

# EPU 40

EPU 40 is a high performance polyurethane elastomer that is a good choice for applications where high elasticity, resilience, and tear resistance are needed.

Mechanical Properties	Metric	U.S.
Modulus, Straight, 500mm/min, ASTM D412	8 ± 1 MPa	1.15 ± 0.15 ksi
Ultimate Tensile Strength, Straight, 500mm/min, ASTM D412	6 ± 1 MPa	0.85 ± 0.15 ksi
Elongation at Break, Straight, 500mm/min, ASTM D412	190 ± 10 %	190 ± 10 %
Tensile Set, 100% Elongation, Straight, ASTM D412	2.1%	
Tear Strength, ASTM D624-C	23 ± 3 kN/m	130 ± 17 lb <sub>f</sub> /in.
Hardness, ASTM D2240	68, Shore A	
Compression Set, 23°C, 72 hrs, ASTM D395-B	23%	
Bayshore Rebound Resilience, ASTM 2362	29%	

Thermal Properties		
Coefficient of Thermal Expansion (ASTM D696)	190 ppm/°C	106 ppm/°F
T <sub>g</sub> (DMA, E')	-50 °C	-58 °F
T <sub>g</sub> (DMA, tan(d))	-6 °C	21 °F

Dielectric Properties	
Dissipation Factor (ASTM D150, 1 MHz)	0.031
Dielectric Constant (ASTM D150, 1 MHz)	3.9

**NOTES**—Test specimens were prepared using Carbon M1 printer and a Type C cassette. Print parameters were generated using software v1.6. Tensile data were generated using printed tensile bar samples (per ASTM D412). All other test specimens were printed following standard ASTM test geometries. All test specimens were printed, cleaned, and post-processed per instructions provided in the Carbon User Manual. Liquid property measurements were carried out using fully mixed resins. Results provided herein are representative of these processes and may vary if these established protocols are not followed.