TECHNICAL DATA SHEET

PLEXIGLAS® 7H

Röhm GmbH

PMMA

Processing

Injection molding, Pipe/tube extrusion, Profile extrusion, Sheet extrusion, Other extrusion, Thermoforming

Delivery Form

Pellets

Special Characteristics

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

Features

Amorphous, Melt strength

Applications

Building construction

Product Text

Product Information

Productprofil:

PLEXIGLAS® 7H is an amorphous thermoplastic molding compound (PMMA).

Typical properties of PLEXIGLAS® molding compounds are:

- good flow
- high mechanical strength, surface hardness and mar resistance
- high light transmission
- excellent weather resistance
- free colorability due to crystal clarity.

Special properties of PLEXIGLAS® 7H are:

- very good mechanical properties
- high heat deflection temperature
- high melt strength
- AMECA listing.

Application:

Used for extruding optical and technical profiles and sheets.

Example:

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sheets, tubes, multi-skin sheets, coextrusion of window profiles and similar applications

Processing:

PLEXIGLAS® 7H can be processed on extruders with 3-zone general purpose screws for engineering thermoplastics.

Physical Form / Packaging:

PLEXIGLAS® molding compounds are supplied as pellets of uniform size, packaged 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	1.4	cm³/10min	ISO 1133
Temperature	230	°C	
Load	3.8	kg	
Density of melt	1062	kg/m³	
Thermal conductivity of melt	0.181	W/(m K)	
Spec. heat capacity of melt	2438	J/(kg K)	
Eff. thermal diffusivity	6.991E-8	m²/s	
Ejection temperature	85	°C	

Mechanical Properties	Value	Unit	Standard
Tensile modulus	3200	MPa	ISO 527
Stress at break	76	MPa	ISO 527
Strain at break	5.5	%	ISO 527
Poisson's ratio	0.35		ISO 527
Tensile creep modulus, 1h	2900	MPa	ISO 899-1
Tensile creep modulus, 1000h	2300	MPa	ISO 899-1
Charpy impact strength, +23°C	20	kJ/m²	ISO 179/1eU

Thermal Properties	Value	Unit	Standard
Glass transition temperature, 10°C/min	112	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	95	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	100	°C	ISO 75-1/-2
Vicat softening temperature, B	103	°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	17.2	%	ISO 4589-1/-2

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Electrical Properties	Value	Unit	Standard
Relative permittivity, 100Hz	3.7		IEC 62631-2-1
Relative permittivity, 1MHz	2.8		IEC 62631-2-1
Dissipation factor, 100Hz	500	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	200	E-4	IEC 62631-2-1
Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1
Surface resistivity	1E13	Ohm	IEC 62631-3-2
Comparative tracking index	600		IEC 60112

Optical Properties	Value	Unit	Standard
Luminous transmittance	92	%	ISO 13468-1, -2

Other Properties	Value	Unit	Standard
Water absorption	1.9	%	Sim. to ISO 62
Humidity absorption	0.6	%	Sim. to ISO 62
Density	1190	kg/m³	ISO 1183

Material Specific Properties	Value	Unit	Standard
Viscosity number	72	cm³/g	ISO 307, 1157, 1628

