LASER SINTERING MATERIAL SPECIFICATIONS

alm

AN EOS COMPANY

PA 650

NYLON 12

Unfilled Nylon 12 optimized for easy processing and as a drop-in replacement for comparable Unfilled Nylon 12's.

HIGHLIGHTS

- → Biocompatible and Good Recyclability
- → Clean White Surface Finish
- → Fine-Feature Resolution
- → User-Friendly Processing

APPLICATIONS

- → Aerospace, Automotive, Lifestyle, and Medical
- → Thin-Walled Duct Components
- → Consumer and Sporting Goods
- → Durable, End-Use Functionality Prototypes

HEADQUARTERS

ALM - Advanced Laser Materials

3115 Lucius McCelvey, Temple, TX 76504
P: 1.254.773.3080
FAX: 1.254.773.3084
E: info@advancedlasermaterials.com

AdvancedLaserMaterials.com

PA 650

NYLON 12

Superior recyclability, with ~5%-10% increase in powder usage over comparable Unfilled Nylon 12's.

TYPICAL PHYSICAL PROPERTIES			
PROPERTY	**TEST METHOD**	**IMPERIAL**	**METRIC**
Color/Appearance	Visual	White	White
Bulk Density	ASTM D1895	0.266 oz/in^3	0.46 g/cm^3
Average Particle Size (D50)	Laser Diffraction	0.002 inches	55 microns
Particle Size Range (D10-D90)	Laser Diffraction	0.001 - 0.004 inches	30 - 100 microns
Sintered Part Density	ASTM D792	0.590 oz/in^3	1.02 g/cm^3
Heat Deflection Temperature	ASTM D648	203°F at 264 psi	95°C at 1.82 MPa
Heat Detection Temperature	ASTM D648	356°F at 66 psi	180°C at 0.45 MPa
Ultimate Tensile Strength (XY)	ASTM D638	6,962 psi	48 MPa
Tensile Modulus (XY)	ASTM D638	247,000 psi	1,700 MPa
Flexural Modulus (XY)	ASTM D790	217,000 psi	1,500 MPa
Elongation at Break (XY)	ASTM D638	24%	24%
Izod Impact Strength - Notched (XY)	ASTM D256	0.6 ft-lb/in	32 J/m
Izod Impact Strength - Unnotched (XY)	ASTM D256	6.3 ft-lb/in	336 J/m
Dielectric Constant	ASTM D150	2.73 at 1KHz	2.73 at 1KHz
Hardness (Shore D)	ASTM D2240	73	73

BIOCOMPATIBILITY SUMMARY
STUDIES COMPLETED
Skin Sensitization per ISO 10993-10: 2010
Cytotoxicity per ISO 10993-5: 2009
Reactivity per ISO 10993-10: 2010