

Proto3000 Duraform® AF Selective Laser Sintering (SLS®) Prototyping Polymer

Category : Polymer , Rapid Prototyping Polymer , Thermoplastic , Nylon

Material Notes:

Description: Polyamide (nylon) material with metallic appearance for real-world physical testing and functional use. Features: Metallic appearance with nice surface finish Good powder recycle characteristics Excellent mechanical stiffness Easy-to-process Dimensionally stable Benefits: Excels in load bearing applications at higher temperatures Build prototypes and end-use parts without tooling Create accurate and repeatable parts as demanded by manufacturers Machinable for demonstration parts Improved isotropic shrinkage due to aluminum filler Applications: Housings and enclosures Consumer products Appropriate for low- to mid-volume rapid manufacturing Parts requiring machining or joining with adhesives Complex production and prototype plastic parts Form, fit or functional prototypes Parts requiring stiffness Thermally stressed parts Plastic parts requiring a metallic appearance Information provided by Proto3000 for their prototyping engineering services.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Proto3000-Duraform-AF-Selective-Laser-Sintering-SLS-Prototyping-Polymer.php

| Physical Properties | Metric | English | Comments |
|---------------------|------------|---------------------------|-----------|
| Bulk Density | 0.690 g/cc | 0.0249 lb/in ³ | |
| Density | 0.890 g/cc | 0.0322 lb/in ³ | tap |
| | 1.42 g/cc | 0.0513 lb/in ³ | ASTM D792 |

| Mechanical Properties | Metric | English | Comments |
|----------------------------|------------|----------------|------------|
| Hardness, Shore D | 75 | 75 | ASTM D2240 |
| Tensile Strength, Ultimate | 35.0 MPa | 5080 psi | ASTM D638 |
| Elongation at Break | 1.5 % | 1.5 % | ASTM D638 |
| Tensile Modulus | 3.96 GPa | 574 ksi | ASTM D638 |
| Flexural Strength | 44.0 MPa | 6380 psi | ASTM D790 |
| Flexural Modulus | 3.517 GPa | 510.1 ksi | ASTM D790 |
| Izod Impact, Notched | 0.587 J/cm | 1.10 ft-lb/in | ASTM D256 |
| Izod Impact, Unnotched | 1.228 J/cm | 2.301 ft-lb/in | ASTM D256 |

| Thermal Properties | Metric | English | Comments |
|--------------------|----------------------------|----------------------------|-----------|
| CTE, linear | 109 µm/m-°C | 60.6 µin/in-°F | ASTM E831 |
| | @Temperature 35.0 - 172 °C | @Temperature 95.0 - 342 °F | |

| Thermal Properties | Metric | English | Comments |
|---|--------|---------|-----------|
| Deflection Temperature at 0.46 MPa (68 psi) | 137 °C | 279 °F | ASTM D648 |

| Electrical Properties | Metric | English | Comments |
|-----------------------|-------------------------------|-------------------------------|-----------|
| Volume Resistivity | 1.60e+13 ohm-cm | 1.60e+13 ohm-cm | ASTM D257 |
| Surface Resistance | 6.00e+12 ohm | 6.00e+12 ohm | ASTM D257 |
| Dielectric Constant | 14.5 @Frequency 1.00e+6 Hz | 14.5 @Frequency 1.00e+6 Hz | ASTM D150 |
| Dielectric Strength | 1.80 kV/mm | 45.7 kV/in | ASTM D149 |

| Descriptive Properties | Value | Comments |
|------------------------|---------------------|----------|
| Appearance | Light grey metallic | |

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