TECHNICAL DATA SHEET

PLEXIGLAS® Hi-Gloss NTA-1

Röhm GmbH
PMMA-I

Processing

Injection molding

Delivery Form

Pellets

Special Characteristics

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

Features

High gloss

Applications

Automotive

Product Text

Product Information

Productprofil:

PLEXIGLAS® Hi-Gloss NTA-1 is an impact-modified compound with a high heat deflection temperature based on polymethyl methacrylate (PMMA).

Besides the well-known properties of PLEXIGLAS® molding compound, such as

- good flow
- high mar resistance
- good weather resistance
- good polishability,

PLEXIGLAS® Hi-Gloss NTA-1 offers the added benefits of

- increased impact strength
- good heat deflection temperature under load.

Application:

PLEXIGLAS® Hi-Gloss NTA-1 is particularly suitable for injection molding technical components.
Owing to its superior brilliance, high-gloss (Class A) surfaces can be obtained in opaque colors.

Example:

add-on automotive body parts, mirror housings, pillar panels, spoilers

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Processing:

PLEXIGLAS® Hi-Gloss NTA-1 can be processed on machines with 3-zone general purpose screws for engineering thermoplastics.

Physical Form / Packaging:

PLEXIGLAS® Hi-Gloss NTA-1 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	3	cm³/10min	ISO 1133
Temperature	230	°C	
Load	3.8	kg	
Density of melt	1090	kg/m³	
Ejection temperature	90	°C	

Mechanical Properties	Value	Unit	Standard
Tensile modulus	2700	MPa	ISO 527
Yield stress	68	MPa	ISO 527
Yield strain	5	%	ISO 527
Nominal strain at break	10	%	ISO 527
Poisson's ratio	0.35		ISO 527
Tensile creep modulus, 1h	2500	MPa	ISO 899-1
Tensile creep modulus, 1000h	1250	MPa	ISO 899-1
Charpy impact strength, +23°C	33	kJ/m²	ISO 179/1eU

Thermal Properties	Value	Unit	Standard
Glass transition temperature, 10°C/min	120	°C	ISO 11357-1/-2
Temp. of deflection under load, 1.80 MPa	102	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	103	°C	ISO 75-1/-2
Vicat softening temperature, B	110	°C	ISO 306
Coeff. of linear therm. expansion, parallel	78.5	E-6/K	ISO 11359-1/-2
Burning rate, FMVSS, thickness 1 mm	100	mm/min	ISO 3795 (FMVSS 302)

Electrical Properties	Value	Unit	Standard
Volume resistivity	>1E13	Ohm*m	IEC 62631-3-1

Optical Properties	Value	Unit	Standard
Luminous transmittance	0	%	ISO 13468-1, -2

