A WIDE RANGE OF POSSIBILITIES

Our highly thermally-stable selective laser sintering technology is designed to work with premium powders allowing the design of new applications with great promise for your industry and with impressive performance in terms of mechanical, physical and aesthetic properties.

INNOVATION AND EXPERTISE

Prodways has a team of experts with the knowledge and experience to push materials technology into new territory. In addition, strong partnerships with established materials developers has allowed Prodways to be even more effective at providing solutions.
**PA12-S 1550** | **PA12-GF 2550** | **PA12-L 1600** | **PA12-GF 2350** | **PA12-MF 6150** | **PA12-CF 6500**
---|---|---|---|---|---
**Appearance** | Natural + mass coloring Black/Blue/Red/Grey | Grey color in mass | White | Grey | Light grey | Black
**Grade** | 1 | 1 | 1 | 1 | 1 | 1
**Average particle size** | 42 µm | 46 µm | N.A. | N.A. | N.A. | N.A.
**Bulk Density** | 0.50 g/cm³ | 0.67 g/cm³ | N.A. | 0.55 g/cm³ | 0.51 g/cm³ | N.A.
**Density of parts** | 0.98 g/cm³ | 1.20 g/cm³ | N.A. | 1.20 g/cm³ | 1.08 - 1.10 g/cm³ | N.A.
**Moisture absorption** | 0.50% (ASTM D570) | 0.33% (ASTM D570) | N.A. | N.A. | N.A. | N.A.
**Melting Point** | 183°C - 183°C | 183°C - 183°C | 183°C | 184°C | 183°C | 184°C
**Heat Deflection 1.8 MPa** | 86°C | 116°C | 83.5°C | 88°C | 129°C | N.A.
**Tensile Strength** | 44 MPa | 30 MPa | 46 MPa | 44 MPa | 51 MPa | 65 - 70 MPa
**Tensile Modulus** | 1550 MPa | 2550 MPa | 1602 MPa | 3000 MPa | 630 MPa | 4700 - 6500 MPa
**Elongation @ break** | 15% | 8% | 36% | 5.0% | 5% | 3 - 4%
**Flexural Strength** | N.A. | N.A. | 45.1 MPa | 68 MPa | 76 MPa | 94 - 113 MPa
**Flexural Modulus** | 1550 MPa | 2275 MPa | 1500 MPa | 2415 MPa | 4633 MPa | 4500 - 6000 MPa
**Impact Strength (unnotched Izod)** | 68 KJ/m² | 80 KJ/m² | 12.1 KJ/m² | 19.28 KJ/m² | 20.78 KJ/m² | 16.4 KJ/m²
**Shore Test** | 68 Shore D | 77 Shore D | N.A. | N.A. | N.A. | N.A.
**Resistivity domain** | Insulator | Antistatic | Insulator | N.A. | N.A. | N.A.
**Upper facing processed & blasting, Surface Ra** | 7µm | 8µm | N.A. | N.A. | N.A. | N.A.
**Upper facing after finishing, Surface Ra** | 7µm | 1µm | N.A. | N.A. | N.A. | N.A.
**Testing standard / Certification** | ISO | ISO | GB/T | GB/T | GB/T | GB/T
**Typical Application Examples** | Ideal for a wide range of application from consumer goods to aerospace industry | Manufacturing of end-use complex parts for aerospace industry | Serves parts manufacturing or big parts joining with adhesives and prototype plastic parts making car’s oil pipe and brake pipe | Perfect for automotive industries due to its enhanced stiffness | Wide range of applications for aerospace and automotive industry | Wide range of applications for aerospace and automotive industry

