# Product Comparison

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## Technical Data

| Product Description | |
|---|---|
| VAMPSAB 0023 V0 H | ABS resin unfilled, flame retarded with halogens for injection moulding |
| Generic ABS | This data represents typical values that have been calculated from all products classified as: Generic ABS<br><br>This information is provided for comparative purposes only. |

| General | VAMPSAB 0023 V0 H | Generic ABS |
|---|---|---|
| Manufacturer / Supplier | • Vamp Tech | • Generic |
| Generic Symbol | • ABS | • ABS |
| Material Status | • Commercial: Active | • Commercial: Active |
| UL Yellow Card [1] | • E140692-223012<br>• E140692-474877 | -- |
| Search for UL Yellow Card | • Vamp Tech | -- |
| Availability | • Africa & Middle East<br>• Asia Pacific<br>• Europe<br>• Latin America<br>• North America | • Africa & Middle East<br>• Asia Pacific<br>• Europe<br>• Latin America<br>• North America |
| Features | • Flame Retardant<br>• Halogenated | -- |
| Processing Method | • Injection Molding | -- |

| Physical | VAMPSAB 0023 V0 H | Generic ABS | Unit | Test Method |
|---|---|---|---|---|
| Density / Specific Gravity | | | | |
| -- | -- | 1.01 to 1.07 | | ASTM D792 |
| -- | 1.17 | 1.04 to 1.08 | g/cm³ | ISO 1183 |
| -- | -- | 1.02 to 1.10 | g/cm³ | ASTM D1505 |
| Apparent (Bulk) Density | -- | 0.60 to 0.66 | g/cm³ | ISO 60 |
| Melt Mass-Flow Rate (MFR) | | | | |
| 220°C/10.0 kg | -- | 1.0 to 36 | g/10 min | ASTM D1238 |
| 220°C/10.0 kg | -- | 2.1 to 40 | g/10 min | ISO 1133 |
| Melt Volume-Flow Rate (MVR) (220°C/10.0 kg) | 65 | 1.0 to 44 | cm³/10min | ISO 1133 |
| Molding Shrinkage | | | | |
| Flow | 6.0E-3 | 3.8E-3 to 6.8E-3 | in/in | ASTM D955 |
| Across Flow | 7.0E-3 | 3.4E-3 to 7.2E-3 | in/in | ASTM D955 |
| -- | -- | 0.40 to 0.70 | % | ISO 294-4 |
| Water Absorption | | | | |
| 24 hr | -- | 0.30 to 0.32 | % | ASTM D570 |
| 24 hr, 73°F | -- | 0.27 to 0.31 | % | ISO 62 |
| Saturation | -- | 0.050 to 0.71 | % | ASTM D570 |
| Saturation, 73°F | -- | 0.94 to 1.6 | % | ISO 62 |
| Equilibrium | -- | 0.20 to 0.30 | % | ASTM D570 |
| Equilibrium, 73°F, 50% RH | -- | 0.18 to 0.51 | % | ISO 62 |