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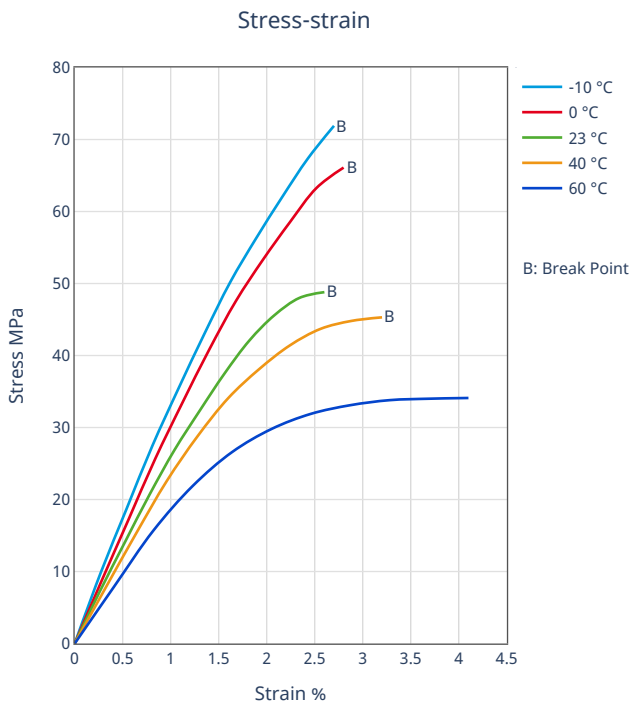
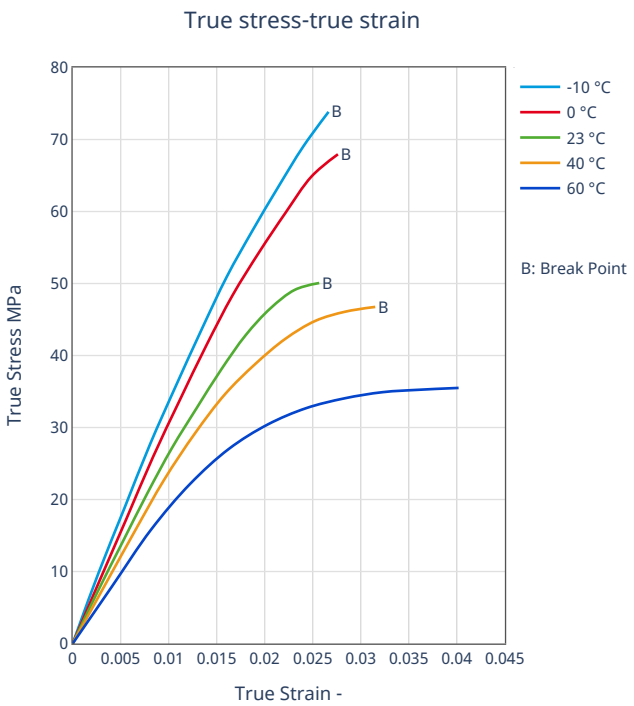
Other Properties	Value	Unit	Standard
Water absorption	3	%	Sim. to ISO 62
Density	1182	kg/m³	ISO 1183

Test Specimen Production	Value	Unit	Standard
Injection molding, melt temperature	235	°C	ISO 294
Injection molding, mold temperature	70	°C	ISO 294
Injection molding, injection velocity	195	mm/s	ISO 294

Diagrams





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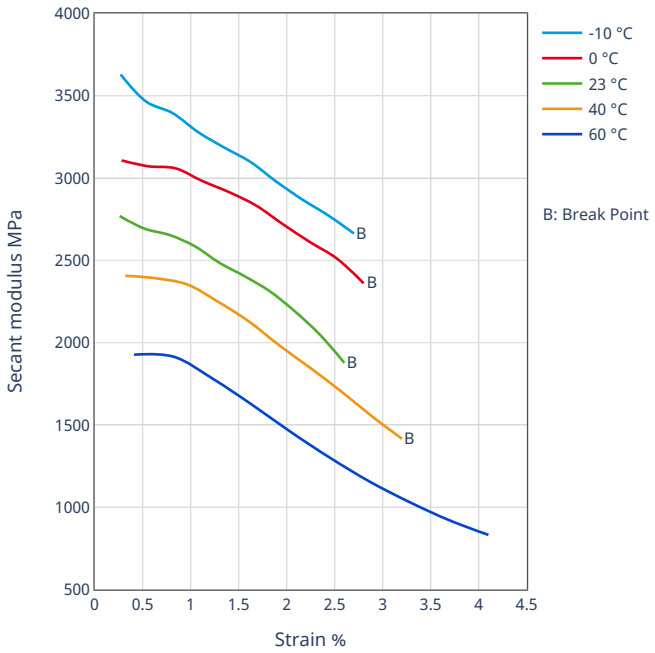
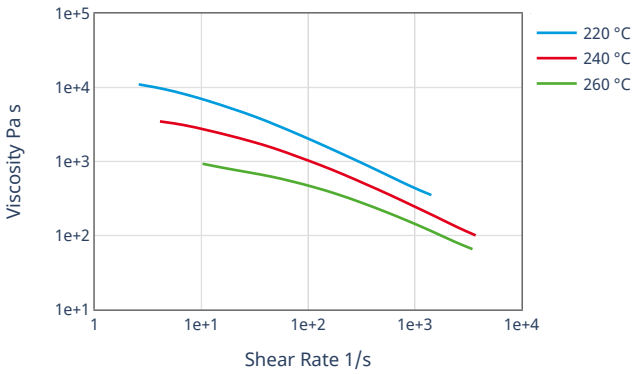
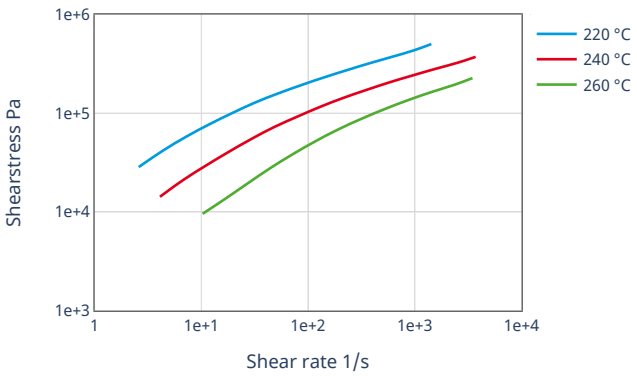
Secant modulus-strain



