or stable to light, U.V. stabilized or stable to weather, Transparent

Features

Amorphous

Chemical Resistance

Environmental stress crack resistance

Product Text

Product Information

Productprofil:

PLEXIGLAS® Resist zk6HF is an amorphous, impact-modified thermoplastic molding compound (PMMA-I).

Typical properties of impact-modified PLEXIGLAS® molding compounds are

- high weather resistance
- excellent transmission and clarity
- brilliant appearance
- the pleasant feel and sound of the moldings.

PLEXIGLAS® Resist zk6HF is characterized by the following special properties:

- excellent break resistance and impact strength
- improved resistance to stress cracking
- very good flow.

Application:

Used for injection molding as well as for extruding sheets and profiles.

Example:

applications involving thin walls and long flow paths, thin-walled components; items requiring accurate mold surface reproduction, such as very finely textured luminaire covers.

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Processing:

PLEXIGLAS® Resist zk6HF can be processed on machines with 3-zone general purpose screws for engineering thermoplastics.

Physical Form / Packaging:

PLEXIGLAS® Resist zk HF molding compounds are supplied as pellets of uniform size in 25 kg polyethylene bags or in 500 kg boxes with PE lining; other packaging on request.

Processing/Physical Characteristics	Value	Unit	Standard
Melt volume-flow rate, MVR	4.2	cm ³ /10min	ISO 1133
Temperature	230	°C	
Load	3.8	kg	
Density of melt	1040	kg/m ³	
Thermal conductivity of melt	0.19	W/(m K)	
Spec. heat capacity of melt	2438	J/(kg K)	
Eff. thermal diffusivity	7.494E-8	m ² /s	
Ejection temperature	75	°C	

Mechanical Properties	Value	Unit	Standard
Tensile modulus	1900	MPa	ISO 527
Yield stress	45	MPa	ISO 527
Yield strain	5	%	ISO 527
Nominal strain at break	50	%	ISO 527
Poisson's ratio	0.35		ISO 527
Charpy impact strength, +23°C	75	kJ/m ²	ISO 179/1eU

Thermal Properties	Value	Unit	Standard
Glass transition temperature, 10°C/min	92	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	91	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	96	°C	ISO 75-1/-2
Vicat softening temperature, B	94	°C	ISO 306
Coeff. of linear therm. expansion, parallel	110	E-6/K	ISO 11359-1/-2
Burning behav. at 1.5 mm nom. thickn.	HB	class	IEC 60695-11-10
Thickness tested	1.57	mm	
Yellow card available	yes		
Oxygen index	17.5	%	ISO 4589-1/-2

Electrical Properties	Value	Unit	Standard
Relative permittivity, 100Hz	3.7		IEC 62631-2-1

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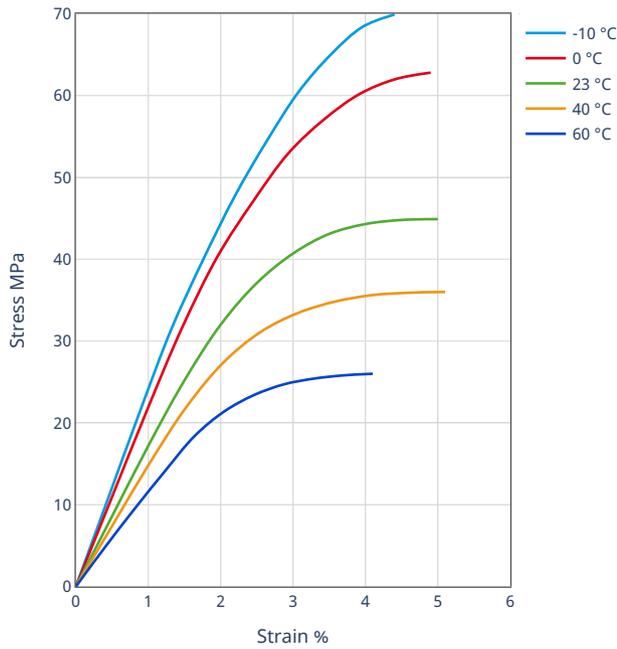
Electrical Properties	Value	Unit	Standard
Relative permittivity, 1MHz	2.9		IEC 62631-2-1
Dissipation factor, 100Hz	500	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	300	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface resistivity	1E13	Ohm	IEC 62631-3-2
Optical Properties	Value	Unit	Standard
Luminous transmittance	91	%	ISO 13468-1, -2
Other Properties	Value	Unit	Standard
Water absorption	1.8	%	Sim. to ISO 62
Humidity absorption	0.5	%	Sim. to ISO 62
Density	1160	kg/m ³	ISO 1183
Test Specimen Production	Value	Unit	Standard
Injection molding, melt temperature	230	°C	ISO 294
Injection molding, mold temperature	54	°C	ISO 294
Injection molding, injection velocity	195	mm/s	ISO 294

