



## Material Data Sheet

# xPA12



### General

xPA12 QLS 350 Powder is a durable nylon plastic that can be used for a wide range of applications, both for prototyping and for end products. Printed using Quantum Laser Sintering (QLS), when thin, it's flexible enough for hinges and springs and when thick, it's strong enough for structural components.

Typical applications of the material are fully functional parts with high end finish right from the process, which easily withstand high mechanical and thermal load.

### Technical Data

#### General material properties

Average grain size	ISO 13320-11 Laser diffraction	56 2.20	µm mil
Bulk density	EN ISO 60	0.45	g/cm <sup>3</sup>
Density of laser-sintered part	Nexa3D Lab	0.93 58	g/cm <sup>3</sup> lb/ft <sup>3</sup>

#### Mechanical properties

Tensile modulus	ASTM D638	247	ksi
Tensile strength	ASTM D638	6962	psi
Elongation at break	ASTM D638	24	%
Flexural modulus	ASTM D790	217	ksi
Flexural strength	ASTM D790	8412	psi
Shore D - hardness	ASTM D2240	75	-

The mechanical properties depend on the x-, y-, z-position and on the exposure parameters used.

#### Thermal properties

Melting point	EN ISO 11357-1	172 - 180	°C
Vicat softening temperature B/50	EN ISO 306 ASTM D1525	163 325	°C °F
Vicat softening temperature A/50	EN ISO 306 ASTM D1525	181 358	°C °F

The data are based on our latest knowledge and are subject to changes without notice. They do not guarantee properties for a particular part and in a particular application.