

Product Comparison

Technical Data

| Product Description | |
|--------------------------------|---|
| VAMPAMID 66 3028 V0 | PA66 resin, 30% glass fiber reinforced, flame retarded halogen free 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 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) |
|-------------------------|--|--|--|
| Manufacturer / Supplier | <ul style="list-style-type: none"> Vamp Tech | <ul style="list-style-type: none"> Generic | <ul style="list-style-type: none"> Underwriters Laboratories Inc. |
| Generic Symbol | <ul style="list-style-type: none"> Nylon 66 | <ul style="list-style-type: none"> Nylon 66 | <ul style="list-style-type: none"> Unspecified |
| Material Status | <ul style="list-style-type: none"> Commercial: Active | <ul style="list-style-type: none"> Commercial: Active | <ul style="list-style-type: none"> Commercial: Active |
| Availability | <ul style="list-style-type: none"> Africa & Middle East Asia Pacific Europe Latin America North America | <ul style="list-style-type: none"> Africa & Middle East Asia Pacific Europe Latin America North America | <ul style="list-style-type: none"> North America |
| Filler / Reinforcement | <ul style="list-style-type: none"> Glass Fiber, 30% Filler by Weight | <ul style="list-style-type: none"> Glass Fiber | -- |
| Features | <ul style="list-style-type: none"> Flame Retardant Halogen Free | -- | -- |
| Processing Method | <ul style="list-style-type: none"> Injection Molding | -- | -- |
| Also Available In | -- | <ul style="list-style-type: none"> Asia Pacific Europe Latin America North America | -- |

| Physical | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | Unit | Test Method |
|--|---------------------|--------------------------------|--|------------------------|-----------------------|
| Density / Specific Gravity | -- | 1.18 to 1.58 | -- | g/cm ³ | ASTM D792 |
| | 1.43 | 1.19 to 1.58 | -- | g/cm ³ | ISO 1183 |
| | -- | 1360 | -- | kg/m ³ | ISO 1183 ² |
| Apparent (Bulk) Density | -- | 0.70 to 0.71 | -- | g/cm ³ | 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 ³ /10min | ISO 1133 |



| Physical | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | Unit | Test Method |
|--------------------------------------|------------------------|-----------------------------------|--|--------------------|----------------------------------|
| Spiral Flow | -- | 7.30 to 52.0 | -- | cm | |
| Molding Shrinkage | | | | | |
| Flow | 0.50 | 0.10 to 6.4 | -- | % | ASTM D955 |
| Across Flow | 0.90 | 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 ² |
| 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 ² |
| 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 ³ /g | ISO 307 |
| -- | -- | 143 | -- | cm ³ /g | ISO 307, 1157, 1628 ² |
| Heat Stability | -- | 105 to 148 | -- | °C | |
| Mechanical | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | Unit | Test Method |
| Tensile Modulus | | | | | |
| -- | -- | 4270 to 14200 | -- | MPa | ASTM D638 |
| -- | 10500 | 4720 to 11700 | -- | MPa | ISO 527-1 |
| -- | -- | 8160 | -- | MPa | ISO 527-2 ² |



| Mechanical | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | Unit | Test Method |
|--------------------------------|------------------------|-----------------------------------|--|---------------------------------------|------------------------|
| Tensile Strength | | | | | |
| 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 | 150 | 69.5 to 246 | -- | MPa | ISO 527-2 |
| Break | -- | 160 | -- | MPa | ISO 527-2 ² |
| Ultimate | -- | 116 to 200 | -- | MPa | ASTM D638 |
| -- | -- | 82.1 to 231 | -- | MPa | ASTM D638 |
| -- | -- | 52.0 to 274 | -- | MPa | ISO 527-2 |
| Tensile Elongation | | | | | |
| 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 ² |
| Flexural Modulus | | | | | |
| -- | -- | 3610 to 11800 | -- | MPa | ASTM D790 |
| -- | -- | 4030 to 11500 | -- | MPa | ISO 178 |
| Flexural Strength | | | | | |
| -- | -- | 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 |
| Compressive Strength | | | | | |
| -- | -- | 20.0 to 276 | -- | MPa | ASTM D695 |
| -- | -- | 43.0 to 265 | -- | MPa | ISO 604 |
| Shear Strength | | | | | |
| Shear Strength | -- | 68.5 to 105 | -- | MPa | ASTM D732 |
| Poisson's Ratio | | | | | |
| Poisson's Ratio | -- | 0.34 to 0.40 | -- | | ASTM E132 |
| Coefficient of Friction | | | | | |
| Coefficient of Friction | -- | 0.18 to 0.59 | -- | | ASTM D1894 |
| Wear Factor | | | | | |
| Wear Factor | -- | 0.0 to 150 | -- | 10 ⁻⁸ mm ³ /N·m | ASTM D3702 |



