sabic

# VALOX™ FR RESINS V3504

REGION ASIA

## DESCRIPTION

VALOX V3504 is an unreinforced, flame retardant Polybutylene Terephthalate (PBT) injection moldable grade with excellent chemical resistance. It has a UL94V0@0.38mm and 5VA@3.0mm flame rating. This is a good candidate for thin wall applications in the electrical industry including bobbins, keyboards, switches and appliance housings.

## TYPICAL PROPERTY VALUES

Revision 20190411

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| **MECHANICAL** | | | |
| Tensile Stress, yield | 57 | MPa | SABIC - Japan Method |
| Tensile Stress, yld, Type I, 50 mm/min | 58 | MPa | ASTM D638 |
| Tensile Strain, break | 16 | % | SABIC - Japan Method |
| Tensile Strain, yld, Type I, 50 mm/min | 7 | % | ASTM D638 |
| Tensile Strain, brk, Type I, 50 mm/min | 9 | % | ASTM D638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 90 | MPa | ASTM D790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2620 | MPa | ASTM D790 |
| Tensile Stress, yield, 50 mm/min | 58 | MPa | ISO 527 |
| Tensile Strain, break, 50 mm/min | 8 | % | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 88 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2600 | MPa | ISO 178 |
| **IMPACT** | | | |
| Izod Impact, notched, 23°C | 52 | J/m | ASTM D256 |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 4 | kJ/m² | ISO 179/1eA |
| **THERMAL** | | | |
| HDT, 1.82 MPa, 6.4 mm, unannealed | 106 | °C | ASTM D648 |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 80 | °C | ISO 75/Af |
| Relative Temp Index, Elec | 120 | °C | UL 746B |
| Relative Temp Index, Mech w/impact | 120 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact | 140 | °C | UL 746B |
| **PHYSICAL** | | | |
| Specific Gravity | 1.4 | - | ASTM D792 |
| Melt Flow Rate, 250°C/2.16 kgf | 11 | g/10 min | ASTM D1238 |
| Melt Volume Rate, MVR at 250°C/2.16 kg | 8 | cm³/10 min | ISO 1133 |
| **ELECTRICAL** | | | |
| Arc Resistance, Tungsten {PLC} | 6 | PLC Code | ASTM D495 |
| Hot Wire Ignition {PLC} | 4 | PLC Code | UL 746A |
| High Voltage Arc Track Rate {PLC} | 4 | PLC Code | UL 746A |
| High Voltage Arc Resistance {PLC} | 6 | PLC Code | UL 746A |
| High Ampere Arc Ign, surface {PLC} | 0 | PLC Code | UL 746A |
| Comparative Tracking Index (UL) {PLC} | 3 | PLC Code | UL 746A |
| Volume Resistivity | 1.E+15 | Ω.cm | IEC 60093 |
| **FLAME CHARACTERISTICS** | | | |



CHEMISTRY THAT MATTERS™

سابك
sabic

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|---|---|---|
| UL Recognized, 94V-0 Flame Class Rating | 0.38 | mm | UL 94 |
| UL Recognized, 94-5VA Flame Class Rating | 3 | mm | UL 94 |
| Glow Wire Flammability Index 960°C, passes at | 0.38 | mm | IEC 60695-2-12 |
| Glow Wire Ignitability Temperature, 0.4 mm | 825 | °C | IEC 60695-2-13 |
| Glow Wire Ignitability Temperature, 1.0 mm | 825 | °C | IEC 60695-2-13 |
| INJECTION MOLDING | | | |
| Drying Temperature | 120 | °C | |
| Drying Time | 3 – 4 | Hrs | |
| Drying Time (Cumulative) | 12 | Hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 245 – 260 | °C | |
| Nozzle Temperature | 240 – 255 | °C | |
| Front - Zone 3 Temperature | 245 – 260 | °C | |
| Middle - Zone 2 Temperature | 240 – 255 | °C | |
| Rear - Zone 1 Temperature | 230 – 250 | °C | |
| Mold Temperature | 50 – 75 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |
| Screw Speed | 50 – 100 | rpm | |
| Shot to Cylinder Size | 40 – 80 | % | |
| Vent Depth | 0.013 – 0.025 | mm | |