



# EMERGE™ ABS 5103 MED

## Trinseo - Advanced Resin

### General Information

#### Product Description

EMERGE™ ABS 5103 MED is a 30% 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

#### General

Filler / Reinforcement	• Glass Fiber, 30% Filler by Weight
Features	• E-beam Sterilizable • Good Dimensional Stability • High Rigidity • Ethylene Oxide Sterilizable • Good Flow • Radiation Sterilizable
Uses	• Medical Devices • Medical/Healthcare Applications • Structural Parts
Appearance	• Opaque
Forms	• Pellets
Processing Method	• Injection Molding

### Properties<sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.28		ASTM D792
Melt Mass-Flow Rate (MFR)			ASTM D1238
220°C/10.0 kg	15	g/10 min	
230°C/3.8 kg	3.9	g/10 min	
Molding Shrinkage - Flow	1.5E-3 to 2.5E-3	in/in	ASTM D955
Molding Shrinkage - Across Flow	1.5E-3 to 2.5E-3	in/in	ASTM D955
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength <sup>2</sup> (Yield)	11400	psi	ASTM D638
Tensile Strength <sup>2</sup> (Break)	11200	psi	ASTM D638
Tensile Elongation <sup>2</sup> (Yield)	3.1	%	ASTM D638
Tensile Elongation <sup>2</sup> (Break)	3.1	%	ASTM D638
Flexural Modulus	1.10E+6	psi	ASTM D790
Flexural Strength	15700	psi	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (73°F, 0.126 in, Injection Molded)	0.96	ft-lb/in	ASTM D256
Unnotched Izod Impact			ASTM D4812
73°F, 0.126 in, Injection Molded	4.3	ft-lb/in	

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Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (66 psi, Unannealed)	207	°F	ASTM D648
Deflection Temperature Under Load 264 psi, Unannealed	197	°F	ASTM D648
Vicat Softening Temperature			
--	207	°F	ASTM D1525 <sup>3</sup>
--	225	°F	ASTM D1525 <sup>4</sup>

### Processing Information

Injection	Nominal Value	Unit
Drying Temperature	176	°F
Drying Time	3.0 to 4.0	hr
Processing (Melt) Temp	428 to 500	°F
Mold Temperature	68 to 140	°F