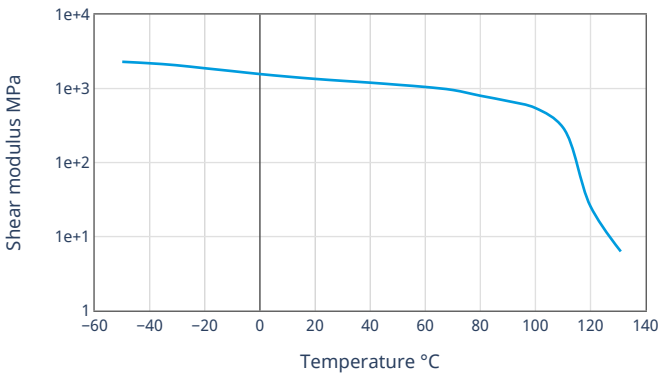
Viscosity-shear rate



Shearstress-shear rate



Dynamic shear modulus-temperature



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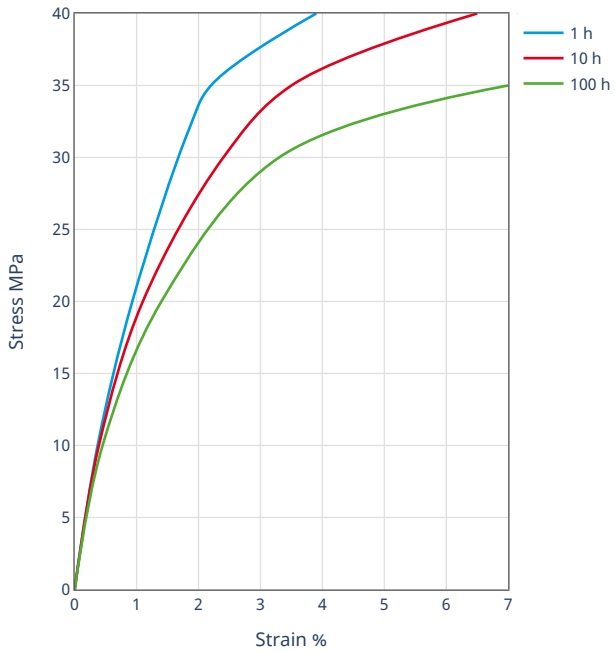
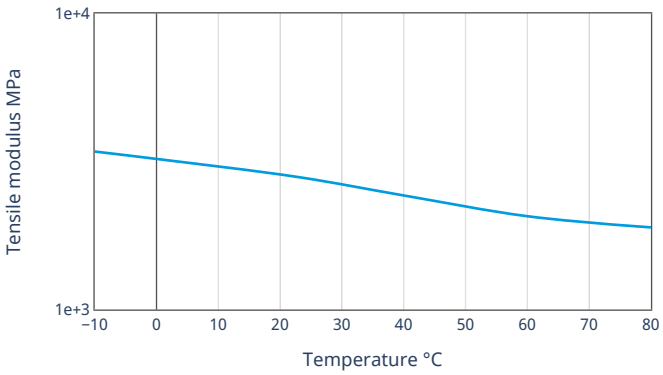
Stress-strain (isochronous) 23°C



Tensile modulus-temperature



Processing Information

Injection molding

PREPROCESSING
Predrying temperature: max. 100 °C
Predrying time in a desiccant-type drier: 2 - 3 h
PROCESSING
Melt temperature: 220 - 250°C
Mold temperature:50 - 85°C