

Ascend Performance Materials Vydyne® 21SPC Nylon 66, Conditioned

Category : Polymer , Thermoplastic , Nylon , Nylon 66

Material Notes:

Vydyne® 21SPC is a general-purpose PA66 resin available in natural color. It is designed principally for injection-molding fabrication. This resin offers a well balanced combination of engineering properties characterized by high strength; rigidity; good toughness, high melt point, good surface lubricity; abrasion resistance and resistance to many chemical, machine and motor oils, solvents and gasoline. Vydyne 21SPC permits production of molded parts with good initial color plus good property and color retention when using regrind. This resin is recognized by Underwriters Laboratories and conforms to the requirements of many industrial, federal and military specifications for premium-quality, general-purpose PA66 resins. Internally and externally lubricated for improved machine feed and exceptional mold release. Vydyne 21SPC is intended for use in high-productivity applications. In many applications, the molding cycle can be reduced because parts may be removed from the cavity at higher temperatures. In difficult molds where parts have a tendency to stick in the cavity. Vydyne 21SPC can reduce or eliminate the need for mold release sprays. Critical molded-part dimensions should be checked against specifications before implementing shorter molding cycles on a routine production basis. Typical Applications/End Uses: Vydyne 21 SPC has been used in many molding applications such as terminal blocks bearings, bushings, cams, electrical connectors and housings, electrical cable ties/tie straps and many other hardware and general industrial parts. Availability: Asia Pacific Europe North America Additive: Lubricant Features: Fast Molding Cycle Gasoline Resistance General Purpose Good Abrasion Resistance Good Chemical Resistance Good Mold Release Good Toughness High Rigidity High Strength Lubricated Oil Resistant Solvent Resistant Uses: Bearings Bushings Cams Connectors Housings Industrial Applications Appearance: Natural Color Forms: Pellets Processing Method: Injection Molding Information provided by Ascend

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	1.14 g/cc	ISO 1183
Water Absorption	1.2 %	1.2 %	24 hrs; ISO 62
Moisture Absorption at Equilibrium	2.4 %	2.4 %	Equilibrium at 50%rh; ISO 62
Linear Mold Shrinkage	0.018 cm/cm @Thickness 2.00 mm	0.018 in/in @Thickness 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.017 cm/cm @Thickness 2.00 mm	0.017 in/in @Thickness 0.0787 in	ISO 294-4
Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	45.0 MPa	6530 psi	ISO 527-2
Tensile Strength, Yield	55.0 MPa	7980 psi	ISO 527-2
Elongation at Break	>= 50 %	>= 50 %	ISO 527-2

Mechanical Properties	Metric	English	Comments
Tensile Modulus	1.40 GPa	203 ksi	ISO 527-2
Flexural Strength	50.0 MPa	7250 psi	ISO 178
Flexural Modulus	1.50 GPa	218 ksi	ISO 178
Izod Impact, Notched (ISO)	7.00 kJ/m ² @Temperature -30.0 °C	3.33 ft-lb/in ² @Temperature -22.0 °F	ISO 180
	20.0 kJ/m ² @Temperature 23.0 °C	9.52 ft-lb/in ² @Temperature 73.4 °F	ISO 180
Charpy Impact Unnotched	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	ISO 179/1eU
	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179/1eA
Charpy Impact, Notched	0.700 J/cm ² @Temperature -30.0 °C	3.33 ft-lb/in ² @Temperature -22.0 °F	ISO 179/1eA
	2.00 J/cm ² @Temperature 23.0 °C	9.52 ft-lb/in ² @Temperature 73.4 °F	ISO 179/1eA