

# Product Comparison

## Technical Data

Product Description	
VAMPAMID 66 2530 V0 P60	PA66 resin 25% glass fiber reinforced, flame retarded with red phosphorus for injection moulding
Generic Nylon 66 - Glass Fiber	This data represents typical values that have been calculated from all products classified as: Generic Nylon 66 - Glass Fiber
	This information is provided for comparative purposes only.

General	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)
Manufacturer / Supplier	• Vamp Tech	• Generic	• Underwriters Laboratories Inc.	• Underwriters Laboratories Inc.
Generic Symbol	• Nylon 66	• Nylon 66	• Unspecified	• Unspecified
Material Status	• Commercial: Active	• Commercial: Active	• Commercial: Active	• Commercial: Active
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America	• North America	• North America
Filler / Reinforcement	• Glass Fiber, 25% Filler by Weight	• Glass Fiber	--	--
Features	• Flame Retardant	--	--	--
Processing Method	• Injection Molding	--	--	--
Also Available In	--	• Asia Pacific • Europe • Latin America • North America	--	--

Physical	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	Test Method
Density / Specific Gravity						
--	--	1.18 to 1.58	--	--	g/cm <sup>3</sup>	ASTM D792
--	1.34	1.19 to 1.58	--	--	g/cm <sup>3</sup>	ISO 1183
--	--	1360	--	--	kg/m <sup>3</sup>	ISO 1183 <sup>2</sup>
Apparent (Bulk) Density	--	0.70 to 0.71	--	--	g/cm <sup>3</sup>	ISO 60
Melt Mass-Flow Rate (MFR)						
275°C/2.16 kg	--	6.0 to 31	--	--	g/10 min	ASTM D1238
275°C/0.325 kg	--	1.0 to 3.1	--	--	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (275°C/5.0 kg)	--	10 to 51	--	--	cm <sup>3</sup> /10min	ISO 1133



Physical	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	Test Method
Spiral Flow	--	7.30 to 52.0	--	--	cm	
Molding Shrinkage						
Flow	0.60	0.10 to 6.4	--	--	%	ASTM D955
Across Flow	1.0	0.35 to 2.0	--	--	%	ASTM D955
--	--	3.0E-3 to 1.2	--	--	%	ISO 294-4
Water Absorption						
24 hr	--	0.23 to 1.0	--	--	%	ASTM D570
24 hr, 23°C	0.90	--	--	--	%	ASTM D570
24 hr, 23°C	--	0.23 to 1.1	--	--	%	ISO 62
Saturation	--	0.010 to 6.1	--	--	%	ASTM D570
Saturation, 23°C	--	3.9 to 7.1	--	--	%	ISO 62
Saturation	--	5.5	--	--	%	ISO 62 <sup>2</sup>
Equilibrium	--	0.79 to 2.2	--	--	%	ASTM D570
Equilibrium, 23°C, 50% RH	--	0.93 to 2.2	--	--	%	ISO 62
Equilibrium	--	1.6	--	--	%	ISO 62 <sup>2</sup>
K-Value	--	75.9 to 76.1	--	--		ISO 1628-2
Viscosity Number (Reduced Viscosity)	--	143.8 to 150.0	--	--	ml/g	ISO 1628
Viscosity Number						
--	--	128 to 151	--	--	cm <sup>3</sup> /g	ISO 307
--	--	143	--	--	cm <sup>3</sup> /g	ISO 307, 1157, 1628 <sup>2</sup>
Heat Stability	--	105 to 148	--	--	°C	
Outdoor Suitability	--	--	--	f2		UL 746C
Mechanical	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	Test Method
Tensile Modulus						
--	--	4270 to 14200	--	--	MPa	ASTM D638
--	8000	4720 to 11700	--	--	MPa	ISO 527-1
--	--	8160	--	--	MPa	ISO 527-2 <sup>2</sup>



