

Productprofil:

PLEXIGLAS® Resist zk20 is an amorphous thermoplastic molding compound that is slightly impact-modified (PMMA-I).

Typical properties of standard PLEXIGLAS® molding compounds are:

- excellent light transmission
- good mechanical properties.

Special properties of PLEXIGLAS® Resist zk20 are:

- increased break resistance to avoid demolding fractures during injection molding
- improved resistance to stress cracking
- AMECA listing.

Application:

Used for injection molding. Profile extrusion or coextrusion are also possible.

Example:

lighting fixtures, writing and drawing utensils, domestic appliances and sanitaryware

Processing:

PLEXIGLAS® Resist zk20 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, packaged in 25kg polyethylene bags or 500kg boxes with PE lining; other packaging on request.

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	2	cm ³ /10min	ISO 1133
Temperature	230	°C	-
Load	3.8	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	2400	MPa	ISO 527
Yield stress	62	MPa	ISO 527
Yield strain	4.5	%	ISO 527
Nominal strain at break	22	%	ISO 527
Tensile Creep Modulus, 1h	2300	MPa	ISO 899-1
Tensile Creep Modulus, 1000h	1600	MPa	ISO 899-1
Impact Strength (Charpy), +23°C	25	kJ/m ²	ISO 179/1eU

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Glass Transition Temperature (10°C/min)	112	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	96	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	100	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	102	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	100	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	HB	class	UL 94
Thickness tested	1.6	mm	-

Oxygen index	17.5	%	ISO 4589-1/-2
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Electrical Properties	Value	Unit	Test Standard
ISO Data			
Relative permittivity, 100Hz	3.7	-	IEC 62631-2-1
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
Comparative tracking index	600	-	IEC 60112

Other Properties	Value	Unit	Test Standard
ISO Data			
Water Absorption	1.7	%	Sim. to ISO 62
Humidity absorption	0.5	%	Sim. to ISO 62
Density	1170	kg/m³	ISO 1183

Material Specific Properties	Value	Unit	Test Standard
ISO Data			
Luminous transmittance	91	%	ISO 13468-1, -2

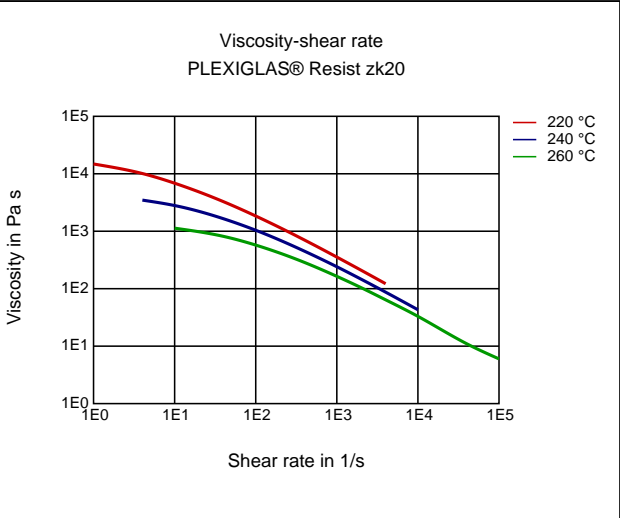
Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	1040	kg/m³	-
Thermal Conductivity of Melt	0.19	W/(m K)	-
Spec. heat capacity of melt	2440	J/(kg K)	-
Eff. thermal diffusivity	7.49E-8	m²/s	-
Ejection temperature	80	°C	-

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	250	°C	ISO 294
Injection Molding, mold temperature	64	°C	ISO 294
Injection Molding, injection velocity	195	mm/s	ISO 294

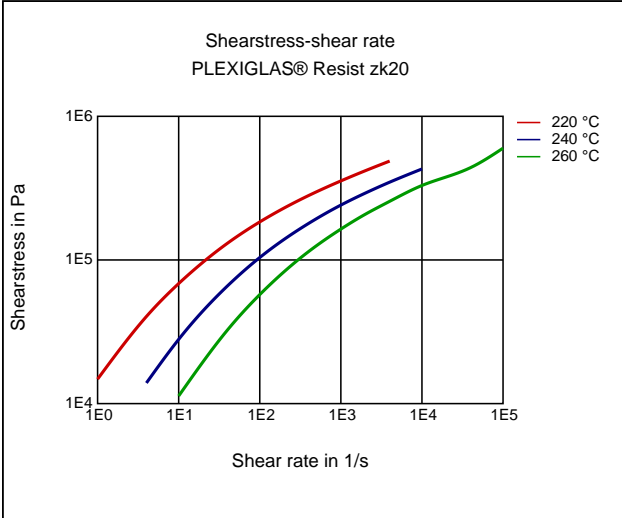
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	95	°C	-
Pre-drying - Time	2 - 3	h	-
Melt temperature	230 - 240	°C	-
Mold temperature	50 - 70	°C	-

