

**Product Texts**

Vydyne 22HSP NT is a general-purpose, unfilled, lubricated, heat stabilized PA66 resin. Designed principally for injection-molding fabrication, this product offers a combination of engineering properties characterized by high strength; rigidity; good toughness; high melt point; good surface lubricity; abrasion resistance; and resistance to many chemicals, machine and motor oils, solvents and gasoline. This product is designed to resist thermal degradation when exposed to warm climates.

<b>Processing/Physical Characteristics</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
<b>ISO Data</b>			
Molding shrinkage, parallel	2.2 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	2.0 / *	%	ISO 294-4, 2577

<b>Mechanical properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
<b>ISO Data</b>			
<sup>[C]</sup> Tensile Modulus	2900 / 1700	MPa	ISO 527
Yield stress	85 / 55	MPa	ISO 527
Yield strain	5 / 20	%	ISO 527
Stress at break	55 / 40	MPa	ISO 527
Strain at break	25 / >50	%	ISO 527
Flexural modulus, 23°C	2900 / 1000	MPa	ISO 178
Flexural strength	95 / 30	MPa	ISO 178
<sup>[C]</sup> Charpy impact strength, +23°C	N / N	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy impact strength, -30°C	N / N	kJ/m <sup>2</sup>	ISO 179/1eU
<sup>[C]</sup> Charpy notched impact strength, +23°C	3.7 / 8.6	kJ/m <sup>2</sup>	ISO 179/1eA
<sup>[C]</sup> Charpy notched impact strength, -30°C	3.4 / 3	kJ/m <sup>2</sup>	ISO 179/1eA
Izod notched impact strength, +23°C	6 / 20	kJ/m <sup>2</sup>	ISO 180/1A
Izod notched impact strength	5 / 7	kJ/m <sup>2</sup>	ISO 180/1A
Temperature	-30	°C	-

[C]: CAMPUS

<b>Thermal properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
<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	67 / *	°C	ISO 75-1/-2
<sup>[C]</sup> Temp. of deflection under load, 0.45 MPa	179 / *	°C	ISO 75-1/-2
Coeff. of linear therm. expansion, parallel	100 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	100 / *	E-6/K	ISO 11359-1/-2
<sup>[C]</sup> Burning Behav. at 1.5 mm nom. thickn.	V-2 / *	class	IEC 60695-11-10
Thickness tested	1.5 / *	mm	-
<sup>[C]</sup> Burning Behav. at thickness h	V-2 / *	class	IEC 60695-11-10
Thickness tested	0.7 / *	mm	-
<sup>[C]</sup> Oxygen index	24 / *	%	ISO 4589-1/-2
Glow Wire Flammability Index (GWFI)	825	°C	IEC 60695-2-12
GWFI - thickness tested (1)	0.71	mm	-
Glow Wire Flammability Index (GWFI)	825	°C	IEC 60695-2-12
GWFI - thickness tested (2)	1.5	mm	-
Glow Wire Flammability Index (GWFI)	960	°C	IEC 60695-2-12
GWFI - thickness tested (3)	3	mm	-
Glow Wire Ignition Temperature (GWIT)	700	°C	IEC 60695-2-13
GWIT - thickness tested (1)	0.71	mm	-
Glow Wire Ignition Temperature (GWIT)	700	°C	IEC 60695-2-13
GWIT - thickness tested (2)	1.5	mm	-
Glow Wire Ignition Temperature (GWIT)	700	°C	IEC 60695-2-13
GWIT - thickness tested (3)	3	mm	-
<b>ASTM Data</b>			
UL 94 Flame rating	V-2	-	UL 94
Thickness tested	0.71	mm	-

[C]: CAMPUS

<b>Electrical properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
<b>ISO Data</b>			
Volume resistivity	<b>1E16 / -</b>	Ohm*m	IEC 62631-3-1
<sup>[C]</sup> Electric strength	<b>29 / -</b>	kV/mm	IEC 60243-1
<sup>[C]</sup> Comparative tracking index	<b>500 / -</b>	-	IEC 60112
<b>ASTM Data</b>			
Arc Resistance	<b>90 / -</b>	s	ASTM D 495

[C]: CAMPUS

<b>Other properties</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
Water absorption	<b>2.4 / *</b>	%	Sim. to ISO 62
<sup>[C]</sup> Density	<b>1140 / -</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>70</b>	°C	-
Pre-drying - Time	<b>1 - 3</b>	h	-
Melt temperature	<b>285 - 300</b>	°C	-
Mold temperature	<b>65 - 95</b>	°C	-
Zone 1	<b>260 - 280</b>	°C	-
Zone 2	<b>270 - 285</b>	°C	-
Zone 3	<b>280 - 290</b>	°C	-
Nozzle temperature	<b>280 - 300</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 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