

# UNINOR® Rg-30

Polyphenylene Ether + PS

Nytec Plastics, Ltd.

## Message:

UNINOR PPO (blend of polyphenylene oxide and styrene) is an amorphous thermoplastic that offers a superior blend of physical strength, flame resistance, and outstanding electrical properties. Unlike many amorphous materials that tend to steadily lose strength as temperatures increase, UNINOR PPO maintains its high stiffness to temperatures in excess of 200°F. In addition, its low moisture absorption and low coefficient of thermal expansion contribute to it being one of the most dimensionally stable materials available. UNINOR PPO has an excellent V-0 UL-94 flame rating at thicknesses of 0.24" and over.

For applications that require improved strength and stiffness, 30% glass fiber filled UNINOR Rg-30 is available. Nytec Plastics' UNINOR PPO stock shapes machine easily and are available in a full range of heavy gauge rod, plate and tubular bar sizes.

### PRODUCT ATTRIBUTES

- 230°F continuous use temperature
- Excellent strength and rigidity, even at elevated temperatures
- Low moisture absorption
- Superior electrical properties
- Rated UL V-0 (0.240")
- Easily machined and fabricated
- Glass fiber filled grades for improved strength and stiffness

### INDUSTRIES

- Automotive
- Aircraft and aerospace
- Appliance manufacturing
- Electrical and electronics manufacturing
- Microwave communications

### APPLICATIONS

- Manifolds
- Electrical insulators
- Electrical connectors and components
- Aircraft instrumentation
- Business equipment housings

| General Information     |                                  |
|-------------------------|----------------------------------|
| Filler / Reinforcement  | Glass Fiber,30% Filler by Weight |
| Features                | Amorphous                        |
|                         | Flame Retardant                  |
|                         | Good Dimensional Stability       |
|                         | Good Electrical Properties       |
|                         | High Rigidity                    |
|                         | High Stiffness                   |
|                         | High Strength                    |
|                         | Low Moisture Absorption          |
| Uses                    | Machinable                       |
|                         | Aerospace Applications           |
|                         | Aircraft Applications            |
|                         | Aircraft Interiors               |
|                         | Appliances                       |
| Automotive Applications |                                  |

Bushings  
Connectors  
Electrical Parts  
Electrical/Electronic Applications  
Housings

|            |                        |
|------------|------------------------|
| Appearance | Light Grey             |
| Forms      | Preformed Parts<br>Rod |

| Physical                                                | Nominal Value | Unit              | Test Method |
|---------------------------------------------------------|---------------|-------------------|-------------|
| Specific Gravity                                        | 1.28          | g/cm <sup>3</sup> | ASTM D792   |
| Water Absorption (24 hr)                                | 0.060         | %                 | ASTM D570   |
| Hardness                                                | Nominal Value | Unit              | Test Method |
| Rockwell Hardness (L-Scale)                             | 108           |                   | ASTM D785   |
| Mechanical                                              | Nominal Value | Unit              | Test Method |
| Tensile Strength (Yield)                                | 103           | MPa               | ASTM D638   |
| Tensile Elongation (Break)                              | 5.0           | %                 | ASTM D638   |
| Flexural Modulus                                        | 7170          | MPa               | ASTM D790   |
| Flexural Strength                                       | 162           | MPa               | ASTM D790   |
| Impact                                                  | Nominal Value | Unit              | Test Method |
| Notched Izod Impact                                     | 120           | J/m               | ASTM D256   |
| Thermal                                                 | Nominal Value | Unit              | Test Method |
| Deflection Temperature Under Load (1.8 MPa, Unannealed) | 138           | °C                | ASTM D648   |
| Continuous Use Temperature                              | 110           | °C                | UL 746      |
| Peak Melting Temperature                                | 254           | °C                | ASTM D3418  |
| CLTE - Flow                                             | 2.5E-5        | cm/cm/°C          | ASTM D696   |
| Electrical                                              | Nominal Value | Unit              | Test Method |
| Volume Resistivity                                      | > 1.0E+16     | ohms · cm         | ASTM D257   |
| Dielectric Strength <sup>1</sup>                        | 22            | kV/mm             | ASTM D149   |
| Dielectric Constant (60 Hz)                             | 2.93          |                   | ASTM D150   |
| Dissipation Factor (60 Hz)                              | 9.0E-4        |                   | ASTM D150   |
| Flammability                                            | Nominal Value | Unit              | Test Method |
| Flame Rating                                            | HB            |                   | UL 94       |

| NOTE |  |  |  |
|------|--|--|--|
|------|--|--|--|

1. Method A (Short-Time)

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