Mechanical	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	Test Method
<b>Tensile Strength</b>						
Yield	--	81.0 to 205	--	--	MPa	ASTM D638
Yield	--	72.8 to 234	--	--	MPa	ISO 527-2
Break	--	79.2 to 221	--	--	MPa	ASTM D638
Break	115	69.5 to 246	--	--	MPa	ISO 527-2
Break	--	160	--	--	MPa	ISO 527-2 <sup>2</sup>
Ultimate	--	116 to 200	--	--	MPa	ASTM D638
--	--	82.1 to 231	--	--	MPa	ASTM D638
--	--	52.0 to 274	--	--	MPa	ISO 527-2
<b>Tensile Elongation</b>						
Yield	--	1.9 to 3.6	--	--	%	ASTM D638
Yield	--	1.8 to 3.6	--	--	%	ISO 527-2
Break	--	1.0 to 700	--	--	%	ASTM D638
Break	2.5	2.0 to 3.6	--	--	%	ISO 527-2
Break	--	2.5 to 3.1	--	--	%	ISO 527-2 <sup>2</sup>
<b>Flexural Modulus</b>						
--	--	3610 to 11800	--	--	MPa	ASTM D790
--	--	4030 to 11500	--	--	MPa	ISO 178
<b>Flexural Strength</b>						
--	--	112 to 307	--	--	MPa	ASTM D790
--	--	122 to 383	--	--	MPa	ISO 178
Yield	--	134 to 338	--	--	MPa	ASTM D790
Break	--	110 to 342	--	--	MPa	ASTM D790
<b>Compressive Strength</b>						
--	--	20.0 to 276	--	--	MPa	ASTM D695
--	--	43.0 to 265	--	--	MPa	ISO 604
Shear Strength	--	68.5 to 105	--	--	MPa	ASTM D732
Poisson's Ratio	--	0.34 to 0.40	--	--		ASTM E132
Coefficient of Friction	--	0.18 to 0.59	--	--		ASTM D1894
Wear Factor	--	0.0 to 150	--	--	10 <sup>-8</sup> mm <sup>3</sup> /N·m	ASTM D3702



Impact	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	Test Method
Charpy Notched Impact Strength						
--	--	5.7 to 15	--	--	kJ/m <sup>2</sup>	ISO 179
-30°C	--	6.60	--	--	kJ/m <sup>2</sup>	ISO 179/1eA <sup>2</sup>
23°C	--	7.89	--	--	kJ/m <sup>2</sup>	ISO 179/1eA <sup>2</sup>
Charpy Unnotched Impact Strength						
--	--	29 to 100	--	--	kJ/m <sup>2</sup>	ISO 179
-30°C	--	60.0	--	--	kJ/m <sup>2</sup>	ISO 179/1eU <sup>2</sup>
23°C	--	65.5	--	--	kJ/m <sup>2</sup>	ISO 179/1eU <sup>2</sup>
Notched Izod Impact						
--	--	36 to 170	--	--	J/m	ASTM D256
--	--	2.2 to 16	--	--	kJ/m <sup>2</sup>	ISO 180
--	8.0	--	--	--	kJ/m <sup>2</sup>	ISO 180/A
Notched Izod Impact (Area)	--	5.63 to 18.2	--	--	kJ/m <sup>2</sup>	ASTM D256
Unnotched Izod Impact						
--	--	340 to 1600	--	--	J/m	ASTM D4812
--	45	30 to 91	--	--	kJ/m <sup>2</sup>	ISO 180
Instrumented Dart Impact						
--	--	5.00 to 12.5	--	--	J	ASTM D3763
--	--	0.700 to 4.22	--	--	J	ISO 6603-2
Multi-Axial Instrumented Impact Peak Force	--	580 to 1110	--	--	N	ISO 6603-2
Tensile Impact Strength	--	11.3 to 33.3	--	--	kJ/m <sup>2</sup>	ASTM D1822
<b>Hardness</b>	<b>VAMPAMID 66 2530 V0 P60</b>	<b>Generic Nylon 66 - Glass Fiber</b>	<b>UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)</b>	<b>UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)</b>	<b>Unit</b>	<b>Test Method</b>
Rockwell Hardness						
--	--	114 to 125	--	--		ASTM D785
--	--	95 to 122	--	--		ISO 2039-2
Shore Hardness	--	78 to 81	--	--		ISO 868
Ball Indentation Hardness	--	178 to 330	--	--	MPa	ISO 2039-1



