

**Product Texts**

Vydyne R533 NAT is a general purpose, 33% glass-filled, high viscosity PA66 based resin designed for injection molding applications. R533 NAT offers standard flow with a natural surface finish and maintains the excellent resistance typical of PA66 in chemicals, machine and motor oils, solvents, and gasoline.

Processing/Physical Characteristics	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Molding shrinkage, parallel	0.4 / *	%	ISO 294-4, 2577
<sup>[C]</sup> Molding shrinkage, normal	0.9 / *	%	ISO 294-4, 2577

[C]: CAMPUS

Mechanical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	10600 / 7900	MPa	ISO 527
<sup>[C]</sup> Stress at break	205 / 145	MPa	ISO 527
<sup>[C]</sup> Strain at break	3 / 5	%	ISO 527
Flexural modulus, 23°C	10200 / 6500	MPa	ISO 178
Flexural strength	290 / 200	MPa	ISO 178
<sup>[C]</sup> Charpy impact strength, +23°C	86 / 100	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	71 / 77	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	13 / 17	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	11 / 11	kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, +23°C	12 / 14	kJ/m <sup>2</sup>	ISO 180/1A
Izod notched impact strength	10 / 12	kJ/m <sup>2</sup>	ISO 180/1A
Temperature	-30	°C	-

[C]: CAMPUS

Thermal properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Melting temperature, 10°C/min	260 / *	°C	ISO 11357-1/-3
<sup>[C]</sup> Temp. of deflection under load, 1.80 MPa	250 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	260 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, parallel	21 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Coeff. of linear therm. expansion, normal	106 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	-
<sup>[C]</sup> Burning Behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.8 / *	mm	-
Glow Wire Flammability Index (GWFI)	750	°C	IEC 60695-2-12
GWFI - thickness tested (1)	0.75	mm	-
Glow Wire Flammability Index (GWFI)	725	°C	IEC 60695-2-12
GWFI - thickness tested (2)	1.5	mm	-
Glow Wire Flammability Index (GWFI)	800	°C	IEC 60695-2-12
GWFI - thickness tested (3)	3	mm	-
Glow Wire Ignition Temperature (GWIT)	775	°C	IEC 60695-2-13
GWIT - thickness tested (1)	0.75	mm	-
Glow Wire Ignition Temperature (GWIT)	725	°C	IEC 60695-2-13
GWIT - thickness tested (2)	1.5	mm	-
Glow Wire Ignition Temperature (GWIT)	750	°C	IEC 60695-2-13
GWIT - thickness tested (3)	3	mm	-

**ASTM Data**

UL 94 Flame rating	HB	-	UL 94
Thickness tested	0.75	mm	-

[C]: CAMPUS

Electrical properties	dry / cond	Unit	Test Standard
<b>ISO Data</b>			
<sup>[C]</sup> Volume resistivity	1E12 / -	Ohm*m	IEC 62631-3-1
<sup>[C]</sup> Electric strength	20 / -	kV/mm	IEC 60243-1

[C] Comparative tracking index	<b>600 / -</b>	-	IEC 60112
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**ASTM Data**

Arc Resistance	<b>150 / -</b>	s	ASTM D 495
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[C]: CAMPUS

<b>Other properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
[C] Water absorption	<b>0.8 / *</b>	%	Sim. to ISO 62
[C] Humidity absorption	<b>1.7 / *</b>	%	Sim. to ISO 62
[C] Density	<b>1400 / -</b>	kg/m <sup>3</sup>	ISO 1183

[C]: CAMPUS

<b>Processing Recommendation Injection Molding</b>	<b>Value</b>	<b>Unit</b>	<b>Test Standard</b>
Pre-drying - Temperature	<b>80</b>	°C	-
Pre-drying - Time	<b>4</b>	h	-
Melt temperature	<b>285 - 305</b>	°C	-
Mold temperature	<b>65 - 95</b>	°C	-
Zone 1	<b>280 - 310</b>	°C	-
Zone 2	<b>280 - 310</b>	°C	-
Zone 3	<b>280 - 310</b>	°C	-
Nozzle temperature	<b>280 - 310</b>	°C	-

**Characteristics**

**Processing**

Injection Molding

**Delivery form**

Pellets, Natural Color

**Additives**

Lubricants, Release agent

**Special Characteristics**

Heat stabilized or stable to heat

**Chemical Resistance**

General Chemical Resistance, Solvent Resistance, Oil Resistance

**Certifications**

Food contact, Food approval 10/2011, Food approval FDA 21 CFR, Drinking water contact, Drinking water contact NSF 61

**Applications**

Automotive, Electrical and Electronical, General Purpose

**Regional Availability**

North America, Europe, Asia Pacific