TECHNICAL DATA SHEET

PLEXIGLAS® Resist zk4HC

Röhm GmbH

PMMA-I

Processing

Film extrusion, Profile extrusion, Sheet extrusion, Other 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

Applications

Automotive

Product Text

Product Information

Productprofil:

PLEXIGLAS® Resist zk4HC 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 zk4HC is characterized by the following special properties:

- improved break resistance and impact strength
- best resistance to stress cracking of all impact-modified PLEXIGLAS molding compounds
- AMECA listing.

Application:

Used for extruding and coextruding sheets and profiles.

Example:

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extruded/coextruded sheets and profiles for automotive bodies and the sanitaryware sector (bathtubs and shower trays) or crystal-clear luminare covers for industrial plants that come into contact with aggressive media.

Processing:

PLEXIGLAS® Resist zk4HC can be processed on machines with 3-zone general purpose screws for engineering thermoplastics.

Physical Form / Packaging:

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

Processing/Physical Characteristics	Value	Unit	Standard
Melt volume-flow rate, MVR	1.1	cm³/10min	ISO 1133
Temperature	230	°C	
Load	3.8	kg	
Density of melt	1040	kg/m³	
Thermal conductivity of melt	0.19	W/(m K)	
Spec. heat capacity of melt	2438	J/(kg K)	
Eff. thermal diffusivity	7.494E-8	m²/s	
Ejection temperature	85	°C	

Mechanical Properties	Value	Unit	Standard
Tensile modulus	2900	MPa	ISO 527
Yield stress	68	MPa	ISO 527
Yield strain	4.5	%	ISO 527
Nominal strain at break	17	%	ISO 527
Poisson's ratio	0.35		ISO 527
Charpy impact strength, +23°C	25	kJ/m²	ISO 179/1eU

Thermal Properties	Value	Unit	Standard
Glass transition temperature, 10°C/min	108	°C	ISO 11357-1/-2
Vicat softening temperature, B	102	°C	ISO 306
Coeff. of linear therm. expansion, parallel	80	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	92	%	ISO 13468-1, -2

Other Properties	Value	Unit	Standard
Water absorption	2	%	Sim. to ISO 62
Humidity absorption	0.6	%	Sim. to ISO 62
Density	1180	kg/m³	ISO 1183

Test Specimen Production	Value	Unit	Standard
Injection molding, melt temperature	250	°C	ISO 294
Injection molding, mold temperature	62	°C	ISO 294
Injection molding, injection velocity	195	mm/s	ISO 294

Diagrams

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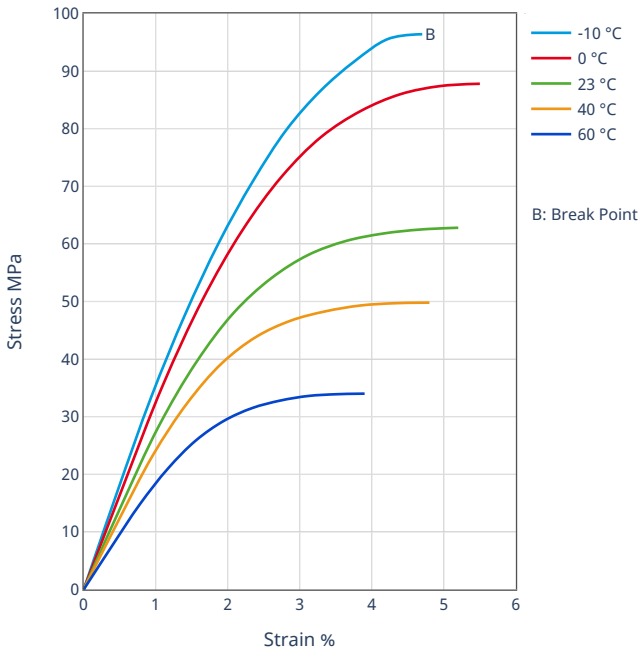
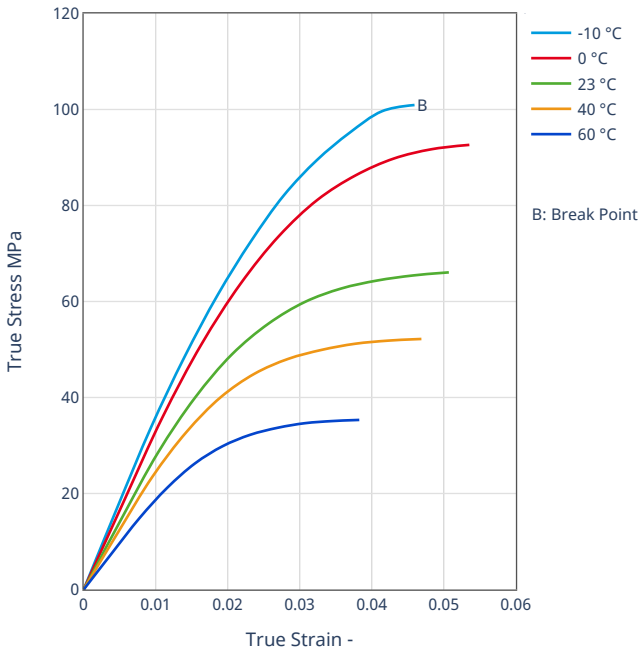
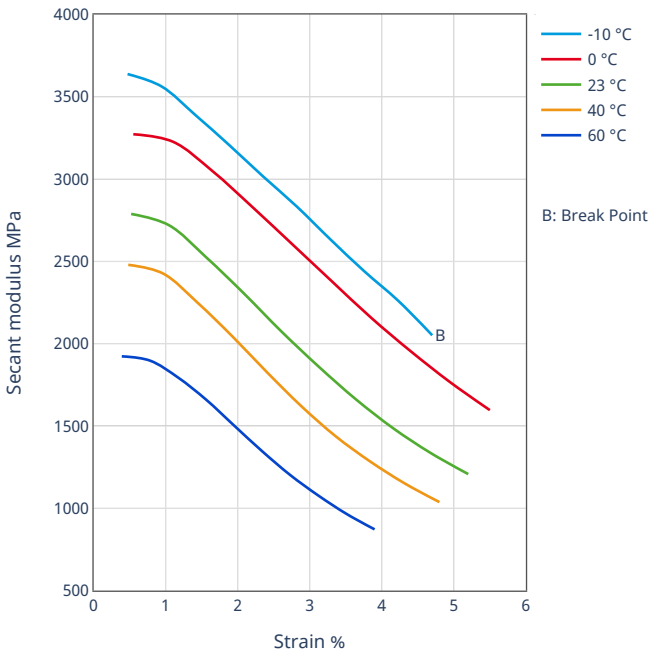
Stress-strain