Diagrams

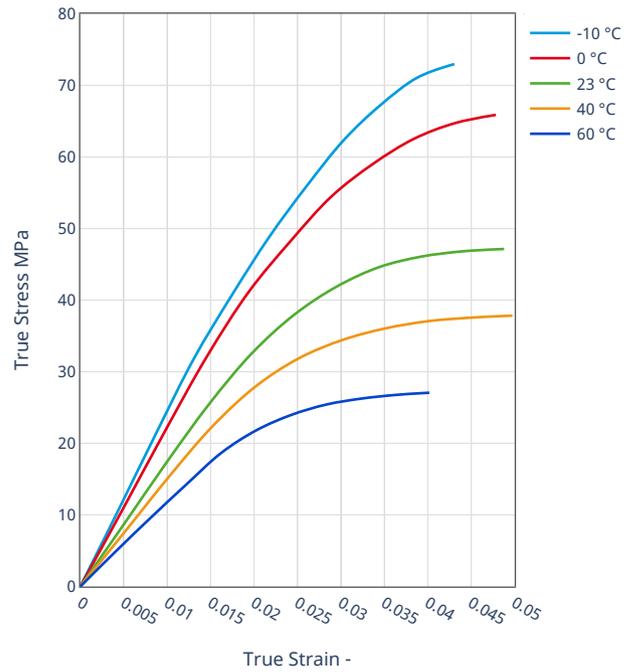
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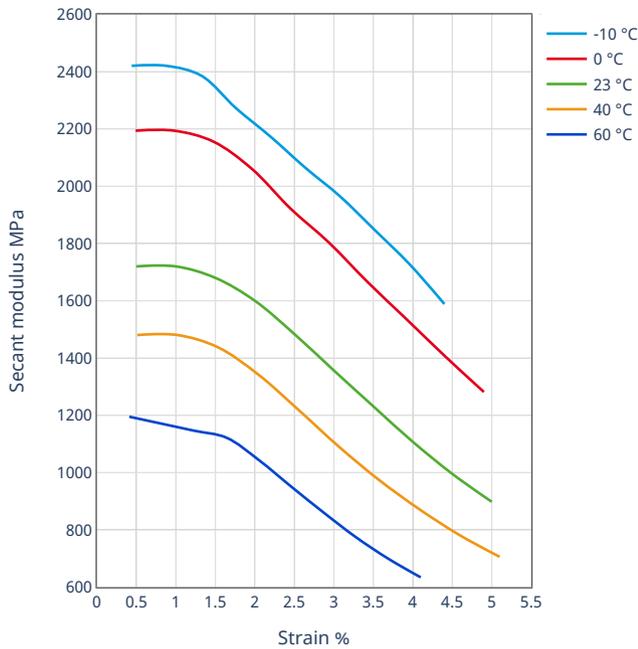
Stress-strain



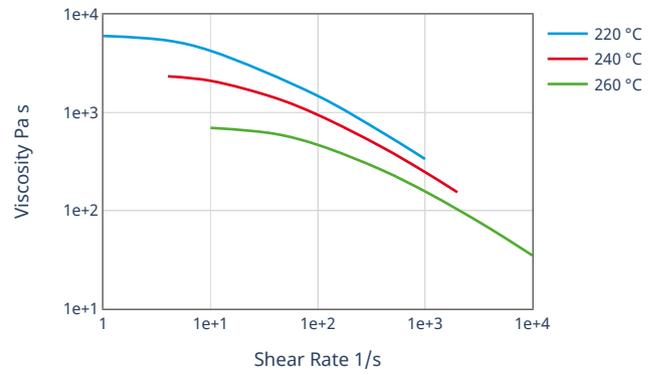
True stress-true strain



Secant modulus-strain



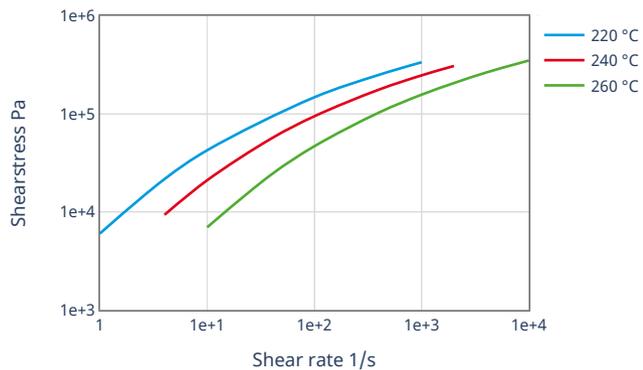
Viscosity-shear rate



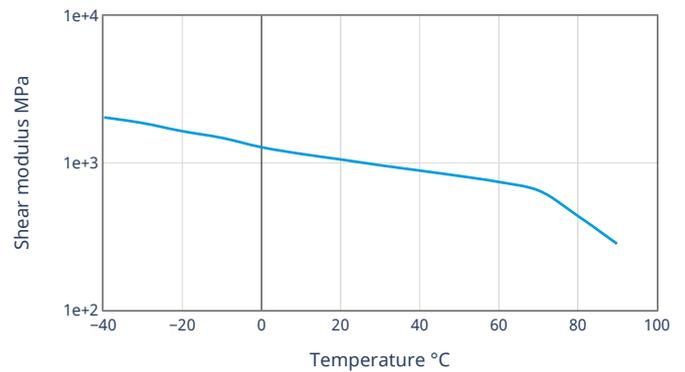
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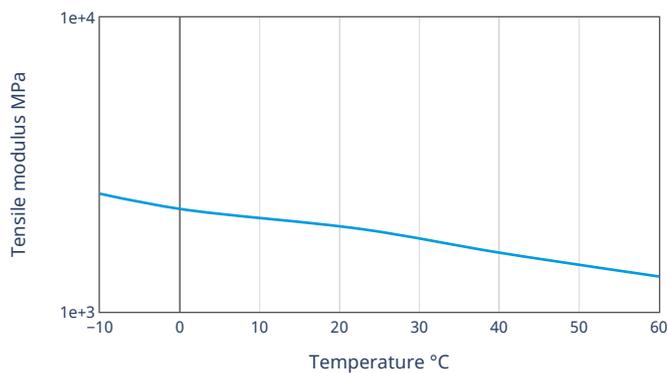
Shearstress-shear rate



Dynamic shear modulus-temperature



Tensile modulus-temperature



Processing Information

Injection molding

PREPROCESSING

Predrying temperature: max. 85 °C

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

PROCESSING

Melt temperature: 220 - 260°C

Mold temperature: 50 - 70°C