

Technical Information


TRINSEO™

PLEXIGLAS® V920

Overview

Plexiglas® V920 is a General-purpose thermoplastic acrylic resin formulated for injection molding and extrusion applications. It is characterized by its very high melt flow. Plexiglas® V920 has excellent weatherability and optical properties allowing it to excel in applications requiring outdoor stability, high quality surface appearance and/or precision optics. Plexiglas® V920 is easy to process due to its exceptional thermal stability, extrusion melt strength, and excellent tool surface reproduction. Supplemental moldflow simulation data is available. It has excellent resistance to many chemicals including solutions of inorganic acids, alkalis and aliphatic hydrocarbons such as VM&P naphtha and heptane. Additionally, it is virtually unaffected by a wide range of commercial products including many beverages, foodstuffs, detergent solutions and cleaners.

Automotive Specifications

- FORD ESF-M4D9-A
- SAE J576 Color: Various Colors

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.18 g/cm³	1.18 g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	8.0 g/10 min	8.0 g/10 min	ASTM D1238
Molding Shrinkage - Flow	2.0E-3 to 6.0E-3 in/in	0.20 to 0.60 %	ASTM D955
Water Absorption (24 hr)	0.30 %	0.30 %	ASTM D570
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	450000 psi	3100 MPa	ASTM D638
Tensile Strength (Break)	10000 psi	68.9 MPa	ASTM D638
Tensile Elongation (Break)	5.0 %	5.0 %	ASTM D638
Flexural Modulus	450000 psi	3100 MPa	ASTM D790
Flexural Strength (Break)	15000 psi	103 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	0.30 ft-lb/in	16 J/m	ASTM D256
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (M-Scale)	90	90	ASTM D785
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load ¹			ASTM D648
66 psi (0.45 MPa), Annealed	199 °F	92.8 °C	
264 psi (1.8 MPa), Annealed	195 °F	90.6 °C	
Vicat Softening Temperature			
--	212 °F	100 °C	ASTM D1525 ²
--	196 °F	91.1 °C	ASTM D1525 ³
Thermal Conductivity	1.3 Btu·in/hr/ft²/°F	0.19 W/m/K	ASTM C177
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 ⁴	1.490	1.490	ASTM D542
Light Transmittance (125.0 mil (3175 µm))	92.0 %	92.0 %	ASTM D1003
Haze (125.0 mil (3175 µm))	< 1.00 %	< 1.00 %	ASTM D1003
Additional Information	Nominal Value (English)	Nominal Value (SI)	Test Method
ASTM Classification	PMMA 0121V4	PMMA 0121V4	ASTM D788
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	175 to 190 °F	79 to 88 °C	
Drying Time	4.0 hr	4.0 hr	

Injection	Nominal Value (English)	Nominal Value (SI)
Suggested Max Moisture	< 0.10 %	< 0.10 %
Suggested Shot Size	50 %	50 %
Suggested Max Re grind	20 %	20 %
Rear Temperature	400 °F	204 °C
Middle Temperature	410 °F	210 °C
Front Temperature	420 °F	216 °C
Nozzle Temperature	410 °F	210 °C
Processing (Melt) Temp	< 520 °F	< 271 °C
Mold Temperature	150 to 185 °F	66 to 85 °C
Injection Rate	Moderate	Moderate
Back Pressure	100 psi	0.689 MPa
Screw Speed	50 to 100 rpm	50 to 100 rpm
Screw L/D Ratio	15.0:1.0 to 20.0:1.0	15.0:1.0 to 20.0:1.0
Screw Compression Ratio	2.0:1.0 to 2.5:1.0	2.0:1.0 to 2.5:1.0
Vent Depth	2.0E-3 in	0.051 mm

Notes

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

¹ Annealing cycle: 4hrs @ 176°F

² Rate A (50°C/h), Loading 1 (10 N)

³ Rate A (50°C/h), Loading 2 (50 N)

⁴ ND @ 72°F

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