

RPU 61

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

Tensile Properties ASTM D638, Type V, 10 mm/min	Metric	U.S.
Tensile Modulus	1500 ± 100 MPa	218 ± 15 ksi
Ultimate Tensile Strength	42 ± 3 MPa	6.1 ± 0.4 ksi
Tensile Strength at Yield	40 ± 2 MPa	5.8 ± 0.3 ksi
Elongation at Yield	6 ± 1%	
Elongation at Break	120 ± 10 %	

Flexural Properties ASTM D790	Metric	U.S.
Flexural Strength	37 ± 2 MPa	5.4 ± 0.3 ksi
Flexural Modulus	1100 ± 100 MPa	160 ± 15 ksi

Impact Properties	Metric	U.S.
Notched Izod (Machined), 23 °C, ASTM D256	27 ± 2 J/m	0.51 ± 0.04 ft-lb/in
Notched Izod (Machined), -30 °C, ASTM D256	22 ± 5 J/m	0.41 ± 0.09 ft-lb/in
Unnotched Izod, ASTM D4812	1.2 ± 0.2 kJ/m	22 ± 4 ft-lb/in
Notched Charpy, ISO 179-1/1eA	2.31 ± 0.39 kJ/m ²	1.10 ± 0.19 ft-lb/in ²

Thermal Properties	Metric	U.S.
Heat Deflection Temperature @ 0.455 MPa/66 psi, ASTM D648	59 °C	137 °F
Heat Deflection Temperature @ 1.82 MPa/264 psi, ASTM D648	48 °C	119 °F
Coefficient of Thermal Expansion (-40, 40 °C), ASTM E831	99 ppm/°C	55 ppm/°F

Electrical Properties ASTM D150	Metric
Dielectric Constant, 1 MHz	3.10
Dissipation Factor, 1 MHz	0.017

General Properties	Metric
Hardness, ASTM D2240	78, Shore D
Density, ASTM D792	1.074 g/cm ³
Density (liquid resin)	1.01 g/cm ³

NOTES—Results in this data sheet are representative of specific sample generation and testing processes and may vary if the established protocols are not followed. Contact Carbon for the specific process used to generate the test samples to determine each of these values. Tensile and flexural data are average ± 1 standard deviation from 16 specimens; impact data used 10 specimens. The U.S. values are converted from Metric measurements and are for reference only.

The information in this document includes typical values from printing various parts and is intended for reference and comparison purposes only. This information should not be used for testing, design specification or quality control purposes. End-use material performance can be impacted by, but not limited to, design, processing, operating and end-use conditions, test conditions, color, etc. Actual values will vary with build conditions. In addition, product specifications are subject to change without notice.

This information and Carbon's technical advice are given to you in good faith but without warranty. The application, use and processing of these and other Carbon products by you are beyond Carbon's control and, therefore, entirely your own responsibility. Carbon products are only to be used by you subject to the terms of the written agreement by and between you and Carbon.

You are responsible for determining that the Carbon material is safe, lawful, and technically suitable for the intended application, as well as for identifying the proper disposal (or recycling) method consistent with applicable environmental laws and regulations. CARBON MAKES NO WARRANTIES OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR USE, OR NON-INFRINGEMENT. Further, it is expressly understood and agreed that you assume and hereby expressly release Carbon from all liability, in tort, contract or otherwise, incurred in connection with the use of Carbon products, technical assistance and information. Any statement or recommendation not contained herein is unauthorized and shall not bind Carbon. Nothing herein shall be construed as a recommendation to use any product in conflict with any claim of any patent relative to any material or its use. No license is implied or in fact granted under the claims of any patent.