

Noryl® PPO (Modified Polyphenylene Oxide)

Noryl® modified PPO is a strong engineering plastic with outstanding mechanical, thermal, and electrical properties. Low moisture absorption and low thermal expansion make Noryl® one of the most dimensionally stable thermoplastics available. Noryl® is widely used for electrical housings and structural components since it has excellent insulating properties, flame resistance, and dimensional stability over a wide range of service temperatures. Noryl® is often selected for fluid handling applications since it has low moisture absorption and excellent strength and stiffness. Noryl® is easy to fabricate, paint, and glue.

- Excellent dimensional stability
- Low moisture absorption
- Good strength and stiffness over a wide range of service temperatures
- Good impact resistance
- High dielectric strength
- Easy to fabricate, paint, and glue
- Excellent flammability rating (UL94 V-1 @ .058" thick)

Applications

- Manifolds
- Pump, valve, and fitting applications
- Scientific and analytical instrument components
- Housings
- Covers
- Electrical components

| Property | ASTM Test | Units | Noryl® PPO | Noryl® 30% GF |
|--------------------------------------|-----------|----------|------------------------|------------------------|
| Physical | | | | |
| Specific Gravity | D792 | | 1.08 | 1.23 |
| Water Absorption, @24 hours | D570 | % | 0.070 | 0.060 |
| Mechanical | | | | |
| Flexural Modulus | D790 | psi | 370,000 | 830,000 |
| Flexural Strength @yield | D790 | psi | 14,400 | 22,000 |
| Hardness-Rockwell | D785 | | R119 | L106 |
| Izod Impact Strength, Notched @-40°F | D256 | ft-lb/in | 2.5 | 1.8 |
| Izod Impact Strength, Notched @73°F | D256 | ft-lb/in | 3.5 | 2.0 |
| Tensile Elongation @break | D638 | % | 25.0 | 5.0 |
| Tensile Strength @yield | D638 | psi | 9,200 | 15,500 |
| Thermal | | | | |
| Coefficient of Thermal Expansion | D696 | in/in/°F | 3.3 x 10 ⁻⁵ | 1.4 x 10 ⁻⁵ |
| Flammability Rating, @.058" | UL94 | | V-1 | V-1 |
| Flammability Rating, @.236" | UL94 | | V-0 | V-0 |
| Heat Deflection Temperature, @66psi | D648 | °F | - | 280 |
| Heat Deflection Temperature, @264psi | D648 | °F | 254 | 270 |
| Electrical | | | | |
| Dielectric Constant, @60Hz | D150 | | 2.69 | 3.15 |
| Dielectric Strength | D149 | V/mil | 500 | 600 |
| Dissipation Factor, @60Hz | D150 | | 0.0007 | 0.0016 |

NOTE: The information contained herein are typical values intended for reference and comparison purposes only. They should NOT be used as a basis for design specifications or quality control. All values at 73°F (23°C) unless otherwise noted.