Cast in Motion (CIM) 155

Engineering Resin

Cast-In-Motion (CIM) thermoset material designed for tooling purposes for massivit 10000 machine. High Temperature, accurate, composite epoxy resin with high mechanical properties for engineering purposes.

Advantages

- Accuracy for engineering purposes
- High temperature resin
- Durable

	Method	Metric Units		Imperial Units	
Viscosity of components*		cP	A – 10,000 B – 250	lbf/ft*s	A – 6.7 B – 0.2
Green Strength time		min @60°C	20	min @140°F	20
Tensile strength*	ISO 527	MPa	37 ± 3	psi	5,400 ± 435
Elongation at break*	ISO 527	%	0.9 ± 0.1	%	0.9 ± 0.1
Curing Shrinkage*	-	%	0.1	%	0.1
Glass transition, Tg	ASTM D3418	°C	155	°F	311
HDT* @0.45 MPa	ISO 75-2	°C	150	°F	302
Izod Impact* (Un-Notched)	ISO 180	kJ/m^2	9.5 ± 1.8	$ft{\cdot}lbf/in^2$	4.5 ± 0.8
	ISO 180	J/m	76 ± 14.4	ft·lbf/in	1.4 ± 0.4
Thermal expansion, CTE	ASTM D696	1/°C	12 ppm @ 20-80°C 23 ppm @ 20-120°C 32 ppm @ 20-180°C	1/°F	12 ppm @ 68-176°F 23 ppm @ 68-248°F 32 ppm @ 68-356°F
Density of mixture	ASTM D792	g/cm^3	1.2	lb/ft^3	75

* All measurements were done on lab specimens of cured material

** Internal lab testing

Storage

The material base-A and hardener-B should be stored in a dry place, in the sealed original container, at temperatures between +2°C and +40°C. Under these storage conditions, the shelf life is a year. The product should not be exposed to direct sunlight.
Mix well before use!

Mixing Ratio and Post Cure Conditions

Base:Hardener 78:22

The mixture curing time is 4 hrs at 60°C, followed by ramping up the temperature for 2 hrs at 80°C, 2 hrs 100°C, 2 hrs 130°C, 2 hrs 160°C.

Precautionary Statement

Massivit 3D printing technologies maintains up–to-date Material Safety Data Sheets (MSDS) on all of its products. These sheets contain pertinent information that you may need to protect your employees and customers against any known health or safety hazards associated with our products. Users should review the latest MSDS to determine possible health hazards and appropriate precautions to implement prior to using this material.

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