RÖHM

ALBIS

PLEXIGLAS® Heatresist FT15

PMMA Röhm GmbH

Productprofil:

PLEXIGLAS® Heatresist FT15 is a special acrylic-based polymer.

With regard to its

- good weather resistance and
- high light transmission,

PLEXIGLAS® Heatresist FT15 shows comparable properties to those of PLEXIGLAS® standard molding compounds. In addition, PLEXIGLAS® Heatresist FT15 offers the special benefit of a

- high heat deflection temperature combined with good flow.

Application:

PLEXIGLAS® Heatresist FT15 is particularly suitable for injection moldings.

Example:

luminaire covers, automotive lights and technical moldings exposed to high temperatures.

Processing:

PLEXIGLAS® Heatresist FT15 can be processed on injection-molding machines with 3-zone general purpose screws for engineering thermoplastics. Good pre-desiccation must be pointed out.

Physical Form / Packaging:

PLEXIGLAS® Heatresist FT15 is supplied as pellets of uniform size, packaged in 25kg, two-ply polyethylene bags; other packaging on request.

Rheological properties	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	4.5	cm³/10min	ISO 1133
Temperature	230	°C	-
Load	3.8	kg	-

Mechanical Properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	3500	MPa	ISO 527
Stress at Break	50	MPa	ISO 527
Strain at Break	3.1	%	ISO 527
Impact Strength (Charpy), +23°C	18	kJ/m²	ISO 179/1eU

Thermal Properties	Value	Unit	Test Standard
ISO Data			
Glass Transition Temperature (10°C/min)	121	°C	ISO 11357-1/-2
Temp. of deflection under load (1.80 MPa)	105	°C	ISO 75-1/-2
Temp. of deflection under load (0.45 MPa)	107	°C	ISO 75-1/-2
Vicat softening temperature, 50°C/h 50N	115	°C	ISO 306
Coeff. of Linear Therm. Expansion, parallel	66	E-6/K	ISO 11359-1/-2
Burning Behav. at 1.5 mm Nom. Thickn.	HB	class	UL 94
Thickness tested	1.6	mm	-
UL recognition	yes	-	-

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Electrical Properties	Value	Unit	Test Standard
ISO Data			
Volume Resistivity	>1E13	Ohm*m	IEC 62631-3-1

Other Properties	Value	Unit	Test Standard
ISO Data			
Density	1190	kg/m³	ISO 1183

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

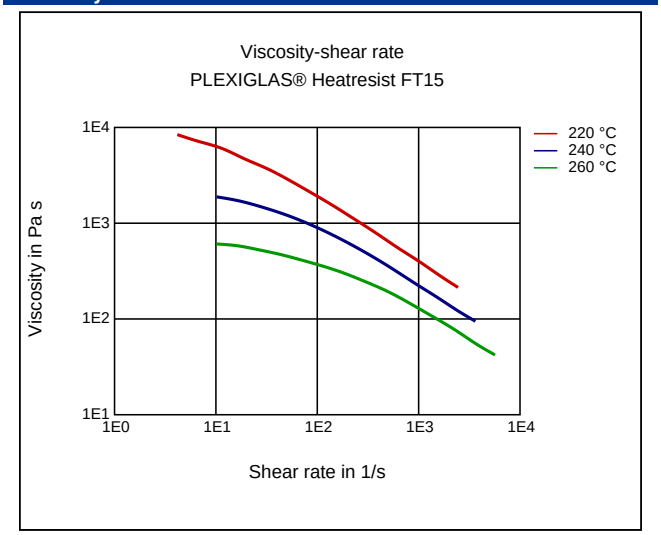
Rheological calculation properties	Value	Unit	Test Standard
ISO Data			
Density of melt	1110	kg/m³	-

Test specimen production	Value	Unit	Test Standard
ISO Data			
Injection Molding, melt temperature	230	°C	ISO 294
Injection Molding, mold temperature	70	°C	ISO 294
Injection Molding, injection velocity	195	mm/s	ISO 294

