Product Texts

Productprofil:

PLEXIGLAS® 7N 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
- very good weather resistance
- free colorability due to crystal clarity.

Special properties of PLEXIGLAS® 7N molding compound are:

- very good mechanical properties
- high heat deflection temperature
- very good flow / melt viscosity
- AMECA listing.

Application:

Used for injection molding optical and technical items.

Example:

optical waveguides, luminaire covers, automotive lighting, instrument cluster covers, optical lenses, displays, etc.

Processing:

PLEXIGLAS® 7N can be processed on injection molding machines 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	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**6**	cm³/10min	ISO 1133
Temperature	**230**	°C	-
Load	**3.8**	kg	-
[C] Density of melt	**1060**	kg/m³	-
[C] Thermal conductivity of melt	**0.181**	W/(m K)	-
[C] Spec. heat capacity of melt	**2440**	J/(kg K)	-
[C] Eff. thermal diffusivity	**6.99E-8**	m²/s	-
[C] Ejection temperature	**85**	°C	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**3200**	MPa	ISO 527
[C] Stress at break	**73**	MPa	ISO 527

[C] Strain at break	**3.5**	%	ISO 527
[C] Tensile creep modulus, 1h	**2800**	MPa	ISO 899-1
[C] Tensile creep modulus, 1000h	**2200**	MPa	ISO 899-1
[C] Charpy impact strength, +23°C	**20**	kJ/m²	ISO 179/1eU

[C]: CAMPUS

Thermal properties	**Value**	**Unit**	**Test Standard**
ISO Data			
[C] Glass transition temperature, 10°C/min	**110**	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**95**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**100**	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**103**	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**80**	E-6/K	ISO 11359-1/-2
[C] Burning Behav. at 1.5 mm nom. thickn.	**HB**	class	IEC 60695-11-10
Thickness tested	**1.6**	mm	-
Yellow Card available	**yes**	-	-
[C] Burning rate, FMVSS, Thickness 1 mm	**72.3**	mm/min	ISO 3795 (FMVSS 302)
[C] Oxygen index	**17.2**	%	ISO 4589-1/-2

[C]: CAMPUS

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

[C]: CAMPUS

Optical properties	**Value**	**Unit**	**Test Standard**
ISO Data			
[C] Luminous transmittance	**92**	%	ISO 13468-1, -2

[C]: CAMPUS

Other properties	**Value**	**Unit**	**Test Standard**
[C] Water absorption	**2**	%	Sim. to ISO 62
[C] Humidity absorption	**0.6**	%	Sim. to ISO 62
[C] Density	**1190**	kg/m³	ISO 1183

[C]: CAMPUS

Material specific properties	**Value**	**Unit**	**Test Standard**
ISO Data			
[C] Viscosity number	**53**	cm³/g	ISO 307, 1157, 1628

[C]: CAMPUS

Test specimen production	**Value**	**Unit**	**Test Standard**
ISO Data			
[C] Processing conditions acc. ISO	**8257**	-	ISO ....-2
[C] Injection Molding, melt temperature	**243**	°C	ISO 294
Injection Molding, mold temperature	**63**	°C	ISO 294
Injection Molding, injection velocity	**195**	mm/s	ISO 294

[C]: CAMPUS

Processing Recommendation Injection Molding	Value	Unit	Test Standard
Pre-drying - Temperature	**93**	°C	-
Pre-drying - Time	**2 - 3**	h	-
Melt temperature	**220 - 260**	°C	-
Mold temperature	**60 - 90**	°C	-

Characteristics

Processing
Injection Molding

Features
Amorphous

Delivery form
Pellets

Applications
Automotive

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

Regional Availability
North America, Europe, Asia Pacific, South and Central America, Near East/Africa

Other text 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