

ALM PA 250 Nylon 12 SLS Prototyping Polymer

Category : Polymer , Rapid Prototyping Polymer , Thermoplastic , Nylon , Nylon 12

Material Notes:

Highly Recyclable Nylon 12 Laser Sintering Material. Engineered for excellent mechanical properties, part definition and surface finish. Stabilized against thermal degradation resulting in little or no scrap material, with typical virgin refresh rates from 15 to 25%. Good temperature control is required to process this material. Information provided by Advanced Laser Materials (ALM).

Order this product through the following link:

http://www.lookpolymers.com/polymer_ALM-PA-250-Nylon-12-SLS-Prototyping-Polymer.php

| Physical Properties | Metric | English | Comments |
|---------------------|--------------------------------------|--------------------------------------|---------------------------------------|
| Bulk Density | 0.500 g/cc | 0.0181 lb/in ³ | ASTM D1895 |
| Density | 1.01 g/cc | 0.0365 lb/in ³ | Sintered Part; ASTM D792 |
| Particle Size | 40 µm | 40 µm | Average D50; Laser Diffraction |
| | 30 - 50 µm | 30 - 50 µm | Range (D10 to D90); Laser Diffraction |
| Melt Flow | 40 g/10 min | 40 g/10 min | 3 min.; ASTM D1238 |
| | @Load 5.00 kg, Temperature 235 °C | @Load 11.0 lb, Temperature 455 °F | |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|----------|----------|-------------------------|
| Tensile Strength at Break | 46.0 MPa | 6670 psi | XY direction; ASTM D638 |
| Tensile Strength, Ultimate | 36.0 MPa | 5220 psi | Z direction; ASTM D638 |
| Elongation at Break | 4 % | 4 % | Z direction; ASTM D638 |
| | 16 % | 16 % | XY direction; ASTM D638 |
| Tensile Modulus | 1.74 GPa | 252 ksi | XY direction; ASTM D638 |
| | 2.14 GPa | 310 ksi | Z direction; ASTM D638 |

| Thermal Properties | Metric | English | Comments |
|--|---------|---------|------------|
| Melting Point | 181 °C | 358 °F | ASTM D3418 |
| Deflection Temperature at 0.46 MPa (66 psi) | 179 °C | 354 °F | ASTM D648 |
| Deflection Temperature at 1.8 MPa (264 psi) | 86.0 °C | 187 °F | ASTM D648 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|--------|---------|----------|
|-----------------------|--------|---------|----------|

| Volume Resistivity Electrical Properties | 3.1e+14 ohm-cm Metric | 3.1e+14 ohm-cm English | ASTM D257 Comments |
|---|--------------------------|---------------------------|-----------------------|
| Descriptive Properties | Value | | Comments |
| Color | Black | | |
| Surface Finish | 9 microns | | |

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