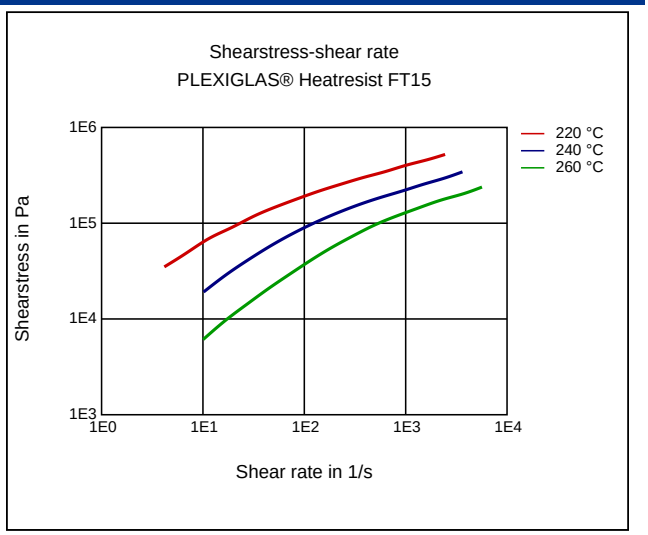
Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	100	°C	-
Pre-drying - Time	4 - 6	h	-
Melt temperature	220 - 250	°C	-
Mold temperature	60 - 90	°C	-

Diagrams

Viscosity-shear rate



Shearstress-shear rate



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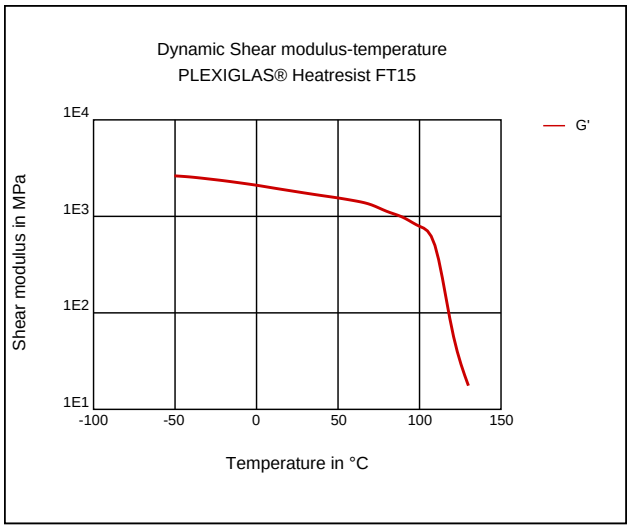
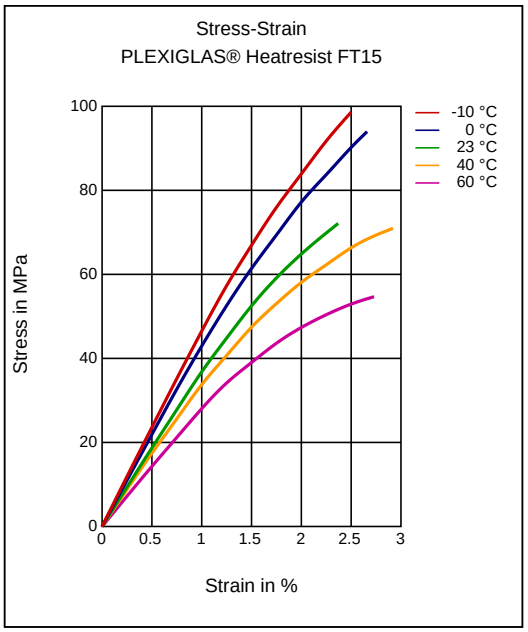
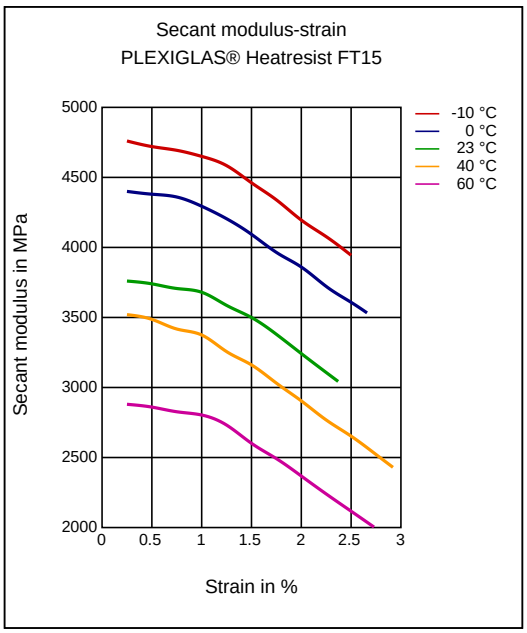
Dynamic Shear modulus-temperature