| Impact | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | Unit | Test Method |
|--|----------------------------|---------------------------------------|---|-------------------|--------------------------|
| Charpy Notched Impact Strength | | | | | |
| -- | -- | 5.7 to 15 | -- | kJ/m ² | ISO 179 |
| -30°C | -- | 6.60 | -- | kJ/m ² | ISO 179/1eA ² |
| 23°C | -- | 7.89 | -- | kJ/m ² | ISO 179/1eA ² |
| Charpy Unnotched Impact Strength | | | | | |
| -- | -- | 29 to 100 | -- | kJ/m ² | ISO 179 |
| -30°C | -- | 60.0 | -- | kJ/m ² | ISO 179/1eU ² |
| 23°C | -- | 65.5 | -- | kJ/m ² | ISO 179/1eU ² |
| Notched Izod Impact | | | | | |
| -- | -- | 36 to 170 | -- | J/m | ASTM D256 |
| -- | -- | 2.2 to 16 | -- | kJ/m ² | ISO 180 |
| -- | 8.0 | -- | -- | kJ/m ² | ISO 180/A |
| Notched Izod Impact (Area) | -- | 5.63 to 18.2 | -- | kJ/m ² | ASTM D256 |
| Unnotched Izod Impact | | | | | |
| -- | -- | 340 to 1600 | -- | J/m | ASTM D4812 |
| -- | 50 | 30 to 91 | -- | kJ/m ² | 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 ² | ASTM D1822 |
| Hardness | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | Unit | Test Method |
| 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 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | Unit | Test Method |
|-----------------------------------|------------------------|-----------------------------------|--|----------|-------------------------|
| Deflection Temperature Under Load | | | | | |
| 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 ² |
| 1.8 MPa, Unannealed | 245 | 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 ² |
| 8.0 MPa, Unannealed | -- | 70.0 to 236 | -- | °C | ISO 75-2/C |
| Continuous Use Temperature | -- | 86.9 to 183 | -- | °C | ASTM D794 |
| Glass Transition Temperature | -- | 5.00 to 80.0 | -- | °C | ISO 11357-2 |
| Vicat Softening Temperature | | | | | |
| -- | -- | 229 to 261 | -- | °C | ASTM D1525 |
| -- | 240 | -- | -- | °C | ASTM D1525 ³ |
| -- | -- | 225 to 255 | -- | °C | ISO 306 |
| Melting Temperature | | | | | |
| -- | -- | 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 |
| CLTE | | | | | |
| 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 |
| Specific Heat | -- | 1240 to 2000 | -- | J/kg/°C | ASTM C351 |
| Thermal Conductivity | | | | | |
| -- | -- | 0.19 to 0.57 | -- | W/m/K | ASTM C177 |
| -- | -- | 0.20 to 0.40 | -- | W/m/K | ISO 8302 |



