

Nylon 6/6

Nylon 6/6 is a general purpose, standard grade nylon that offers extremely good wear resistance and low frictional properties. It has particularly good temperature, chemical, and impact properties.

Applications

Target industries for Nylon 6/6 include aircraft construction, agricultural machinery, the automotive and construction industries, business machines, food processing, and conveyor technology. Typical applications consist of bearings, gears, sheaves, and sprockets.

Key Product Benefits

- Lightweight
- Fatigue Resistance
- Noise Dampening
- Corrosion Resistance
- Improved Wear Resistance

Properties

| Property | Test Method | Value |
|-------------------------------|-------------|------------------------|
| Density | ASTM D792 | 1.14 g/cm ³ |
| Water Absorption @ 24 hours | ASTM D570 | 0.3-1% |
| Water Absorption @ Saturation | ASTM D570 | 8.5% |
| Dissipation Factor @ 1 MHz | ASTM D150 | 0.01-0.02 |
| Shore Hardness (D Scale) | ASTM D785 | 80-86 |
| Tensile Strength @ Yield | ASTM D638 | 12,000 psi |
| Tensile Modulus | ASTM D638 | 350,000-425,000 psi |
| Elongation @ Yield | ASTM D638 | 4-7% |
| Elongation @ Break | ASTM D638 | 40-50% |
| Flexural Strength | ASTM D790 | 15,000-16,500 psi |
| Flexural Modulus | ASTM D790 | 420,000-450,000 psi |
| Compressive Strength | ASTM D695 | 12,500 psi |
| Rockwell Hardness (M Scale) | ASTM D785 | 85-88 |

| Property (Continued) | Test Method (Continued) | Value (Continued) |
|---|-------------------------|-------------------------------------|
| Rockwell Hardness (R Scale) | ASTM D785 | 108-121 |
| Shear Strength | ASTM D732 | 10,000-10,600 psi |
| Izod Impact, Notched | ASTM D256 | 0.6-1.0 ft-lb/in |
| Dynamic Coefficient of Friction | | 0.25-0.26 |
| Thermal Conductivity | | 1.7 BTU-in/hr/ft ² /°F |
| Coefficient of Linear Thermal Expansion | ASTM D696/ASTM E831 | 4.5-5.5 × 10 ⁻⁵ in/in/°F |
| Melting Point | ASTM D3418 | 491-500°F |
| Flammability | UL 94 | HB |
| Heat Deflection Temperature @ 264 psi | ASTM D648 | 194-200°F |
| Heat Deflection Temperature @ 66 psi | ASTM D648 | 390-450°F |
| Dielectric Constant @ 1 MHz | ASTM D150 | 3.6-3.8 |
| Dielectric Strength | ASTM D149 | 350-400 V/mil |
| Surface Resistivity | ASTM D257 | >10 ¹³ ohm |