



HP 3D High Reusability PA 12

Produce strong, functional, detailed complex parts. Robust thermoplastic produces high-density parts with balanced property profiles and strong structures. Provides excellent chemical resistance to oils, greases, aliphatic hydrocarbons, and alkalis. Ideal for complex assemblies, housings, enclosures, and watertight applications. Biocompatibility certifications—meets USP Class I-VI and US FDA guidance for Intact Skin Surface Devices.



MECHANICAL PROPERTIES ²	TEST METHOD	ENGLISH	METRIC
Tensile strength, max load ⁹ , XY	ASTM D638	6,960 psi	48 MPa
Tensile strength, max load ⁹ , Z	ASTM D638	6,960 psi	48 MPa
Tensile modulus ⁹ , XY	ASTM D638	247 ksi	1700 MPa
Tensile modulus ⁹ , Z	ASTM D638	261 ksi	1800 MPa
Elongation at break ⁹ , XY	ASTM D638	20%	20%
Elongation at break ⁹ , Z	ASTM D638	15%	15%
Flexural strength (@ 5%) ¹⁰ , XY	ASTM D790	9425 psi	65 MPa
Flexural strength (@ 5%) ¹⁰ , Z	ASTM D790	10150 psi	70 MPa
Flexural modulus ¹⁰ , XY	ASTM D790	251 ksi	1730 MPa
Flexural modulus ¹⁰ , Z	ASTM D790	251 ksi	1730 MPa
Izod impact notched (@ 3.2 mm, 23°C), XYZ	ASTM D256 Test Method A	3.5 kJ/m ²	3.5 kJ/m ²

THERMAL PROPERTIES ²	TEST METHOD	ENGLISH	METRIC
Heat deflection temperature (@ 0.45 MPa, 66 psi), XY	ASTM D648 Test Meth A	347 °F	175 °C
Heat deflection temperature (@ 0.45 MPa, 66 psi), Z	ASTM D648 Test Meth A	347 °F	175 °C
Heat deflection temperature (@ 1.82 MPa, 264 psi), XY	ASTM D648 Test Meth A	203 °F	95 °C
Heat deflection temperature (@ 1.82 MPa, 264 psi), Z	ASTM D648 Test Meth A	223 °F	106 °C