

Electrafil® ABS 1501 3DP

Techmer Polymer Modifiers - *Acrylonitrile Butadiene Styrene*

General Information

Product Description

Electrafil® ABS 1501 3DP is a specially formulated and compounded thermoplastic material designed for general purpose additive manufacturing of large parts for ambient temperature applications. This product exhibits superior dimensional stability and minimal warpage and distortion in the production of large additive manufactured parts.

General

Material Status	• Commercial: Active
Availability	• North America
Filler / Reinforcement	• Carbon Fiber
Uses	• Additive Manufacturing (3D Printing)
Processing Method	• 3D Printing

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity			ASTM D792
-- 2	1.10		
-- 3	1.10		
-- 4	1.15		
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			ASTM D638
-- 2	1.20E+6	psi	
-- 3	400000	psi	
-- 4	1.80E+6	psi	
Tensile Strength			ASTM D638
Yield ²	10000	psi	
Yield ³	2900	psi	
Yield ⁴	13000	psi	
Tensile Elongation			ASTM D638
Break ²	1.1	%	
Break ³	1.0	%	
Break ⁴	1.8	%	
Flexural Modulus			ASTM D790
-- 2	1.55E+6	psi	
-- 3	475000	psi	
-- 4	1.75E+6	psi	
Flexural Strength			ASTM D790
-- 2	16300	psi	
-- 3	4500	psi	
-- 4	20800	psi	
Poisson's Ratio ²	0.33		
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact ⁴	1.1	ft·lb/in	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load ⁴ (66 psi, Unannealed)	215	°F	ASTM D648
CLTE - Flow			ASTM D696



-- ²	6.1E-6 in/in/°F	
-- ³	7.1E-5 in/in/°F	
Specific Heat ⁴	0.416 Btu/lb/°F	
Thermal Conductivity		ASTM D1461
-- ³	2.1 Btu·in/hr/ft²/°F	
-- ²	8.3 Btu·in/hr/ft²/°F	
Electrical	Nominal Value Unit	Test Method
Surface Resistivity		ASTM D257
-- ²	1.0E+2 to 1.0E+6 ohms	
-- ³	1.0E+2 to 1.0E+6 ohms	
-- ⁴	1.0E+2 to 1.0E+6 ohms	
Processing Information		
Injection	Nominal Value Unit	
Drying Temperature	200 °F	
Drying Time	2.0 to 4.0 hr	
Extrusion	Nominal Value Unit	
Cylinder Zone 1 Temp.	475 to 510 °F	
Cylinder Zone 2 Temp.	500 to 530 °F	
Cylinder Zone 3 Temp.	500 to 530 °F	
Cylinder Zone 4 Temp.	510 to 550 °F	
Melt Temperature	500 to 560 °F	
Die Temperature	520 to 560 °F	
Extrusion Notes		
If material is to remain in dryer for more than 6 hours in dried state, reduce dryer temperature to 140°F to prevent degradation of material		
Notes		
¹ Typical properties: these are not to be construed as specifications.		
² Additive Manufactured - X Orientation		
³ Additive Manufactured - Z Orientation		
⁴ Injection Molded		