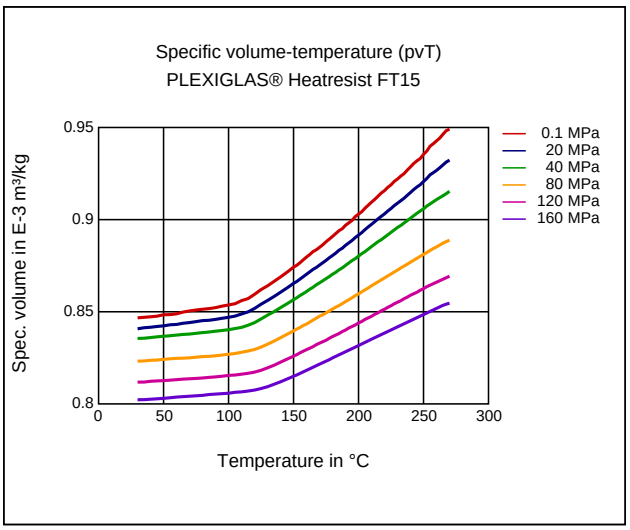
Stress-strain



Secant modulus-strain



Specific volume-temperature (pvT)



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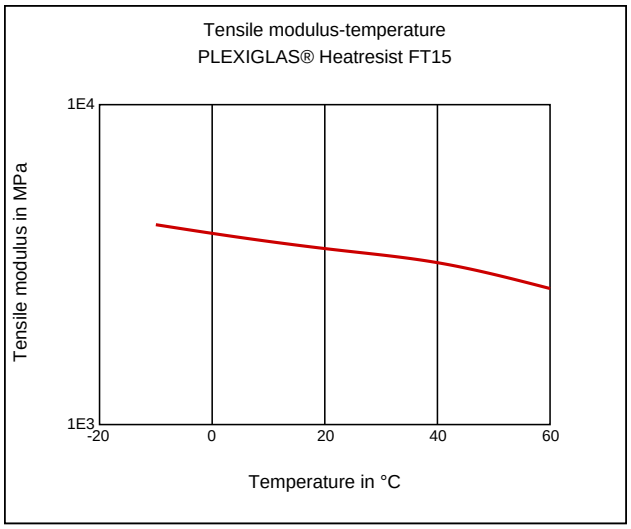
Tensile Modulus-Temperature



Characteristics

Processing
Injection Molding

Delivery form
Pellets

Special Characteristics
Light stabilized or stable to light, UV stablized, Heat aging stabilized, Transparent

Applications
Automotive

Injection Molding

PREPROCESSING
Predrying temperature: max. 100 °C
Predrying time in a desiccant-type drier: 4 - 6 h
PROCESSING
Melt temperature: 220 - 250°C
Mold temperature:60 - 90°C

Chemical Media Resistance

Acids

- ✔ Citric Acid solution (10% by mass) (23°C)
- ✔ Lactic Acid (10% by mass) (23°C)
- ✔ Nitric Acid (40% 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)
- ✔ iso-Octane (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)

Salt solutions

- ✔ Sodium Carbonate solution (20% by mass) (23°C)
- ✔ Sodium Carbonate solution (2% by mass) (23°C)

Other

- ✔ 50% Oleic acid + 50% Olive Oil (23°C)
- ✔ Water (23°C)