Plexiglas® HW55

Polymethyl Methacrylate Acrylic

Evonik Industries AG

UL IDES | Prospector

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Technical Data

Product Description

Product Profile:

Typical properties of PLEXIGLAS® molding compounds are:

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

Application:
Used for injection molding optical and technical items.

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

General			
Material Status	• Commercial: Active		
Literature [1]	• Technical Datasheet (English) • Processing - Injection (English)		
UL Yellow Card [2]	• E65495-100849262		
Search for UL Yellow Card	• Evonik Industries AG • Plexiglas®		
Availability	• Europe		
Features	• Amorphous • Good Abrasion Resistance • Good Colorability	• Good Flow • Good Weather Resistance • High Hardness	• High Strength
Uses	• Automotive Applications • Automotive Backlights	• Displays • Lenses	• Optical Applications • Protective Coverings
Forms	• Pellets		
Processing Method	• Injection Molding		
Multi-Point Data	• Creep Modulus vs. Time (ISO 11403-1) • Isochronous Stress vs. Strain (ISO 11403-1) • Isothermal Stress vs. Strain (ISO 11403-1)	• Secant Modulus vs. Strain (ISO 11403-1) • Shear Modulus vs. Temperature (ISO 11403-1) • Specific Volume vs Temperature (ISO 11403-2)	• Viscosity vs. Shear Rate (ISO 11403-2)

Physical	Nominal Value	Unit	Test Method
Density	1.19	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (230°C/3.8 kg)	3.00	cm³/10min	ISO 1133

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3300	MPa	ISO 527-2/1
Tensile Stress (Break)	77.0	MPa	ISO 527-2/5
Tensile Strain (Break)	5.5	%	ISO 527-2/5

Form No. TDS-33101-en

Document Created: Friday, May 24, 2013
Added to Prospector: August, 1998
Last Updated: 3/5/2013

Impact	Nominal Value	Unit	Test Method
Charpy Unnotched Impact Strength (23°C)	20	kJ/m²	ISO 179/1eU

Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed	109	°C	ISO 75-2/B
1.8 MPa, Unannealed	106	°C	ISO 75-2/A
Glass Transition Temperature	122	°C	IEC 1006
Vicat Softening Temperature	117	°C	ISO 306/B50
CLTE - Flow (0 to 50°C)	0.000080	cm/cm/°C	ISO 11359-2

Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.60 mm)	HB		UL 94

Optical	Nominal Value	Unit	Test Method
Refractive Index	1.490		ISO 489
Transmittance [4]	92.0	%	ISO 13468-2
Haze	< 0.50	%	ASTM D1003

Additional Information	Nominal Value	Unit	Test Method
Fire Rating	B2		DIN 4102

Injection	Nominal Value	Unit
Drying Temperature	< 98.0	°C
Drying Time	2.0 to 3.0	hr
Processing (Melt) Temp	220 to 260	°C
Mold Temperature	60.0 to 90.0	°C

Notes

[1] These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

[2] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL IDES continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

[3] Typical properties: these are not to be construed as specifications.

[4] D65

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