Westlake plastics
LIFE IN POLYMERS

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ISO 9001:2008 and ISO 13485:2003 Certified

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PRODUCT BULLETIN

# NORYLUX® MODIFIED POLYPHENYLENE OXIDE

Norylux modified PPO is an engineering plastic with outstanding mechanical, thermal, and electrical properties. Low moisture absorption and low thermal expansion make Norylux one of the most dimensionally stable thermoplastics available. Norylux 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. Norylux is often selected for fluid handling applications since it has low moisture absorption and excellent strength and stiffness. Norylux is easy to fabricate, paint, and glue.

**The following physical property information is based on typical values of the base modified polyphenylene oxide resin.**

## Applications Include:

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

## Advantages of Norylux:

- 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

## Manufacturing Capabilities:

- **Rod** (unfilled)**:** $^1/_4$″ to 8″ dia.
- **Sheet** (unfilled)**:** .030″ to $^1/_{16}$″ thick
- **Slab** (unfilled) **:** $^1/_4$″ to 6″ thick
- **Slab** (filled) **:** $^1/_8$″ to 3″ thick
- **Film** (unfilled) **:** .005″ to .029″ thick

## Colors/Grades:

- Black (standard)
- Glass-filled (gray)

In addition to our standard capabilities, Westlake also has the ability to process custom resins in various sizes and colors with some exceptions.

| Property | Units | Test Standard | Unfilled | 30% Glass Filled |
|---|---|---|---|---|
| **Mechanical** | | | | |
| Flexural Modulus | psi | ASTM D790 | 370,000 | 1,130,000 |
| Flexural Strength @yield | psi | ASTM D790 | 14,400 | 25,000 |
| Hardness | R & L Scale | ASTM D785 | R119 | L108 |
| Izod Impact Strength | | | | |
| Notched @-40°F | ft•lbs/in | ASTM D256 | 2.5 | 1.8 |
| Notched @73°F | ft•lbs/in | ASTM D256 | 3.5 | 2.2 |
| Tensile Elongation @break | % | ASTM D638 | 25.0 | 5.0 |
| Tensile Strength @break | psi | ASTM D638 | 9,200 | 17,500 |
| **Thermal** | | | | |
| Coefficient of Thermal Expansion | in/in/°F | ASTM E831 | $3.3x10^{-5}$ | $1.4x10^{-5}$ |
| Flammability Rating | | | | |
| @.059" | — | UL94 | V-1 | V-1 |
| @.236" | — | UL94 | V-0 | V-0 |
| Heat Deflection Temperature | | | | |
| @66 psi | °F | ASTM D648 | — | 285 |
| @264 psi | °F | ASTM D648 | 254 | 275 |
| **Electrical** | | | | |
| Dielectric Constant @60Hz | — | ASTM D150 | 2.69 | 3.15 |
| Dielectric Strength | V/mil | ASTM D149 | 500 | 530 |
| Dissipation Factor @60Hz | — | ASTM D150 | 0.0007 | 0.0020 |
| **Other** | | | | |
| Specific Gravity | — | ASTM D792 | 1.08 | 1.31 |
| Water Absorption @24 hours | % | ASTM D570 | 0.070 | 0.060 |

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