

Hybrid Plastics®

Superior Technology for Superior Products

Nanoreinforced® Polyphenylene Oxide (PPE)

Before the development of POSS® Flow technology, injection molding grades of pure PPE were not available because the high melt viscosity of PPE made molding very difficult or impossible. PPE available on the market today is typically mixed with polystyrene or other polymers to make it processable. However, these resins degrade the excellent mechanical and flammability properties of PPE. POSS® Flow incorporated into pure PPE resin dramatically decreases melt viscosity, making injection molding possible. Because no polymer diluents are used, the properties of PPE are retained. This resin is transparent, low density, has an exceptionally high heat distortion temperature, and very low flammability. This resin is a lower cost alternative to high temperature polymers such as PEEK and PPSU.

	Nanoreinforced® PPE	Typical PPE
Modulus	2.4 GPa	2.4 GPa
Tensile Strength	75 MPa	43 MPa
HDT	175 °C	113 °C
Transparent	Yes	No

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PHYSICAL PROPERTIES

Product name:	Nanoreinforced® Polyphenylene Oxide
Product number:	PO6C81.01
Color:	Transparent, light amber color
Density:	1.09 g/cm ³
Melt flow index: (300 °C / 5 kg)	12.5 g/10 min
Modulus @ 40 °C:	2.4 GPa
Modulus @ 175 °C:	1.85 GPa
Stress @ yield:	75 MPa
Elongation @ yield:	6%
Elongation @ break:	14%
Glass Transition:	210 °C
Flammability @ 3.2mm:	V-0

RECOMMENDED PROCESSING CONDITIONS

Drying:	150 °C / 4 hrs
Rear barrel temperature:	250 – 270 °C
Middle barrel temperature:	260 – 300 °C
Front barrel temperature:	300 – 350 °C
Nozzle temperature:	300 – 350 °C
Mold temperature:	150 – 200 °C

WARRANTY

The information contained herein is believed to be accurate and reliable. However, the user is responsible for determining the suitability and use of the final formulations/products. Hybrid Plastics® warrants that its products will meet specifications, but not merchantability or fitness for use.