

## Ascend Performance Materials Vydyne® R220 Nylon 66, 40% mineral reinforced, Conditioned

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 40% Mineral Filled

### Material Notes:

Vydyne® R220 is a 40% mineral-reinforced PA66 resin formulated for improved impact strength. Available in natural, it is an injection-molding grade formulated to retain the inherent processing advantages of unreinforced PA66 while enhancing rigidity, strength and heat resistance. Vydyne R220 maintains the chemical resistance typical of PA66 to a wide variety of chemicals, gasoline, oils, greases and solvents. Vydyne R220 resin utilizes a unique mineral-reinforced PA66 system developed by Ascend Performance Materials to satisfy the market need for a high-rigidity thermoplastic as an alternative to certain metals. This mineral system provides two key features (1) isotropic behavior-property development in molded parts is usually independent of flow direction. (2) a reduction in the tendency to develop sink marks in heavy cross sections such as molded-in bosses and ribs. While not sink-free, parts made from Vydyne R220 can often permit boss and rib design or wall cross section changes that would not be tolerable in other unreinforced thermoplastic materials. Thus Vydyne R220 resin offers more uniform molded part strength and performance, as well as wider latitude in part design. Vydyne R220 resin is a workhorse of Ascend Performance Materials' full line of mineral-reinforced PA66, providing the best overall balance of properties. Vydyne R220 is heat stabilized and designed to provide increased ductility and reduced melt viscosity vs. unreinforced materials. This ductility improvement results in tougher, more impact-resistant molded parts. The reduction in melt viscosity enhances overall ease of injection-molding, resulting in minor reductions in tensile strength, modulus and heat distortion temperature. Parts manufactured from Vydyne R220 have successfully withstood paint bake oven cycles without significant loss of either dimensional stability or part properties. Availability: Asia Pacific Europe North America Filler/Reinforcement: Mineral, 40% Filler by Weight Additive: Heat Stabilizer Features: Ductile Gasoline Resistance Good Chemical Resistance Good Impact Resistance Good Strength Good Toughness Grease Resistant Heat Stabilized High Heat Resistance High Rigidity Oil Resistant Solvent Resistant Uses: Automotive Exterior Parts Automotive Under the Hood Cams Gears Housings Industrial Applications Power/Other Tools Appearance: Natural Color Forms: Pellets Processing Method: Injection Molding Information provided by Ascend

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Ascend-Performance-Materials-Vydyne-R220-Nylon-66-40-mineral-reinforced-Conditioned.php](http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyne-R220-Nylon-66-40-mineral-reinforced-Conditioned.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.48 g/cc	1.48 g/cc	ISO 1183
Water Absorption	1.1 %	1.1 %	24 hrs; ISO 62
Moisture Absorption at Equilibrium	1.6 %	1.6 %	Equilibrium at 50%rh; ISO 62
Linear Mold Shrinkage	0.010 cm/cm @Thickness 2.00 mm	0.010 in/in @Thickness 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.011 cm/cm @Thickness 2.00 mm	0.011 in/in @Thickness 0.0787 in	ISO 294-4

Mechanical Properties	Metric	English	Comments
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Tensile Strength Yield Mechanical Properties	73.0 MPa Metric	10600 psi English	ISO 527 Comments
Elongation at Break	30 %	30 %	ISO 527
Elongation at Yield	16 %	16 %	ISO 527
Tensile Modulus	2.60 GPa	377 ksi	ISO 527
Flexural Strength	50.0 MPa	7250 psi	ISO 178
Flexural Modulus	2.30 GPa	334 ksi	ISO 178
Izod Impact, Notched (ISO)	0.700 kJ/m <sup>2</sup> @Temperature -30.0 °C	0.333 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 180
	1.60 kJ/m <sup>2</sup> @Temperature 23.0 °C	0.761 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 180
Charpy Impact Unnotched	13.0 J/cm <sup>2</sup> @Temperature -30.0 °C	61.9 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179
Charpy Impact, Notched	0.800 J/cm <sup>2</sup> @Temperature -30.0 °C	3.81 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	ISO 179
	1.70 J/cm <sup>2</sup> @Temperature 23.0 °C	8.09 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	ISO 179

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