

# EPX 82

EPX 82 combines functional toughness, stiffness, and temperature resistance making it useful in a variety of automotive, industrial, and consumer applications.

Tensile Properties ISO 572-2, 1A, 5mm/min	DRY		CONDITIONED	
	Metric	U.S.	Metric	U.S.
Tensile Modulus	2800 MPa	410 ksi	2800 MPa	410 ksi
Strength at Yielding / Ultimate Tensile Strength	82 MPa	12 ksi	72 MPa	10 ksi
Strain at Yielding	5.5 %		5.6 %	
Strength at Break	78 MPa	11 ksi	67 MPa	9.7 ksi
Elongation at Break	5.9 %		11 %	

Flexural Properties ASTM D790-B	DRY		CONDITIONED	
	Metric	U.S.	Metric	U.S.
Flexural Stress at 5 % strain	130 MPa	19 ksi	110 MPa	16 ksi
Flexural Modulus	3000 MPa	440 ksi	2900 MPa	420 ksi

Impact Properties	DRY		CONDITIONED	
	Metric	U.S.	Metric	U.S.
Notched Izod (Machined), ASTM D256	44 J/m	0.82 ft-lb/in	42 J/m	0.79 ft-lb/in
Unnotched Izod, ASTM D4812	370 J/m	6.9 ft-lb/in	350 J/m	6.6 ft-lb/in
Notched Charpy (Machined), ISO 179-1/1eA	4.4 kJ/m <sup>2</sup>	2.1 ft-lb/in <sup>2</sup>	4.2 kJ/m <sup>2</sup>	2.0 ft-lb/in <sup>2</sup>
Unnotched Charpy, ISO 179-1/1eU	26 kJ/m <sup>2</sup>	12 ft-lb/in <sup>2</sup>	26 kJ/m <sup>2</sup>	12 ft-lb/in <sup>2</sup>
Gardner, ASTM D5420 GC, 3.2mm	0.55 J	0.41 ft-lb	0.56 J	0.41 ft-lb

Thermal Properties	Metric	U.S.
Heat Deflection Temperature @ 0.455 MPa/66 psi, ASTM D648 Measured after 3 weeks in ambient conditions	115 °C	240 °F
Heat Deflection Temperature @ 1.82 MPa/264 psi, ASTM D648 Measured after 3 weeks in ambient conditions	99 °C	210 °F
Coefficient of Thermal Expansion (-60, 100 °C), ASTM E831	88 ppm/°C	49 ppm/°F
Flammability, UL 94 (1.5 mm, 3.0mm)	HB	

General Properties	Metric
Hardness, Shore D, ASTM D2240	89 (instant), 88 (5 sec)
Density, ASTM D792	1.155 g/cm <sup>3</sup>
Density (liquid resin)	1.12 g/cm <sup>3</sup>
Water Absorption, 23 °C, 24 hours, ASTM D570	0.74 %
Taber Abrasion, ASTM D4060, CS-17, 1 kg, 100 % vacuum	42 mg / 1000 cycles

**NOTES**—Results in this data sheet represent typical values from specific sample generation and testing processes and may vary if the established protocols are not followed. Dry values were measured within 6 hours of completion of thermal cure. Conditioned values were measured after 1 week at 23°C and 50% RH unless stated otherwise. Contact Carbon for the specific process used to generate the test samples to determine each of these values. The U.S. values are converted from Metric measurements and are for reference only.

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