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| Mechanical | VAMPSAB 0023 V0 H | Generic ABS | Unit | Test Method |
|---|---|---|---|---|
| Tensile Modulus | | | | |
| -- | -- | 246000 to 410000 | psi | ASTM D638 |
| -- | 319000 | 252000 to 417000 | psi | ISO 527-1 |
| Tensile Strength | | | | |
| Yield | -- | 4940 to 7440 | psi | ASTM D638 |
| Yield | 5800 | 4380 to 7310 | psi | ISO 527-2 |
| Break | -- | 3860 to 6720 | psi | ASTM D638 |
| Break | -- | 2630 to 7840 | psi | ISO 527-2 |
| -- | -- | 4660 to 7750 | psi | ASTM D638 |
| -- | -- | 5040 to 7330 | psi | ISO 527-2 |
| Tensile Elongation | | | | |
| Yield | -- | 1.8 to 21 | % | ASTM D638 |
| Yield | -- | 2.1 to 4.0 | % | ISO 527-2 |
| Break | -- | 0.20 to 57 | % | ASTM D638 |
| Break | > 5.0 | 1.0 to 35 | % | ISO 527-2 |
| Nominal Tensile Strain at Break | -- | 7.8 to 46 | % | ISO 527-2 |
| Flexural Modulus | | | | |
| -- | -- | 204000 to 399000 | psi | ASTM D790 |
| -- | -- | 288000 to 448000 | psi | ISO 178 |
| Flexural Strength | | | | |
| -- | -- | 7130 to 14200 | psi | ASTM D790 |
| -- | -- | 8070 to 12200 | psi | ISO 178 |
| Yield | -- | 8100 to 11500 | psi | ASTM D790 |
| Break | -- | 8560 to 10200 | psi | ASTM D790 |
| Compressive Strength | -- | 6790 to 7350 | psi | ASTM D695 |
| Shear Strength | -- | 5320 to 5820 | psi | ASTM D732 |
| Poisson's Ratio | -- | 0.38 | | ASTM E132 |
| Coefficient of Friction | -- | 0.11 to 0.46 | | ASTM D1894 |

| Films | VAMPSAB 0023 V0 H | Generic ABS | Unit | Test Method |
|---|---|---|---|---|
| Tensile Modulus | -- | 315000 to 406000 | psi | ISO 527-3 |

| Impact | VAMPSAB 0023 V0 H | Generic ABS | Unit | Test Method |
|---|---|---|---|---|
| Charpy Notched Impact Strength | -- | 2.1 to 12 | ft·lb/in² | ISO 179 |
| Charpy Unnotched Impact Strength | -- | 28 to 87 | ft·lb/in² | ISO 179 |
| Notched Izod Impact | | | | |
| -- | -- | 0.90 to 8.4 | ft·lb/in | ASTM D256 |
| -- | -- | 1.8 to 17 | ft·lb/in² | ISO 180 |
| -- | 8.6 | -- | ft·lb/in² | ISO 180/A |
| Notched Izod Impact (Area) | -- | 3.32 to 11.1 | ft·lb/in² | ASTM D256 |
| Unnotched Izod Impact | | | | |
| -- | -- | 0.30 to 31 | ft·lb/in | ASTM D4812 |
| -- | 24 | 3.1 to 63 | ft·lb/in² | ISO 180 |
| Instrumented Dart Impact | -- | 185 to 349 | in·lb | ASTM D3763 |
| Gardner Impact | -- | 150 to 205 | in·lb | ASTM D3029 |



