

Caverna™ PP Microporous Build Material for Additive Manufacturing

Rev 1: 3/3/21

GENERAL INFORMATION							
Resin	Polypropylene Copolymer						
Filler	Carbohydrate						
Fill Level	0 – 100%						
Uses	Extrusion, Injection Molding, 3D Printing						
Form	Pellets or Filament (1.75mm or 2.85mm)						
PHYSICAL PROPERTIES		PRE DISSOLUTION		POST DISSOLUTION		UNITS	METHOD
Specific Gravity		1.12		0.68			ASTM D792
Coefficient of Thermal Expansion		5.8 E-05		9.5E-05		in/in°C	ASTM D696
Durometer		74 D		28 D			
ELECTRICAL PROPERTIES		PRE DISSOLUTION		POST DISSOLUTION		UNITS	METHOD
Dissipation Factor, 1 kHz		0.013		0.002			ASTM D150
Dissipation Factor, 1 MHz		0.021		0.005			ASTM D150
Dielectric Constant, 1 kHz		1.78		1.22			ASTM D150
Dielectric Constant, 1 MHz		1.65		1.20			ASTM D150
Dielectric Strength		670		480		V/mil	ASTM D149
MECHANICAL PROPERTIES						UNITS	METHOD
Melt Flow Index (220 °C; 5kg)		18.5		—		g/10min	ASTM D1238
	Molded		X-Axis Print	Y-Axis Print	Z-Axis Print		
Tensile	Pre	Post	Pre	Post	Post	Post	ASTM D638
Modulus	458,800	49,200	373,600	21,900	113,000	12,000	psi
Strength	4,300	1,500	3,800	1,000	2,000	400	psi
Elongation @ Break	9.5	19.4	1.6	5.6	2.9	5	%
Flexural	Pre	Post	Pre	Post	Post	Post	ASTM D790
Modulus	408,800	54,300	303,900	39,800	75,300	13,900	psi
Strength	7,700	1,300	6,700	1,200	2,300	400	psi
Impact (IZOD)							ASTM D256 / D4812
Unnotched	15.8	7.56					ft-lbf/in
Notched	0.81	2.28					ft-lbf/in
RECOMMENDED DRYING CONDITIONS							
Oven dry for 4 – 6 hours at 185 °F.							
Barrel Temperatures	380 – 400 °F						
Mold Temperatures	70 – 120 °F						

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