

TM⁺82

High Toughness Resin

TM⁺82 is the material of choice for the application of parts with high toughness and impact resistance. TM⁺82 has the advantages of similar PA 66 material performance, with superior performance such as strong fatigue resistance, strong impact resistance at low temperature and high elongation at break. TM⁺82 is widely used in the printing of personal wear, medical protective gear, automobiles and industrial parts. Based on LEAPTM nano-release technology, the component molding speed is fast, with excellent dimensional accuracy and detail resolution.

TM⁺82 passed the "ISO 10993-10:2010 Biological evaluation of medical devices-Part 10:Tests for irritation and skin sensitization"and"ISO 10993-5:2009 Biological evaluation of medical devices Part 5: Tests for In Vitro Cytotoxicity "



Strength



Tough



Impact resistance



Black

US:

940 Old County Rd, Belmont, CA, 94002, USA

MAT #TM822101-01 Rev1.3

TM+82 Technical Data Sheet:

Tensile Properties, ASTM D638		
	Metric	U.S.
Tensile Modulus	1676 Mpa	243.1 ksi
Ultimate Tensile Strength	48.51 Mpa	7.04 ksi
Elongation at Break	76 %	76 %
Tensile Strength at Yield	44.9 Mpa	6.51 ksi
Elongation at Yield	4.83 %	4.83 %
Impact Properties		
	Metric	U.S.
Notched Izod (Machined), 23°C, ASTM D256	51.9 J/m	0.97 ft-lbf/in
Notched Izod (Machined), -30°C, ASTM D256	53.1 J/m	0.99 ft-lbf/in
Notched Izod (Machined), 23°C, ISO 180/A	4.58 kJ/m ²	2.18 ft-lb/in ²
Notched Izod (Machined), -30°C, ISO 180/A	4.32 kJ/m ²	2.06 ft-lb/in ²
Flexural Properties, ASTM D790		
	Metric	U.S.
Flexural Strength	62.9 MPa	9.12 ksi
Flexural Modulus	1633 MPa	236.9 ksi
Thermal Properties, ASTM D648		
	Metric	U.S.
Heat Deflection Temperature @ 0.455 MPa/66 psi, ASTM D648	71 °C	160 °F
Heat Deflection Temperature @ 1.82 MPa/264 psi, ASTM D648	48 °C	118 °F
General Properties		
	Metric	
Hardness, Shore D, ASTM D2240	76D	
Density (cured resin), ASTM D792	1.09 g/cm ³	
Density (liquid resin), ASTM D4052	1.04 g/cm ³	
Viscosity, 40°C, ASTM D2196	750 cps	
Water Absorption, 24 hours, 23°C, ASTM D570	1.8 %	
Water Absorption, Long Term (14 Days), ASTM D570	5.7 %	

These data are typical values and were determined through testing on printers which are validated for use with Luxcreo's products. Mechanical properties will vary based on machine, part orientation, machine type, machine power, post curing of the printed parts, and cleaning. See product guide for post-processing procedure and best practices. Improper use or failure to adhere to the product guide may result in variations of color and mechanical properties. Luxcreo reserves the right to change material characteristics, and formulation without prior notification.