

Caverna™ ST Microporous Elastomeric Build Material for Additive Manufacturing

Rev 1: 4/13/23

GENERAL INFORMATION

Resin	Elastomer Composite
Form	Filament (1.75mm, 2.85mm) or Pellets
Color	Beige filament. Printed articles become white after full dissolution.

PHYSICAL PROPERTIES	PRE-DISSOLUTION	POST-DISSOLUTION	UNITS	METHOD
Melt Flow Index (230°C, 5kg)	43.5	N/A	g/10min	ASTM D1238
Specific Gravity	1.14	0.9	N/A	ASTM D792
Durometer ¹	91 A	52 A	N/A	ASTM D2240

MECHANICAL PROPERTIES

	Injection Molded		XY-Axis Print		Z-Axis Print		Units	Method
	Pre	Post	Pre	Post	Pre	Post		
Tensile Strength	3,300	550	610	150	280	50	psi	ASTM D638
Tensile Modulus	225,000	5,200	50,000	2,500	60,000	1,700	psi	ASTM D638
Tensile Elongation at Break	3.4	160	3.0	16.7	0.6	10.8	%	ASTM D638
Flexural Strength	4,400	280	950	100	—	—	psi	ASTM D790
Flexural Modulus	210,000	6,400	43,000	2,700	—	—	psi	ASTM D790
IZOD Impact, Notched	0.5	No Break	0.4	0.7	—	—	ft-lb/in	ASTM D256
IZOD Impact, Unnotched	4.1	No Break	0.8	0.9	—	—	ft-lb/in	ASTM D4812
Heat Deflection Temperature (0.45 MPa)	62		49	—	—	—	°C	ASTM D648
Coefficient of Linear Thermal Expansion	6.40E-05	1.07E-04	6.10E-05	—	—	—	in/in°C	ASTM D696

RECOMMENDED USE CONDITIONS

Extruder Temperature	245°C
Build Plate Temperature	65°C
Chamber Temperature	No heated chamber necessary.

STORAGE CONDITIONS

Caverna ST should be kept in sealed moisture barrier packaging with desiccant when not in use.

Caverna may absorb moisture if stored outside of its packaging. If print quality diminishes, dry the filament at 70°C for 3-4 hours in a low-humidity environment.

POST-PROCESSING INSTRUCTIONS

Soak Caverna ST prints in 70°C water for at least 8 hours. Larger, bulkier parts may require longer time. Rinse with fresh water, then dry at 60°C for at least 6 hours. Refer to Caverna ST user guide for more information.

¹ Durometer tested on XY printed bar with 80% lines infill. Durometer was measured transversely (on the bar's edge). Hardness can be easily modified with printing and infill conditions.

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