



## UNINOR<sup>®</sup> PPO (Noryl<sup>®</sup>)

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. Nytef 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

Nytef Plastics, Ltd. is dedicated to supplying our customers with the highest quality thermoplastic stock shapes for machining. We manufacture and stock a full line of thermoplastic materials in a wide variety of rod, plate and tubular bar sizes. In addition, we offer over 35 years of experience in the custom extrusion of application-specific and proprietary resins to meet even the most demanding performance requirements. Nytef Plastics offers full technical support for all products and is certified to ISO 9002 standards for the manufacture of extruded plastics stock shapes.



## UNINOR® POLYVINYLIDENE OXIDE AND STYRENE

Property	Test Method	Units	UNINOR® PPO Modified Polyphenylene Oxide	UNINOR® Rg-30 30% Glass Fiber Reinforced PPO
<b>Mechanical</b>				
Specific Gravity	ASTM-D792	—	1.08	1.28
Tensile Strength	ASTM-D638	psi	9,200	15,000
Tensile Elongation	ASTM-D638	%	25	5
Tensile Modulus of Elasticity	ASTM-D638	psi	370,000	
Flexural Strength	ASTM-D790	psi	14,400	23,500
Flexural Modulus of Elasticity	ASTM-D790	psi	370,000	1,040,000
Izod Notched Impact	ASTM-D256	ft.-lbs./in.	3.5	2.2
Rockwell Hardness	ASTM-D785	R or L scale	R119	L108
<b>Thermal</b>				
Coef. of Linear Thermal Expansion	ASTM-D696	in./in./°F	3.3 x 10 <sup>-5</sup>	1.4 x 10 <sup>-5</sup>
Max. Continuous Use Temp.	Nytec std.	°F	230	230
Heat Deflection Temp. @ 264 psi	ASTM-D648	°F	254	280
Melting Point	ASTM-D789	°F	490	490
<b>Electrical</b>				
Dielectric Strength – Short Term	ASTM-D149	volts/mil	500	550
Dielectric Constant @ 60 Hz	ASTM-D150		2.7	2.93
Dissipation Factor @ 60 Hz	ASTM-D150		0.0007	0.0009
Volume Resistivity	ASTM-D257	ohm-cm	> 10 <sup>15</sup>	> 10 <sup>16</sup>
<b>Miscellaneous</b>				
Water Absorption/24 hrs.	ASTM-D570	% weight	0.07	0.06
Flammability	UL 94		V-0 (0.24")	HB
Color			Black	Gray

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