Diagrams

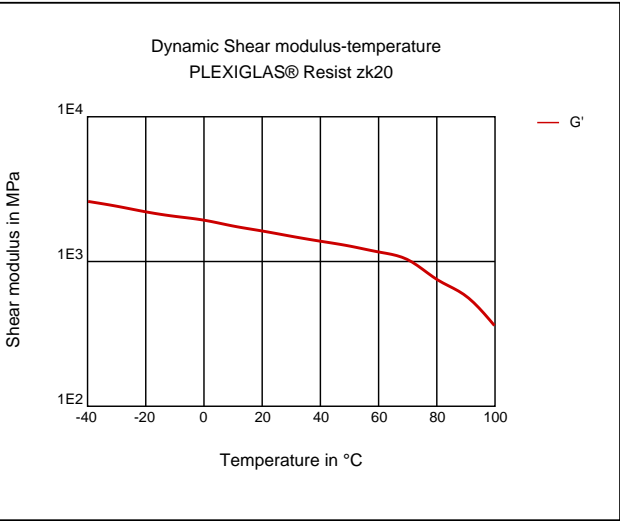
Viscosity-shear rate



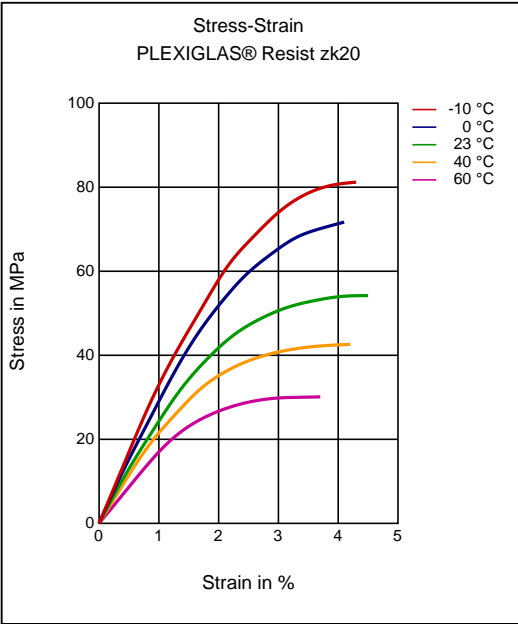
Shearstress-shear rate



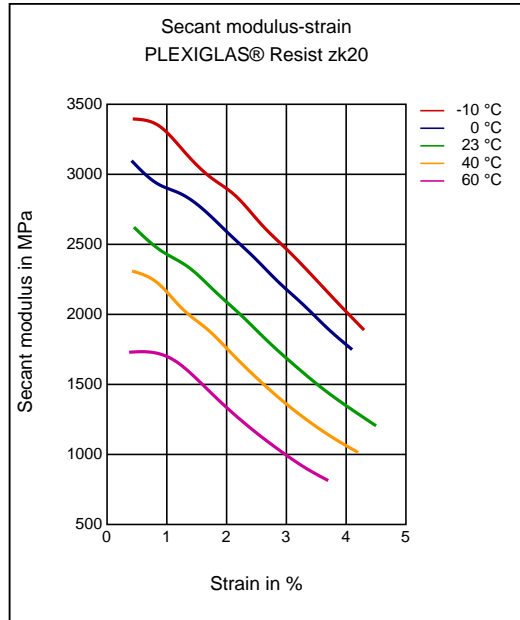
Dynamic Shear modulus-temperature



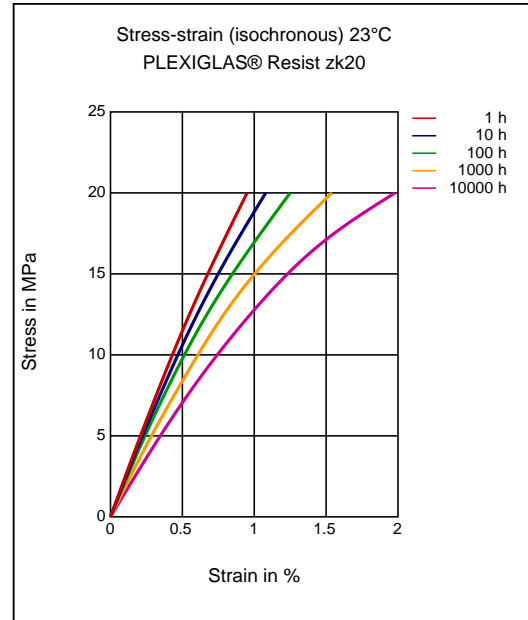
Stress-strain



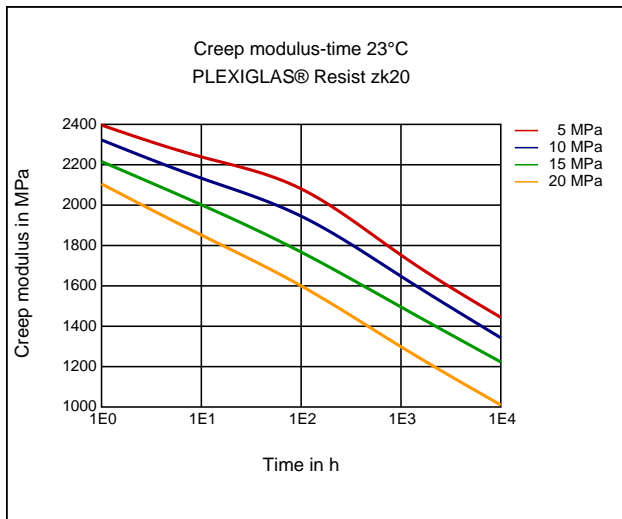
Secant modulus-strain



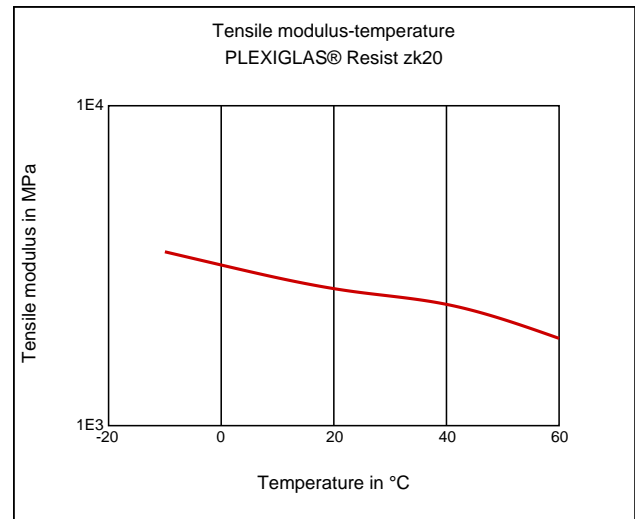
Stress-strain (isochronous) 23 °C



Creep modulus-time 23 °C



Tensile Modulus-Temperature



Characteristics

Processing

Injection Molding, Profile Extrusion, Sheet Extrusion, Other Extrusion, Thermoforming

Delivery form

Pellets

Additives

Release agent

Injection Molding

PREPROCESSING

Predrying temperature: max. 95 °C

Special Characteristics

Impact modified, Light stabilized or stable to light, UV stabilized, Transparent

Features

Amorphous

Chemical Resistance

Environmental Stress Crack Resistance

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

PROCESSING

Melt temperature: 230 - 240 °C

Mold temperature: 50 - 70 °C

Profile extrusion**PREPROCESSING**

Predrying temperature: max. 95 °C

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

PROCESSING

Melt temperature: 230 - 240 °C

Die temperature: 230 - 240 °C

Sheet Extrusion**PREPROCESSING**

Predrying temperature: max. 95 °C

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

PROCESSING

Melt temperature: 230 - 240 °C

Die temperature: 230 - 240 °C

Chemical Media Resistance**Acids**

- ✓ Citric Acid solution (10% by mass) (23 °C)
- ✓ Lactic Acid (10% 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)

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)

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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