

## Ascend Performance Materials Vydyn® R633 Nylon 66 Copolymer, 33% Glass Filled, Dry as Molded

Category : Polymer , Thermoplastic , Nylon , Nylon 66 , Nylon 66, 30% Glass Fiber Filled

### Material Notes:

Vydyn® R633 is 33% glass-fiber reinforced, PA66/6 copolymer resin for superior surface appearance. Available in natural, this injection-molding grade resin is lubricated for machine feed and mold release. Vydyn R633 has tensile strength and modulus properties just below aluminum and zinc and can replace these metals in numerous applications due to an excellent balance of properties. Reduction in production costs, energy/consumption, and part weight are key advantages of Vydyn glass-reinforced PA66/6 resins over aluminum and/or zinc die-cast parts. Typical Applications/End Uses: Vydyn R633 has been used for many under-the-hood automotive applications, motor housings for power tools, and garden appliances. These resins have also been used in miscellaneous brackets, gears and clips that require high rigidity and strength. Availability: Asia Pacific Europe North America Additive: Lubricant Features: Copolymer Good Mold Release Good Surface Finish High Rigidity High Strength High Tensile Strength Lubricated Uses: Gears Housings Lawn and Garden Equipment Metal Replacement Power/Other Tools Appearance: Natural Color Forms: Pellets Processing Method: Injection Molding

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Ascend-Performance-Materials-Vydyn-R633-Nylon-66-Copolymer-33-Glass-Filled-Dry-as-Molded.php](http://www.lookpolymers.com/polymer_Ascend-Performance-Materials-Vydyn-R633-Nylon-66-Copolymer-33-Glass-Filled-Dry-as-Molded.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.39 g/cc	1.39 g/cc	ISO 1183
Water Absorption	1.3 % @Time 86400 sec	1.3 % @Time 24.0 hour	ISO 62
Moisture Absorption at Equilibrium	2.3 %	2.3 %	50% RH; ISO 62
Linear Mold Shrinkage	0.0040 cm/cm @Thickness 2.00 mm	0.0040 in/in @Thickness 0.0787 in	ISO 294-4
Linear Mold Shrinkage, Transverse	0.0090 cm/cm @Thickness 2.00 mm	0.0090 in/in @Thickness 0.0787 in	ISO 294-4

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	184 MPa	26700 psi	ISO 527-2
Elongation at Break	4.0 %	4.0 %	ISO 527-2
Tensile Modulus	10.8 GPa	1570 ksi	ISO 527-2
Flexural Strength	255 MPa	37000 psi	ISO 178
Flexural Modulus	8.80 GPa	1280 ksi	ISO 178
Poissons Ratio	0.42	0.42	ISO 527-2

Impact Notched (ISO) Mechanical Properties	Metric	English	ISO 180 Comments
	12.0 kJ/m <sup>2</sup>	5.71 ft-lb/in <sup>2</sup>	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact Unnotched	4.40 J/cm <sup>2</sup>	20.9 ft-lb/in <sup>2</sup>	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	5.10 J/cm <sup>2</sup>	24.3 ft-lb/in <sup>2</sup>	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	1.10 J/cm <sup>2</sup>	5.24 ft-lb/in <sup>2</sup>	ISO 179
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	1.20 J/cm <sup>2</sup>	5.71 ft-lb/in <sup>2</sup>	ISO 179
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear	1.50 µm/m-°C	0.833 µin/in-°F	ISO 11359-2
	@Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	@Thickness 0.0787 in, Temperature 73.4 - 131 °F	
CTE, linear, Transverse to Flow	10.0 µm/m-°C	5.56 µin/in-°F	ISO 11359-2
	@Thickness 2.00 mm, Temperature 23.0 - 55.0 °C	@Thickness 0.0787 in, Temperature 73.4 - 131 °F	
Melting Point	233 °C	451 °F	ISO 11357-3
Deflection Temperature at 0.46 MPa (66 psi)	230 °C	446 °F	ISO 75-2/B
Deflection Temperature at 1.8 MPa (264 psi)	220 °C	428 °F	ISO 75-2/A
UL RTI, Mechanical with Impact	65.0 °C	149 °F	UL 746B
	@Thickness 3.00 mm	@Thickness 0.118 in	

Processing Properties	Metric	English	Comments
Processing Temperature	285 - 305 °C	545 - 581 °F	Melt
Rear Barrel Temperature	280 - 310 °C	536 - 590 °F	
Middle Barrel Temperature	280 - 310 °C	536 - 590 °F	
Front Barrel Temperature	280 - 310 °C	536 - 590 °F	
Nozzle Temperature	280 - 310 °C	536 - 590 °F	

Processing Properties	Metric	English	Comments
Mold Temperature	85.0 - 95.0 °C	145 - 203 °F	
Drying Temperature	80.0 °C	176 °F	
Dry Time	4.00 hour	4.00 hour	

Descriptive Properties	Value	Comments
Suggested Max Regrind	25%	

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