

Technical Information



PLEXIGLAS® V052i-58208RB

Overview

Plexiglas® V052i-58208RB is a lightly impact modified thermoplastic acrylic resin formulated for injection molding. This grade has the same properties as Plexiglas® V052i but is formulated in a deep jet black color that eliminates the need for painting. It is characterized by its excellent chemical and heat resistance as well as a good melt flow and excellent mold release properties. It is a tougher resin than Plexiglas® V052 allowing improved fabrication. It offers an excellent balance between melt flow and increased resistance to breakage, while providing weatherability superior to that provided by other impact modified plastics. Moldflow simulation data is available.

Automotive Specifications

- CHRYSLER MS-DB-16 CPN4083
- CHRYSLER MS-DB-75 CPN4237
- FORD ESF-M4D9-A
- FORD WSS-M4D776-B5
- GM GMP.PMMA.006
- GM GMW16335P-PMMA-T3
- SAE J576 Color: Various Colors

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.18 g/cm ³	1.18 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (230°C/3.8 kg)	3.2 g/10 min	3.2 g/10 min	ASTM D1238
Molding Shrinkage - Flow	3.0E-3 to 6.0E-3 in/in	0.30 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	410000 psi	2830 MPa	ASTM D638
Tensile Strength (Break)	9200 psi	63.4 MPa	ASTM D638
Tensile Elongation (Break)	18 %	18 %	ASTM D638
Flexural Modulus	410000 psi	2830 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)	86	86	ASTM D785
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load ²			ASTM D648
66 psi (0.45 MPa), Annealed	216 °F	102 °C	
264 psi (1.8 MPa), Annealed	206 °F	96.7 °C	
Vicat Softening Temperature			
--	230 °F	110 °C	ASTM D1525 ³
--	210 °F	98.9 °C	ASTM D1525 ⁴
Thermal Conductivity	1.3 Btu·in/hr/ft ² /°F	0.19 W/m/K	ASTM C177
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating	HB	HB	UL 94
Additional Information	Nominal Value (English)	Nominal Value (SI)	Test Method
ASTM Classification	PMMA 0231V3	PMMA 0231V3	ASTM D788
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	180 to 190 °F	82 to 88 °C	
Drying Time	4.0 hr	4.0 hr	
Suggested Max Moisture	< 0.10 %	< 0.10 %	
Suggested Shot Size	50 %	50 %	
Suggested Max Regrind	20 %	20 %	

Injection	Nominal Value (English)	Nominal Value (SI)
Rear Temperature	420 °F	216 °C
Middle Temperature	430 °F	221 °C
Front Temperature	440 °F	227 °C
Nozzle Temperature	430 °F	221 °C
Processing (Melt) Temp	< 520 °F	< 271 °C
Mold Temperature	150 to 190 °F	66 to 88 °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 Trim Only

² Annealing cycle: 4hrs @ 176°F

³ Rate A (50°C/h), Loading 1 (10 N)

⁴ Rate A (50°C/h), Loading 2 (50 N)

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