

# RPU 70

RPU 70 is a tough, heat resistant material that is a good choice for parts requiring strength, toughness, and moderate heat resistance.

<b>Tensile Properties</b> ASTM D638, Type V 10 mm/min	Metric	U.S.
Tensile Modulus	1900 ± 200 MPa	290 ± 30 ksi
Ultimate Tensile Strength	45 ± 2 MPa	6.5 ± 0.3 ksi
Tensile Strength at Yield	45 ± 2 MPa	6.5 ± 0.3 ksi
Elongation at Break	100 ± 20 %	

  

<b>Flexural Properties</b> ASTM D790	Metric	U.S.
Flexural Strength	62 ± 9 MPa	9.0 ± 1.3 ksi
Flexural Modulus	1800 ± 300 MPa	261 ± 40 ksi

  

<b>Impact Properties</b>	Metric	U.S.
Notched Izod (Machined), 23 °C, ASTM D256	22 ± 1 J/m	0.41 ± 0.02 ft-lb/in
Notched Izod (Machined), -30 °C, ASTM D256	19 ± 4 J/m	0.36 ± 0.07 ft-lb/in
Unnotched Izod, ASTM D4812	530 ± 30 J/m	9.9 ± 0.5 ft-lb/in
Notched Charpy, ISO 179-1/1eA	1.83 ± 0.15 kJ/m <sup>2</sup>	0.871 ± 0.071 ft-lb/in <sup>2</sup>

  

<b>Thermal Properties</b>	Metric	U.S.
Heat Deflection Temperature @ 0.455 MPa/66 psi, ASTM D648	70 °C	160 °F
Heat Deflection Temperature @ 1.82 MPa/264 psi, ASTM D648	55 °C	130 °F
Coefficient of Thermal Expansion (-40, 40 °C), ASTM E831	96 ppm/°C	53 ppm/°F
Flammability, UL 94 (1.5 mm)	HB	

  

<b>General Properties</b>	Metric
Hardness, ASTM D2240	80, Shore D
Density, ASTM D792	1.076 g/cm <sup>3</sup>
Density (liquid resin)	1.01 g/cm <sup>3</sup>
Water Absorption, 23 °C, 24 hours, ASTM D570	0.31 %
Water Absorption, 23 °C, long term, ASTM D570	1.01 %
Taber Abrasion, ASTM D4060, CS-17, 1 kg, 100 % vacuum	70 mg / 1000 cycles

**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.

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