| Thermal | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | Unit | Test Method |
|---------------------|------------------------|-----------------------------------|--|---------|---------------|
| RTI Elec | | | | | UL 746B |
| -- | 140 | 65.0 to 142 | -- | °C | |
| 0.25 mm | -- | -- | 65.0 | °C | |
| 0.40 mm | -- | -- | 140 | °C | |
| 0.8 mm | -- | -- | 140 | °C | |
| 3.0 mm | -- | -- | 140 | °C | |
| RTI Imp | | | | | UL 746B |
| -- | 105 | 65.0 to 131 | -- | °C | |
| 0.25 mm | -- | -- | 65.0 | °C | |
| 0.40 mm | -- | -- | 65.0 | °C | |
| 0.8 mm | -- | -- | 105 | °C | |
| 3.0 mm | -- | -- | 105 | °C | |
| RTI Str | | | | | UL 746B |
| -- | 110 | 65.0 to 142 | -- | °C | |
| 0.25 mm | -- | -- | 65.0 | °C | |
| 0.40 mm | -- | -- | 65.0 | °C | |
| 0.8 mm | -- | -- | 110 | °C | |
| 3.0 mm | -- | -- | 110 | °C | |
| Electrical | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | 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 | -- | ohms·cm | ASTM D257 |
| -- | -- | 10 to 7.5E+15 | -- | ohms·cm | IEC 60093 |
| -- | -- | 1.0E+9 to 1.3E+15 | -- | ohms·m | IEC 62631-3-1 |
| Dielectric Strength | | | | | |
| -- | -- | 16 to 25 | -- | kV/mm | ASTM D149 |
| -- | -- | 18 to 48 | -- | kV/mm | IEC 60243-1 |



| Electrical | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | 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 ² |
| Arc Resistance | -- | 63.5 to 130 | -- | sec | ASTM D495 |
| Arc Resistance | -- | -- | PLC 5 | | ASTM D495 |
| Comparative Tracking Index (CTI) | -- | 540 to 600 | -- | V | UL 746A |
| Comparative Tracking Index (CTI) | -- | -- | PLC 0 | | UL 746A |
| Comparative Tracking Index | | | | | |
| -- | 600 | 400 to 600 | -- | V | IEC 60112 |
| -- | -- | 500 | -- | | IEC 60112 ² |
| High Amp Arc Ignition (HAI) | | | | | UL 746A |
| 0.25 mm | -- | -- | PLC 0 | | |
| 0.40 mm | -- | -- | PLC 0 | | |
| 0.8 mm | -- | -- | PLC 0 | | |
| 3.0 mm | -- | -- | PLC 0 | | |
| High Voltage Arc Tracking Rate (HVTR) | -- | -- | PLC 2 | | UL 746A |
| Hot-wire Ignition (HWI) | | | | | UL 746A |
| 0.25 mm | -- | -- | PLC 1 | | |
| 0.40 mm | -- | -- | PLC 0 | | |
| 0.8 mm | -- | -- | PLC 0 | | |
| 3.0 mm | -- | -- | PLC 0 | | |
| Flammability | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | Unit | Test Method |
| Burning Rate | -- | 0.0 to 100 | -- | mm/min | ISO 3795 |



| Flammability | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | Unit | Test Method |
|--------------------------------|---------------------|--------------------------------|--|-------------------|-------------------------------|
| Flame Rating | | | | | |
| 0.25 mm, ALL | -- | -- | V-0 | | UL 94 IEC 60695-11-10, -20 |
| 0.40 mm | V-0 | -- | -- | | UL 94 |
| 0.40 mm, ALL | -- | -- | V-0 | | UL 94 IEC 60695-11-10, -20 |
| 0.8 mm | V-0 | -- | -- | | UL 94 |
| 0.8 mm, ALL | -- | -- | • V-0 • 5VA | | UL 94 IEC 60695-11-10, -20 |
| 1.6 mm | V-0 | -- | -- | | UL 94 |
| 3.0 mm, ALL | -- | -- | • V-0 • 5VA | | UL 94 IEC 60695-11-10, -20 |
| 3.2 mm | V-0 | -- | -- | | UL 94 |
| 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 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | Unit | |
| Melt Density | -- | 1.12 to 1.28 | -- | g/cm ³ | |
| Ejection Temperature | -- | 210 | -- | °C | |
| Injection | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | 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 Re grind | -- | 25 | -- | % | |
| Hopper Temperature | -- | 70 to 75 | -- | °C | |



| Injection | VAMPAMID 66 3028 V0 | Generic Nylon 66 - Glass Fiber | UL Yellow Card VAMPAMID 66 3028 V0(e)(f) | Unit |
|----------------------------|---------------------|--------------------------------|--|------|
| Rear Temperature | -- | 264 to 289 | -- | °C |
| Middle Temperature | -- | 268 to 295 | -- | °C |
| 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
 This information is provided for comparative purposes only.

Notes

- ¹ Typical properties: these are not to be construed as specifications.
- ² Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.
- ³ Loading 2 (50 N)