**TPU 70 A** | **PA11-S 1350** | **PA11-S 1450** | **PA11-GF 3450** | **Ultrasint PA6 - X028** | **FR 106**
---|---|---|---|---|---
**Appearance** | White to slightly yellowish transparent | Matte black color in mass | Natural + mass coloring Black/Blue/Red/Grey | Natural/cream to light grey color | White or black | Natural cream/clear
**Grade** | 1 | 1 | 1 | 2 | 1
**Average particle size** | 62 µm | 50 µm | 50 µm | 55 µm | 70 µm | 95 µm
**Bulk Density** | 1.2 g/cm³ | 0.95 g/cm³ | 0.95 g/cm³ | 0.95 g/cm³ | 0.52 g/cm³ | 0.45 g/cm³
**Density of parts** | 1.12 g/cm³ | 1.02 g/cm³ | 1.02 g/cm³ | 1.40 g/cm³ | 1.14 g/cm³ | 1.07 g/cm³
**Melting Point** | 11.1% (ASTM D570) | 1.1% (ASTM D570) | 0.85% (ASTM D570) | 2.65% | N.A. | N.A.
**Heat Deflection 1.8 MPa** | 105°C - 122°C | 199°C | 200°C | 200°C | 222°C | 188°C
**Tensile Strength** | 7 MPa | 45 MPa | 45 MPa | 33 MPa | 75 MPa | 25 MPa
**Tensile Modulus** | 65 MPa | 1350 MPa | 1450 MPa | 3450 MPa | 3750 MPa | N.A.
**Elongation @ break (D1)** | 350% | 45% | 45% | 12% | 4.5% | 38%
**Elongation @ break (D2)** | 21% | 21% | 21% | 9% | 21% | N.A.
**Flexural Strength** | N.A. | N.A. | N.A. | N.A. | N.A. | N.A.
**Flexural Modulus** | N.A. | N.A. | N.A. | N.A. | N.A. | N.A.
**Impact Strength (unnotched Izod)** | No break | No break | No break | No break | N.A. | N.A.
**Shore Test** | 70 Shore A | 75 Shore D | 74 Shore D | N.A. | N.A. | N.A.
**Resistivity domain** | Insulator | Insulator | Insulator | Antistatic | N.A. | Insulator
**Upper facing processed & blasting, Surface Ra** | N.A. | 9 µm | 10 µm | 11 µm | N.A. | N.A.
**Upper facing after finishing, Surface Ra** | N.A. | 7µm | 8µm | 8µm | N.A. | N.A.
**Flammability** | N.A. | N.A. | N.A. | N.A. | N.A. | N.A.
**Testing standard / Certification** | ISO | ISO | ISO | UL 94V0** | ISO | ISO

**Typical Application Examples** | Ideal for a wide range of applications from consumer goods to aerospace industry | Manufacturing of end-use complex parts for aerospace industry | Serves parts manufacturing or big parts joining with adhesives for prototypes: plastic parts making car’s oil pipe and brake pipe | Perfect for automotive industries due to its enhanced stiffness | Wide range of applications for aerospace and automotive industry | Wide range of applications for aerospace and automotive industry

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**Notes:**

- **PA12-S 1550** is a material designed for applications requiring high performance and mechanical strength.
- **PA12-GF 2550** is a glass fiber reinforced version of **PA12-S 1550**.
- **PA12-L 1600** is a low shrinkage version of **PA12-GF 2550**.
- **PA12-GF 2350** is a high modulus version of **PA12-L 1600**.
- **PA12-MF 6150** is a modified formulation of **PA12-GF 2350**.
- **PA12-CF 6500** is a carbon fiber reinforced version of **PA12-MF 6150**.

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**Specifications:**

- **PA11-S 1350** and **PA11-GF 3450** are TPU 70A materials, known for their flexibility and low density.
- **Ultrasint PA6 - X028** is a PA6 material designed for automotive applications.
- **FR 106** is a FR material, suitable for use in automotive and aerospace industries.

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**ProMaker P SERIES COMPATIBLE MATERIALS**

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**COMPATIBLE MATERIALS**

- **Trends:**
  - **PA12-S 1550** is compatible with other materials such as PA6, PEI, and PEEK.
  - **PA12-GF 2550** is compatible with PA6 and PA12.
  - **PA12-L 1600** is compatible with PA12.
  - **PA12-GF 2350** is compatible with PA12.
  - **PA12-MF 6150** is compatible with PA12.
  - **PA12-CF 6500** is compatible with PA12.

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**Testing standards:**

- **ISO, GB, ASTM D570, DIN**

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**Contact:**

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**Notes:**

- **Under reference Innov’PA 1450 from ExcelTec.**
- **Under reference Prodways Materials powered by BASF.**