Thermal	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	Test Method
<b>Deflection Temperature Under Load</b>						
0.45 MPa, Unannealed	--	249 to 261	--	--	°C	ASTM D648
0.45 MPa, Unannealed	--	247 to 264	--	--	°C	ISO 75-2/B
0.45 MPa	--	250	--	--	°C	ISO 75-2 <sup>2</sup>
1.8 MPa, Unannealed	235	219 to 259	--	--	°C	ASTM D648
1.8 MPa, Unannealed	--	227 to 259	--	--	°C	ISO 75-2/A
1.8 MPa, Annealed	--	235 to 255	--	--	°C	ASTM D648
1.8 MPa	--	250	--	--	°C	ISO 75-2 <sup>2</sup>
8.0 MPa, Unannealed	--	70.0 to 236	--	--	°C	ISO 75-2/C
<b>Continuous Use Temperature</b>						
--	120	--	--	--	°C	
--	--	86.9 to 183	--	--	°C	ASTM D794
<b>Glass Transition Temperature</b>						
--	--	5.00 to 80.0	--	--	°C	ISO 11357-2
<b>Vicat Softening Temperature</b>						
--	--	229 to 261	--	--	°C	ASTM D1525
--	--	225 to 255	--	--	°C	ISO 306
<b>Melting Temperature</b>						
--	--	253 to 266	--	--	°C	
--	--	260 to 265	--	--	°C	DSC
--	--	260 to 264	--	--	°C	ISO 11357-3
--	--	253 to 260	--	--	°C	ASTM D3418
--	--	259 to 261	--	--	°C	ISO 3146
<b>CLTE</b>						
Flow	--	1.7E-5 to 7.9E-5	--	--	cm/cm/°C	ASTM D696
Flow	--	9.1E-6 to 4.3E-5	--	--	cm/cm/°C	ASTM E831
Flow	--	1.2E-5 to 4.2E-5	--	--	cm/cm/°C	ISO 11359-2
Transverse	--	1.0E-6 to 9.8E-5	--	--	cm/cm/°C	ASTM D696
Transverse	--	3.8E-5 to 7.9E-5	--	--	cm/cm/°C	ASTM E831
Transverse	--	5.7E-5 to 1.2E-4	--	--	cm/cm/°C	ISO 11359-2
<b>Specific Heat</b>						
--	--	1240 to 2000	--	--	J/kg/°C	ASTM C351
<b>Thermal Conductivity</b>						
--	--	0.19 to 0.57	--	--	W/m/K	ASTM C177
--	--	0.20 to 0.40	--	--	W/m/K	ISO 8302



Thermal	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	Test Method
RTI Elec						UL 746B
--	--	65.0 to 142	--	--	°C	
0.75 mm	--	--	--	120	°C	
0.8 mm	--	--	65.0	--	°C	
1.5 mm	--	--	65.0	120	°C	
3.0 mm	--	--	65.0	120	°C	
RTI Imp						UL 746B
--	--	65.0 to 131	--	--	°C	
0.75 mm	--	--	--	105	°C	
0.8 mm	--	--	65.0	--	°C	
1.5 mm	--	--	65.0	105	°C	
3.0 mm	--	--	65.0	115	°C	
RTI Str						UL 746B
--	--	65.0 to 142	--	--	°C	
0.75 mm	--	--	--	120	°C	
0.8 mm	--	--	65.0	--	°C	
1.5 mm	--	--	65.0	120	°C	
3.0 mm	--	--	65.0	130	°C	
Electrical	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	Test Method
Surface Resistivity						
--	--	10 to 2.5E+15	--	--	ohms	ASTM D257
--	--	20 to 2.5E+15	--	--	ohms	IEC 60093
--	--	1.0E+2 to 6.0E+15	--	--	ohms	IEC 62631-3-2
Volume Resistivity						
--	--	1.0E+2 to 2.5E+16	--	1.0E+13	ohms·cm	ASTM D257
--	--	10 to 7.5E+15	--	1.0E+13	ohms·cm	IEC 60093
--	--	1.0E+9 to 1.3E+15	--	--	ohms·m	IEC 62631-3-1
Dielectric Strength						
--	--	16 to 25	--	18	kV/mm	ASTM D149
--	--	18 to 48	--	--	kV/mm	IEC 60243-1



