Plastic material

Material / Specification: PMMA acrylic for 350-1600nm transmission
Range / Description: PLM-PMMA

Product Profile:

PLEXIGLAS® 6N, PLEXIGLAS® 7N and PLEXIGLAS® 8N are molding compounds based on polymethyl methacrylate (PMMA).

The special properties of these standard PLEXIGLAS® molding compounds are:

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

The following properties of PLEXIGLAS® N molding compounds change with increasing grade number:

- improved mechanical properties
- increased heat deflection temperature
- reduced flow

Application:

PLEXIGLAS® molding compounds of the N series are particularly suitable for injection molding of optical and technical items.

Uses of PLEXIGLAS® N molding compounds: fiber optics, lighting fixture covers, automotive lighting, instrument cluster covers, optical lenses, displays, etc.

Processing:

PLEXIGLAS® 6N, PLEXIGLAS® 7N and PLEXIGLAS® 8N can be processed on injection molding machines with 3-zone general purpose screws for engineering thermoplastics. Recommended processing conditions:

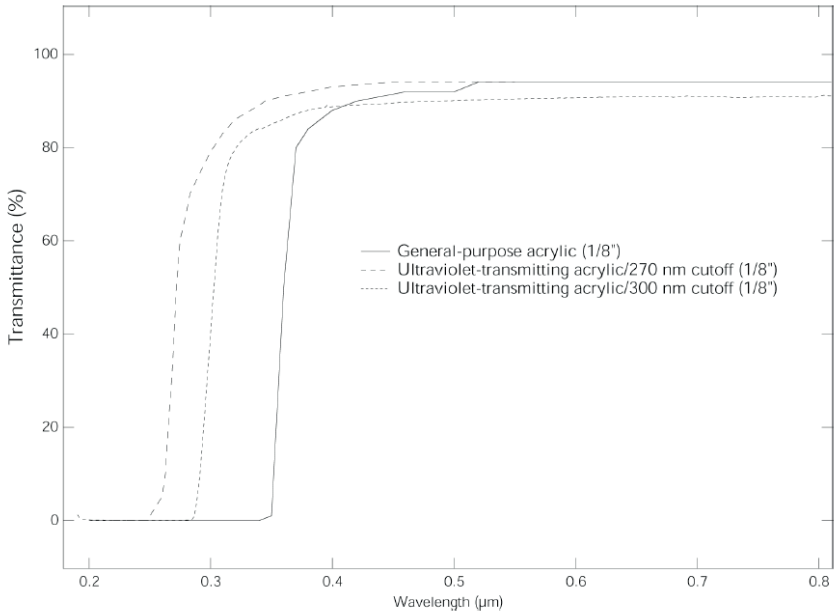
Predrying temperature:	PLEXIGLAS® 6N	max. 85 °C
	PLEXIGLAS® 7N	max. 93 °C
	PLEXIGLAS® 8N	max. 98 °C
Predrying time in desiccant-type drier:		2 - 3 h
Processing temperatures:	melt temperature	220 - 260 °C
	cylinder temperature	220 - 260 °C
	mold temperature	60 - 90 °C

Physical Form/ Packaging:

PLEXIGLAS® molding compounds are supplied as pellets of uniform size, packaged in two-ply, 25 kg polyethylene bags or in 500 kg boxes with PE lining; other packaging on request.

Plastic material

Material / Specification: PMMA acrylic for 350-1600nm transmission
Range / Description: PLM-PMMA



Properties:

	Unit	Standard	PLEXIGLAS® 6N	PLEXIGLAS® 7N	PLEXIGLAS® 8N
Mechanical properties					
Tensile modulus (1 mm/min)	MPa	ISO 527	3200	3200	3300
Stress at break (5 mm/min)	MPa	ISO 527	67	73	77
Strain at break (5 mm/min)	%	ISO 527	3	3.5	5.5
Charpy impact strength (23°C)	kJ/m²	ISO 179	20	20	20
Thermal properties					
Vicat softening temperature (B/50)	°C	ISO 306	96	103	108
Glass transition temperature	°C	IEC 10006		110	117
Temp. of deflection under load (0.45 MPa)	°C	ISO 75		100	103
Temp. of deflection under load (1.8 MPa)	°C	ISO 75		95	98
Coeff. of linear therm. expansion (0-50°C)	10^{-5} K^{-1}	ASTM E831	8	8	8
Fire rating		DIN 4102	B2	B2	B2
Rheological properties					
Melt volume rate, MVR (230/3.8)	cm³/10min	ISO 1133	12	6	3
Optical properties					
Transmission factor, τ_{D65}	%	DIN 5036	92	92	92
Haze	%	ASTM D1003		< 0.5	< 0.5
Refractive index		ISO 489	1.49	1.49	1.49
Other properties					
Density	g/cm³	ISO 1183	1.19	1.19	1.19