

CarbonResin FPU 230

Polyurethane
Carbon3D, Inc.

Message:

FPU 230 is an impact, abrasion and fatigue resistant semi-rigid material that is a good choice for parts that must withstand repetitive stresses such as living hinges or friction fits.

General Information			
Features	Semi Rigid		
	Impact resistance, good		
	Good wear resistance		
	Fatigue resistance		
Forms	Liquid		
Processing Method	3D Printing, Continuous Liquid Interface Production (CLIP)		
Physical	Nominal Value	Unit	
Density ¹	1.00 - 1.02	g/cm ³	
Viscosity (25°C)	1.80 - 2.00	Pa · s	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	600 - 850	MPa	ASTM D638
Tensile Strength			ASTM D638
Yield	14.0 - 16.0	MPa	ASTM D638
Fracture	23.0 - 28.0	MPa	ASTM D638
Tensile Elongation (Break)	200 - 250	%	ASTM D638
Flexural Modulus	800 - 900	MPa	ASTM D790
Flexural Strength	20.0 - 24.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			ASTM D256
-- ²	35 - 39	J/m	ASTM D256
-- ³	40 - 60	J/m	ASTM D256
Unnotched Izod Impact	1500 - 1700	J/m	ASTM D4812
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	52.0	°C	ASTM D648
1.8 MPa, not annealed	38.0	°C	ASTM D648
Glass Transition Temperature			DMA
-- ⁴	60.0	°C	DMA
-- ⁵	98.0	°C	DMA
CLTE - Flow	1.6E-4 - 1.7E-4	cm/cm/°C	ASTM E228
NOTE			

1.	Liquid
2.	Machined Notch
3.	Printed Notch
4.	E'
5.	tan(d)

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