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| Impact | VAMPSAB 0023 V0 H | Generic ABS | Unit | Test Method |
|---|---|---|---|---|
| Gardner Impact | -- | 35.4 to 408 | in·lb | ASTM D5420 |
| **Hardness** | **VAMPSAB 0023 V0 H** | **Generic ABS** | **Unit** | **Test Method** |
| Rockwell Hardness | | | | |
| -- | -- | 99 to 115 | | ASTM D785 |
| -- | -- | 95 to 117 | | ISO 2039-2 |
| Shore Hardness | -- | 73 to 76 | | ISO 868 |
| Ball Indentation Hardness | -- | 11500 to 18600 | psi | ISO 2039-1 |
| **Thermal** | **VAMPSAB 0023 V0 H** | **Generic ABS** | **Unit** | **Test Method** |
| Deflection Temperature Under Load | | | | |
| 66 psi, Unannealed | -- | 180 to 223 | °F | ASTM D648 |
| 66 psi, Unannealed | -- | 172 to 218 | °F | ISO 75-2/B |
| 66 psi, Annealed | -- | 181 to 221 | °F | ASTM D648 |
| 66 psi, Annealed | -- | 184 to 227 | °F | ISO 75-2/B |
| 264 psi, Unannealed | 158 | 166 to 197 | °F | ASTM D648 |
| 264 psi, Unannealed | -- | 158 to 213 | °F | ISO 75-2/A |
| 264 psi, Annealed | -- | 196 to 218 | °F | ASTM D648 |
| 264 psi, Annealed | -- | 196 to 215 | °F | ISO 75-2/A |
| Continuous Use Temperature | | | | |
| -- | -- | 140 to 167 | °F | ASTM D794 |
| -- | 158 | -- | °F | |
| Vicat Softening Temperature | | | | |
| -- | -- | 189 to 241 | °F | ASTM D1525 |
| -- | 176 | -- | °F | ASTM D1525 [3] |
| -- | -- | 193 to 227 | °F | ISO 306 |
| Ball Indentation Temperature | -- | 167 to 222 | °F | IEC 60598-1 |
| Melting Temperature | -- | 432 to 437 | °F | |
| CLTE | | | | |
| Flow | -- | 4.4E-5 to 5.1E-5 | in/in/°F | ASTM D696 |
| Flow | -- | 4.8E-5 to 5.7E-5 | in/in/°F | ASTM E831 |
| Flow | -- | 3.1E-5 to 5.8E-5 | in/in/°F | ISO 11359-2 |
| Transverse | -- | 4.6E-5 to 5.8E-5 | in/in/°F | ASTM D696 |
| Transverse | -- | 4.7E-5 to 6.5E-5 | in/in/°F | ASTM E831 |
| Transverse | -- | 4.7E-5 to 4.9E-5 | in/in/°F | ISO 11359-2 |
| Thermal Conductivity | | | | |
| -- | -- | 1.2 to 1.3 | Btu·in/hr/ft²/°F | ASTM C177 |
| -- | -- | 1.2 to 1.4 | Btu·in/hr/ft²/°F | ISO 8302 |
| RTI Elec | -- | 138 to 140 | °F | UL 746B |
| RTI Imp | -- | 138 to 140 | °F | UL 746B |
| RTI Str | -- | 138 to 140 | °F | UL 746B |
| **Electrical** | **VAMPSAB 0023 V0 H** | **Generic ABS** | **Unit** | **Test Method** |
| Surface Resistivity | | | | |
| -- | -- | 4.0 to 2.5E+14 | ohms | ASTM D257 |
| -- | -- | 5.0E+3 to 5.0E+15 | ohms | IEC 60093 |



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| Electrical | VAMPSAB 0023 V0 H | Generic ABS | Unit | Test Method |
|---|---|---|---|---|
| Volume Resistivity | | | | |
| -- | -- | 0.15 to 2.5E+15 | ohms·cm | ASTM D257 |
| -- | -- | 3.0E+2 to 2.5E+16 | ohms·cm | IEC 60093 |
| -- | -- | 1.0E+12 to 2.6E+13 | ohms·m | IEC 62631-3-1 |
| Dielectric Strength | | | | |
| -- | -- | 380 to 890 | V/mil | ASTM D149 |
| -- | -- | 500 to 910 | V/mil | IEC 60243-1 |
| Dielectric Constant | | | | |
| -- | -- | 2.75 to 15.0 | | ASTM D150 |
| -- | -- | 3.09 to 3.10 | | IEC 60250 |
| -- | -- | 2.95 | | IEC 60250 |
| Dissipation Factor | | | | |
| -- | -- | 2.4E-3 to 0.022 | | ASTM D150 |
| -- | -- | 3.8E-3 to 0.015 | | IEC 60250 |
| Arc Resistance | -- | 5.00 to 7.43 | sec | ASTM D495 |
| Comparative Tracking Index | -- | 581 to 600 | V | IEC 60112 |
| High Amp Arc Ignition (HAI) | -- | 10.0 to 200 | | UL 746A |
| High Voltage Arc Tracking Rate (HVTR) | -- | 0.00 to 0.147 | in/min | UL 746A |
| Hot-wire Ignition (HWI) | -- | 13 to 57 | sec | UL 746A |