Test Specimen Production	Value	Unit	Standard
Processing conditions acc. ISO	8257		ISO ....-2
Injection molding, melt temperature	252	°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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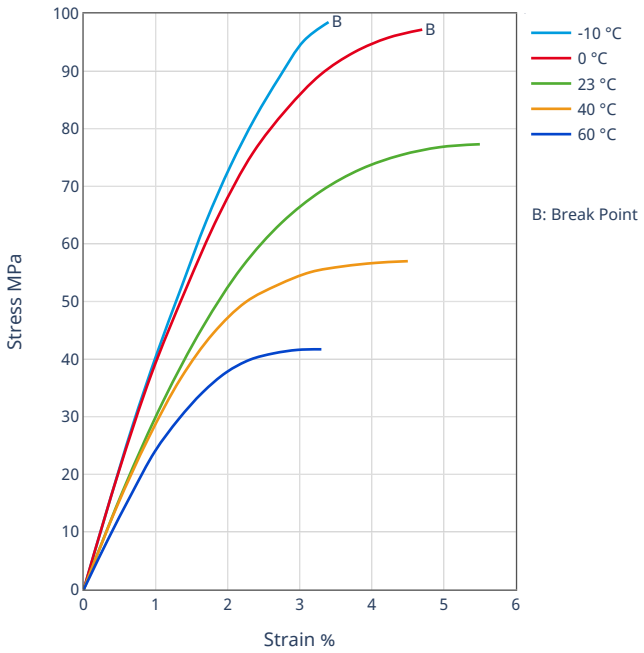
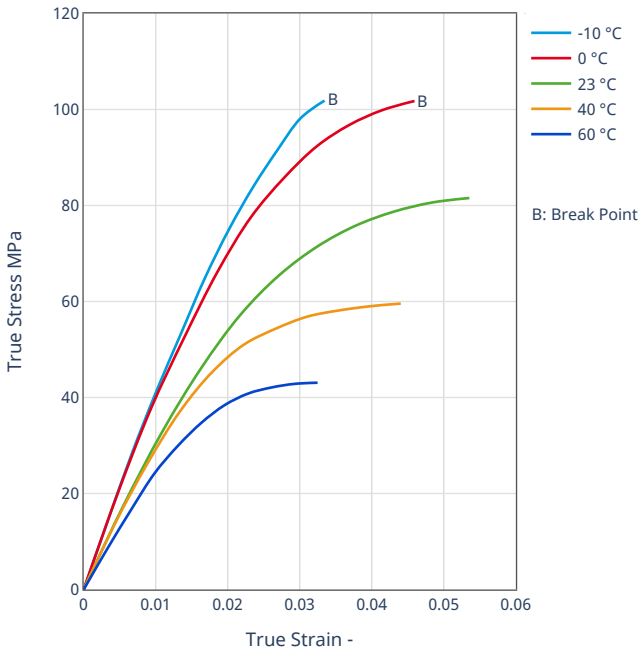
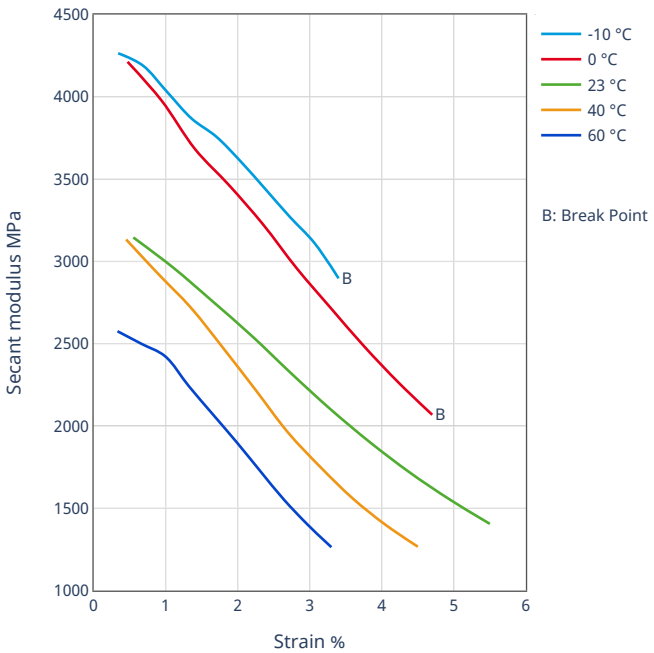
Stress-strain



