

Technical Information



EMERGE™ ABS 5102 MED

Advanced Resin

Overview

EMERGE™ ABS 5102 MED is a 20% glass filled ABS for use in approved medical applications. This resin exhibits a property balance of flow, rigidity, and dimensional stability, and has undergone biocompatibility testing based on ISO 10993 (Biological Evaluation of Medical Devices).

Main Characteristics:

- Tested under ISO 10993
- Suitable for EtO and Radiation Sterilization

Applications:

- Medical Applications
- Surgical Device Handles
- Drug Delivery Devices
- Medical Equipment

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.21 g/cm ³	1.21 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR)			ASTM D1238
220°C/10.0 kg	19 g/10 min	19 g/10 min	
230°C/3.8 kg	5.1 g/10 min	5.1 g/10 min	
Molding Shrinkage			ASTM D955
Flow	1.5E-3 to 2.5E-3 in/in	0.15 to 0.25 %	
Across Flow	1.5E-3 to 2.5E-3 in/in	0.15 to 0.25 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength ¹			ASTM D638
Yield	10400 psi	71.9 MPa	
Break	10400 psi	71.9 MPa	
Tensile Elongation ¹			ASTM D638
Yield	3.5 %	3.5 %	
Break	3.5 %	3.5 %	
Flexural Modulus	770000 psi	5310 MPa	ASTM D790
Flexural Strength	14900 psi	103 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
73°F (23°C), 0.126 in (3.20 mm), Injection Molded	1.0 ft-lb/in	56 J/m	
Unnotched Izod Impact			ASTM D4812
73°F (23°C), 0.126 in (3.20 mm), Injection Molded	4.7 ft-lb/in	250 J/m	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed	207 °F	97.0 °C	
264 psi (1.8 MPa), Unannealed	196 °F	91.0 °C	
Vicat Softening Temperature			
--	207 °F	97.0 °C	ASTM D1525 ²
--	223 °F	106 °C	ASTM D1525 ³

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	176 °F	80 °C
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr
Processing (Melt) Temp	428 to 500 °F	220 to 260 °C
Mold Temperature	68 to 140 °F	20 to 60 °C

Notes

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

¹ 0.20 in/min (5.0 mm/min)

² Rate A (50°C/h), Loading 2 (50 N)

³ Rate B (120°C/h), Loading 1 (10 N)

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