

CarbonResin RPU 61

Polyurethane
Carbon3D, Inc.

Message:

RPU 61 is a tough, and abrasion-resistant higher resolution material that is a good choice for parts that require rigidity, strength, and durability.

General Information			
Features	Good Rigidity		
	Good strength		
	Good wear resistance		
	Durability		
	Good toughness		
Forms	Liquid		
Processing Method	3D Printing, Continuous Liquid Interface Production (CLIP)		
Physical	Nominal Value	Unit	
Density ¹	1.01 - 1.02	g/cm ³	
Viscosity (25°C)	5.50 - 6.50	Pa · s	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	1400 - 1600	MPa	ASTM D638
Tensile Strength			ASTM D638
Yield	38.0 - 42.0	MPa	ASTM D638
Fracture	39.0 - 45.0	MPa	ASTM D638
Tensile Elongation			ASTM D638
Yield	5.0 - 7.0	%	ASTM D638
Fracture	110 - 130	%	ASTM D638
Flexural Modulus	1000 - 1200	MPa	ASTM D790
Flexural Strength	35.0 - 39.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ²	1.8 - 2.6	kJ/m ²	ISO 179
Notched Izod Impact ³	25 - 29	J/m	ASTM D256
Unnotched Izod Impact	1000 - 1400	J/m	ASTM D4812
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	59.0	°C	ASTM D648
1.8 MPa, not annealed	48.0	°C	ASTM D648
Glass Transition Temperature			DMA
-- ⁴	53.0	°C	DMA
-- ⁵	98.0	°C	DMA
CLTE - Flow	6.6E-5	cm/cm/°C	ASTM E228

Electrical	Nominal Value	Test Method
Dielectric Constant (1 MHz)	3.10	ASTM D150
Dissipation Factor (1 MHz)	0.017	ASTM D150
NOTE		
1.	Liquid	
2.	Machined Notch	
3.	Machined Notch	
4.	E'	
5.	tan(d)	

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519
 Phone: +86 13424755533
 Email: sales@su-jiao.com
 No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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