| Flammability | VAMPSAB 0023 V0 H | Generic ABS | Unit | Test Method |
|---|---|---|---|---|
| Burning Rate | -- | 2.3 to 4.0 | in/min | ISO 3795 |
| Flame Rating | | | | UL 94 |
| 0.06 in | V-0 | -- | | |
| 0.13 in | V-0 | -- | | |
| Glow Wire Flammability Index | | | | IEC 60695-2-12 |
| -- | -- | 1190 to 1760 | °F | |
| 0.04 to 0.08 in | 1760 | -- | °F | |
| Glow Wire Ignition Temperature | | | | IEC 60695-2-13 |
| -- | -- | 1190 to 1760 | °F | |
| 0.04 to 0.08 in | 1380 | -- | °F | |
| Oxygen Index | -- | 21 to 27 | % | ASTM D2863 |

| Optical | VAMPSAB 0023 V0 H | Generic ABS | Unit | Test Method |
|---|---|---|---|---|
| Gloss | -- | 59 to 91 | | ASTM D523 |
| Gloss | -- | 23 to 81 | | ASTM D2457 |
| Light Transmittance | -- | 83.7 to 93.0 | % | ASTM D1003 |
| Haze | -- | 1.46 to 4.02 | % | ASTM D1003 |

| Fill Analysis | VAMPSAB 0023 V0 H | Generic ABS | Unit | Test Method |
|---|---|---|---|---|
| Melt Viscosity | -- | 155 to 1550 | Pa·s | ASTM D3835 |

| Injection | VAMPSAB 0023 V0 H | Generic ABS | Unit |
|---|---|---|---|
| Drying Temperature | 140 | 172 to 193 | °F |
| Drying Time | 3.0 | 2.8 to 3.7 | hr |

| Injection | VAMPSAB 0023 V0 H | Generic ABS | Unit |
|---|---|---|---|
| Drying Time, Maximum | -- | 8.0 | hr |
| Dew Point | -- | -0 to 2 | °F |
| Suggested Max Moisture | -- | 0.010 to 0.11 | % |
| Suggested Shot Size | -- | 60 | % |
| Rear Temperature | -- | 336 to 475 | °F |
| Middle Temperature | -- | 371 to 481 | °F |
| Front Temperature | -- | 387 to 476 | °F |
| Nozzle Temperature | -- | 416 to 490 | °F |
| Processing (Melt) Temp | 392 | 412 to 477 | °F |
| Mold Temperature | 122 | 122 to 170 | °F |
| Injection Pressure | -- | 9620 to 15500 | psi |
| Holding Pressure | -- | 498 to 10900 | psi |
| Back Pressure | -- | 12.5 to 421 | psi |
| Screw Speed | -- | 41 to 102 | rpm |
| Cushion | -- | 0.125 to 0.375 | in |
| Vent Depth | -- | 1.8E-3 | in |

| Injection Notes | |
|---|---|
| Generic ABS | This data represents typical values that have been calculated from all products classified as: Generic ABS<br><br>This information is provided for comparative purposes only. |

| Extrusion | VAMPSAB 0023 V0 H | Generic ABS | Unit |
|---|---|---|---|
| Drying Temperature | -- | 167 to 195 | °F |
| Drying Time | -- | 2.8 to 3.7 | hr |
| Suggested Max Moisture | -- | 0.010 to 0.10 | % |
| Cylinder Zone 1 Temp. | -- | 355 to 402 | °F |
| Cylinder Zone 2 Temp. | -- | 391 to 429 | °F |
| Cylinder Zone 3 Temp. | -- | 399 to 437 | °F |
| Cylinder Zone 4 Temp. | -- | 400 to 439 | °F |
| Cylinder Zone 5 Temp. | -- | 400 to 455 | °F |
| Adapter Temperature | -- | 419 to 438 | °F |
| Melt Temperature | -- | 385 to 437 | °F |
| Die Temperature | -- | 435 to 451 | °F |

| Extrusion Notes | |
|---|---|
| Generic ABS | This data represents typical values that have been calculated from all products classified as: Generic ABS<br><br>This information is provided for comparative purposes only. |

## Notes

[1] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

[2] Typical properties: these are not to be construed as specifications.

[3] Loading 2 (50 N)



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