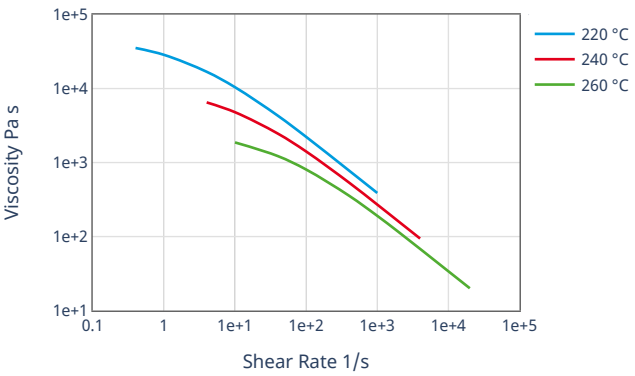
True stress-true strain



Secant modulus-strain



Viscosity-shear rate



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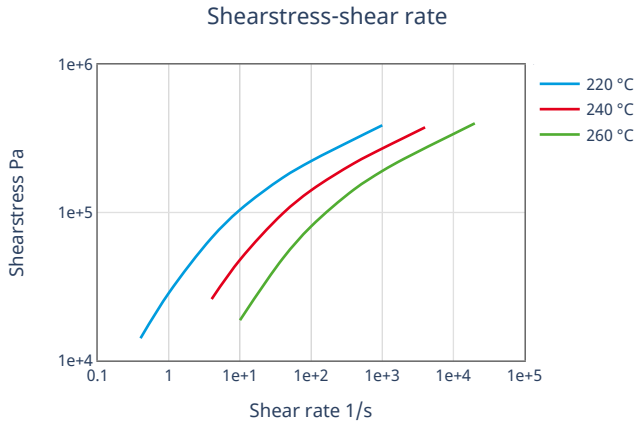

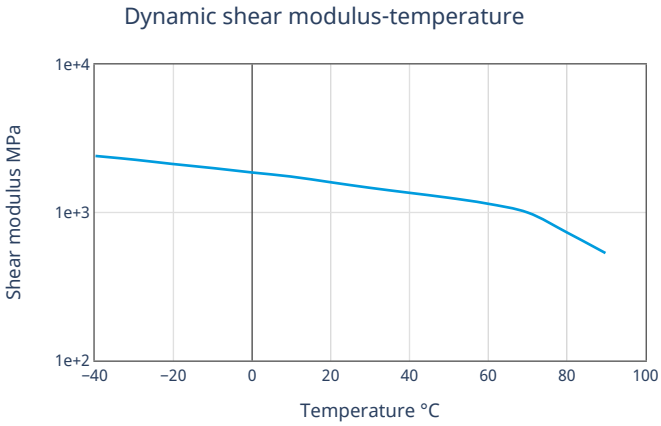

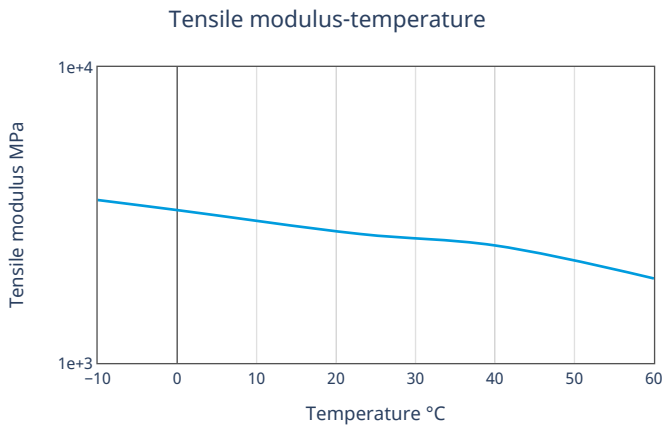

Processing Information

Profile extrusion

PREPROCESSING
Predrying temperature: max. 95 °C
Predrying time in a desiccant-type drier: 2 - 3 h
PROCESSING
Melt temperature: 220 - 260 °C
Die temperature: 220 - 260 °C

Sheet extrusion

PREPROCESSING
Predrying temperature: max. 95 °C
Predrying time in a desiccant-type drier: 2 - 3 h
PROCESSING
Melt temperature: 220 - 260 °C
Die temperature: 220 - 260 °C