ALTUGLAS™ V920T

Overview

OVERVIEW : Standard clear ALTUGLAS™ PMMA resins exhibit key properties that make them the industry standard for applications needing a combination of high transparency and gloss along with UV and scratch resistance.
TRINSEO offers a wide range of grades adapted to injection molding and extrusion processes.

DESCRIPTION :
These clear thermoplastic materials offer :

- Excellent Optical properties - Very high Light Transmittance (92% LT / 0.5% haze)
- Outstanding resistance to mechanical damage and discoloration by ultraviolet rays : years outdoor exposure have no visible effect on ALTUGLAS™ PMMA.
- Very high surface hardness (Rockwell M-Scale) and therefore scratch resistance ensuring a lasting premium look.
- Higher heat resistance than impact-modified grades (Vicat B50 up to 108°C).
- Good stiffness.
- Ease of colouring (PMMA based MB required for non opaque colours to avoid optical defects).

ALTUGLAS™ PMMA V920T is an injection molding resin with high flow and heat resistance.

MARKETS / APPLICATIONS :
Automotive & Transportation
Health, Hygiene & Beauty
Building & Construction
Composites & advanced materials
Consumer Electronics

Automotive Specifications

- SAE J576

Physical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Density	1.18	g/cm³	1.18	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	6.0	g/10 min	6.0	g/10 min	ISO 1133
Molding Shrinkage - Flow	2.0E-3 to 6.0E-3	in/in	0.20 to 0.60	%	ASTM D955
Water Absorption					ISO 62
Equilibrium, 73°F (23°C), 50% RH	0.30	%	0.30	%	
Mechanical	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Tensile Stress (Break, 73°F (23°C))	10300	psi	71.0	MPa	ISO 527-2/5
Tensile Strain (Break, 73°F (23°C))	5.0	%	5.0	%	ISO 527-2/5
Flexural Modulus (73°F (23°C))	479000	psi	3300	MPa	ISO 178
Flexural Stress (73°F (23°C))	14900	psi	103	MPa	ISO 178
Compressive Stress (73°F (23°C))	16000	psi	110	MPa	ISO 604
Impact	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Charpy Notched Impact Strength (73°F (23°C))	0.95	ft·lb/in²	2.0	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength					ISO 179/1eU
73°F (23°C)	9.5	ft·lb/in²	20	kJ/m²	
Notched Izod Impact Strength (73°F (23°C))	0.86	ft·lb/in²	1.8	kJ/m²	ISO 180/1A
Hardness	**Nominal Value**	**(English)**	**Nominal Value**	**(SI)**	**Test Method**
Rockwell Hardness (M-Scale)	96		96		ASTM D785

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Thermal	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Deflection Temperature Under Load					
66 psi (0.45 MPa), Annealed	212	°F	100	°C	ISO 75-2/B
264 psi (1.8 MPa), Annealed	203	°F	95.0	°C	ISO 75-2/A
Vicat Softening Temperature	> 214	°F	> 101	°C	ISO 306/B50
CLTE - Flow (-22 to 73°F (-30 to 23°C))	3.6E-5	in/in/°F	6.5E-5	cm/cm/°C	ASTM D696
Specific Heat	0.500	Btu/lb/°F	2090	J/kg/°C	

Flammability	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Flame Rating	HB		HB		UL 94

Optical	Nominal Value	(English)	Nominal Value	(SI)	Test Method
Refractive Index [1]	1.490		1.490		ISO 489
Light Transmittance	92.0	%	92.0	%	ASTM D1003
Haze	0.500	%	0.500	%	ASTM D1003

Injection	Nominal Value	(English)	Nominal Value	(SI)
Drying Temperature	158 to 176	°F	70 to 80	°C
Drying Time	4.0 to 6.0	hr	4.0 to 6.0	hr
Rear Temperature	410 to 446	°F	210 to 230	°C
Middle Temperature	428 to 464	°F	220 to 240	°C
Front Temperature	446 to 482	°F	230 to 250	°C
Nozzle Temperature	446 to 482	°F	230 to 250	°C
Processing (Melt) Temp	446 to 482	°F	230 to 250	°C
Mold Temperature	158 to 176	°F	70 to 80	°C

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

[1] Method B

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