



# PA 616-GS

## NYLON 12

50% Glass-Sphere-Filled Nylon 12 optimized for higher temperature applications compared to unfilled nylons.

### HIGHLIGHTS

- Smooth Surface Finish
- Good Stiffness and Mechanical Properties
- Powder-Flow-Optimized for EOS P-Systems

### APPLICATIONS

- Automotive engine components
- Mold and tooling applications
- Complex geometries or rugged application



### HEADQUARTERS

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Tightly controlled glass particle size for a higher detailed surface finish and improved dimensional stability.

| TYPICAL PHYSICAL PROPERTIES           |                   |                                          |                        |
|---------------------------------------|-------------------|------------------------------------------|------------------------|
| PROPERTY                              | TEST METHOD       | IMPERIAL                                 | METRIC                 |
| Color/Appearance                      | Visual            | Light Gray                               | Light Gray             |
| Bulk Density                          | ASTM D1895        | 0.387 oz/in <sup>3</sup>                 | 0.67 g/cm <sup>3</sup> |
| Average Particle Size (D50)           | Laser Diffraction | 0.002 inches                             | 55 microns             |
| Particle Size Range (D10-D90)         | Laser Diffraction | 0.001 - 0.004 inches                     | 35 - 100 microns       |
| Sintered Part Density                 | ASTM D792         | 0.861 oz/in <sup>3</sup>                 | 1.49 g/cm <sup>3</sup> |
| Heat Deflection Temperature           | ASTM D648         | 273°F at 264 psi                         | 134°C at 1.82 MPa      |
| Heat Deflection Temperature           | ASTM D648         | 354°F at 66 psi                          | 179°C at 0.45 MPa      |
| Ultimate Tensile Strength (XY)        | ASTM D638         | 5,500 psi                                | 38 MPa                 |
| Tensile Modulus (XY)                  | ASTM D638         | 857,172 psi                              | 5,910 MPa              |
| Flexural Modulus (XY)                 | ASTM D790         | 478,624 psi                              | 3,300 MPa              |
| Elongation at Break (XY)              | ASTM D638         | 2%                                       | 2%                     |
| Izod Impact Strength - Notched (XY)   | ASTM D256         | 1.8 ft-lb/in                             | 96 J/m                 |
| Izod Impact Strength - Unnotched (XY) | ASTM D256         | 2.3 ft-lb/in                             | 120 J/m                |
| Dielectric Constant                   | ASTM D150         | 3.7                                      | 3.7                    |
| Chemical Resistance                   |                   | Alkalines, hydrocarbons, fuels, solvents |                        |

The material properties provided herein are for reference purposes only. Actual values may vary significantly as they are dramatically affected by part geometry and process parameters. Material specifications are subject to change without notice.