Electrical	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	Test Method
Dielectric Constant						
--	--	2.91 to 4.09	--	--		ASTM D150
--	--	3.47 to 4.11	--	--		IEC 60250
--	--	3.69	--	--		IEC 60250
--	--	3.75	--	--		IEC 62631-2-1
Dissipation Factor						
--	--	0.010 to 0.021	--	--		ASTM D150
--	--	6.8E-3 to 0.021	--	--		IEC 60250
--	--	9.0E-3 to 0.017	--	--		IEC 62631-2-1
1 MHz	--	0.018	--	--		IEC 60250 <sup>2</sup>
Arc Resistance	--	63.5 to 130	--	--	sec	ASTM D495
Arc Resistance	--	--	PLC 5	PLC 5		ASTM D495
Comparative Tracking Index (CTI)	--	540 to 600	--	--	V	UL 746A
Comparative Tracking Index (CTI)	--	--	PLC 0	PLC 1		UL 746A
Comparative Tracking Index						
--	600	400 to 600	--	--	V	IEC 60112
--	--	500	--	--		IEC 60112 <sup>2</sup>
High Amp Arc Ignition (HAI)						UL 746A
0.75 mm	--	--	--	PLC 0		
0.8 mm	--	--	PLC 0	--		
1.5 mm	--	--	PLC 0	PLC 0		
3.0 mm	--	--	PLC 0	PLC 0		
High Voltage Arc Tracking Rate (HVTR)	--	--	PLC 1	PLC 2		UL 746A
Hot-wire Ignition (HWI)						UL 746A
0.75 mm	--	--	--	PLC 2		
0.8 mm	--	--	PLC 1	--		
1.5 mm	--	--	PLC 1	PLC 1		
3.0 mm	--	--	PLC 0	PLC 1		
Flammability	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	Test Method
Burning Rate	--	0.0 to 100	--	--	mm/min	ISO 3795



Flammability	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	Test Method
Flame Rating						
0.8 mm, NC, BK	--	--	HB	--		UL 94
0.75 mm, NC, BK	--	--	--	V-0		UL 94 IEC 60695-11-10, -20
1.5 mm, NC, BK	--	--	V-0	V-0		UL 94 IEC 60695-11-10, -20
1.6 mm	V-0	--	--	--		UL 94
3.0 mm, NC, BK	--	--	V-0	V-0		UL 94 IEC 60695-11-10, -20
3.2 mm	V-0	--	--	--		UL 94
0.8 mm, NC, BK	--	--	HB75	--		IEC 60695-11-10, -20
Glow Wire Flammability Index						IEC 60695-2-12
--	--	649 to 960	--	--	°C	
1.0 to 2.0 mm	960	--	--	--	°C	
Glow Wire Ignition Temperature	--	650 to 961	--	--	°C	IEC 60695-2-13
Oxygen Index						
--	--	25 to 34	--	--	%	ASTM D2863
--	--	23 to 27	--	--	%	ISO 4589-2
Fill Analysis	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	
Melt Density	--	1.12 to 1.28	--	--	g/cm <sup>3</sup>	
Ejection Temperature	--	210	--	--	°C	
Injection	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit	
Drying Temperature	90	78 to 82	--	--	°C	
Drying Time	3.0	2.8 to 5.3	--	--	hr	
Drying Time, Maximum	--	8.0	--	--	hr	
Dew Point	--	-18	--	--	°C	
Suggested Max Moisture	--	2.0E-3 to 0.63	--	--	%	
Suggested Shot Size	--	50	--	--	%	
Suggested Max Regrind	--	25	--	--	%	
Hopper Temperature	--	70 to 75	--	--	°C	
Rear Temperature	--	264 to 289	--	--	°C	
Middle Temperature	--	268 to 295	--	--	°C	





Injection	VAMPAMID 66 2530 V0 P60	Generic Nylon 66 - Glass Fiber	UL Yellow Card VAMPAMID 66 2530 V0 P60(e)(f)	UL Yellow Card VAMPAMID 66 2530 V0 P(e)(f)(f2)	Unit
Front Temperature	--	269 to 300	--	--	°C
Nozzle Temperature	--	269 to 303	--	--	°C
Processing (Melt) Temp	275	267 to 297	--	--	°C
Melt Temperature (Optimum)	--	280	--	--	°C
Mold Temperature	90	70 to 103	--	--	°C
Injection Pressure	--	6.89 to 99.2	--	--	MPa
Holding Pressure	--	59.3 to 75.0	--	--	MPa
Back Pressure	--	0.147 to 1.77	--	--	MPa
Screw Speed	--	38 to 83	--	--	rpm
Cushion	--	4.66 to 9.53	--	--	mm
Vent Depth	--	0.019 to 0.057	--	--	mm

**Injection Notes**

Generic Nylon 66 - Glass Fiber This data represents typical values that have been calculated from all products classified as: Generic Nylon 66 - Glass Fiber  
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**Notes**

- <sup>1</sup> Typical properties: these are not to be construed as specifications.
- <sup>2</sup> Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