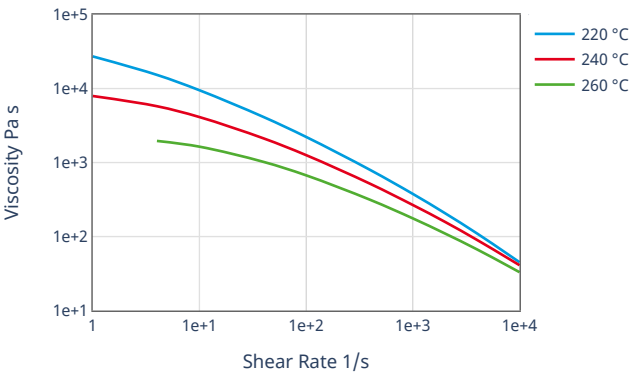
True stress-true strain



Secant modulus-strain



Viscosity-shear rate



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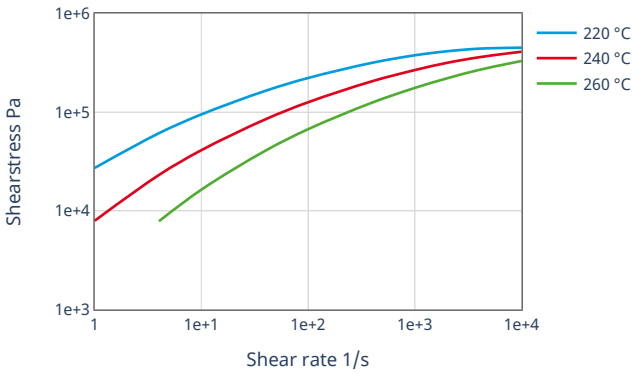
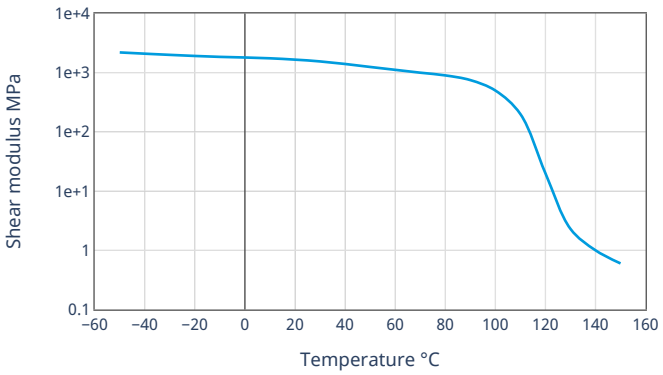
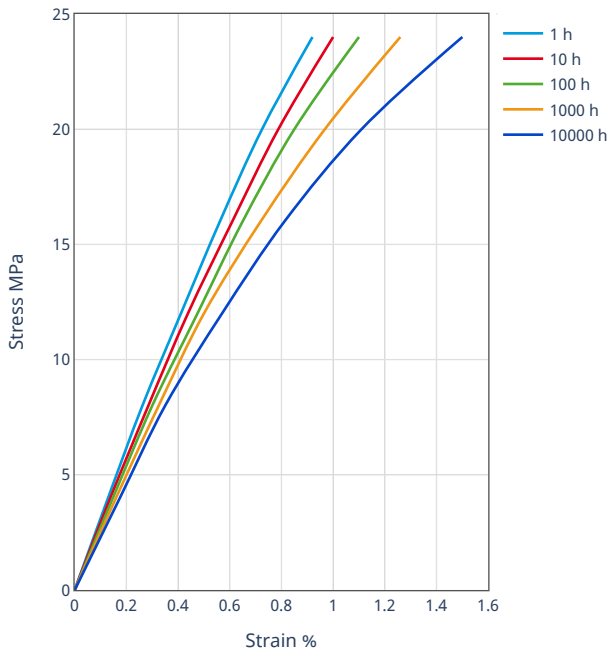
Shearstress-shear rate



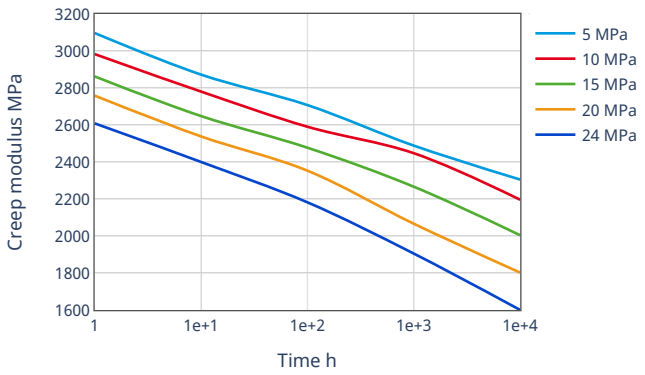
Dynamic shear modulus-temperature



Stress-strain (isochronous) 23°C



Creep modulus-time 23°C



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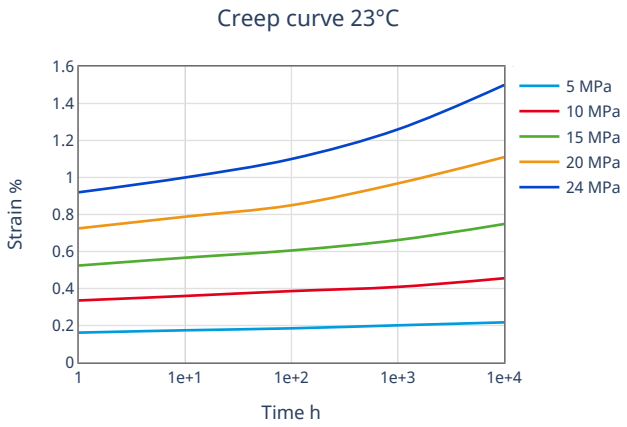

Processing Information

Injection molding

PREPROCESSING
Predrying temperature: max. 93 °C
Predrying time in a desiccant-type drier: 2 - 3 h
PROCESSING
Melt temperature: 220 - 260°C
Mold temperature:60 - 90°C

Profile extrusion

PREPROCESSING
Predrying temperature: max. 93 °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. 93 °C
Predrying time in a desiccant-type drier: 2 - 3 h
PROCESSING
Melt temperature: 220 - 260 °C
Die temperature: 220 - 260 °C