

CYCOLOY™ FR RESIN CS9610

REGION ASIA

DESCRIPTION

CYCOLOY CS9610 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) blend is an injection moldable low smoke, non chlorinated/brominated flame retardant grade. It has good mechanical and impact properties and has a UL94 V0@2.0mm and 5VB@2.0mm flame rating.

TYPICAL PROPERTY VALUES

Revision 20181012

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 50 mm/min | 64 | MPa | ASTM D 638 |
| Tensile Stress, brk, Type I, 50 mm/min | 62 | MPa | ASTM D 638 |
| Tensile Strain, yld, Type I, 50 mm/min | 5 | % | ASTM D 638 |
| Tensile Strain, brk, Type I, 50 mm/min | 55 | % | ASTM D 638 |
| Tensile Modulus, 50 mm/min | 2600 | MPa | ASTM D 638 |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 98 | MPa | ASTM D 790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 2440 | MPa | ASTM D 790 |
| Tensile Stress, yield, 50 mm/min | 62 | MPa | ISO 527 |
| Tensile Stress, break, 50 mm/min | 50 | MPa | ISO 527 |
| Tensile Strain, yield, 50 mm/min | 4.8 | % | ISO 527 |
| Tensile Strain, break, 50 mm/min | >45 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 2400 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 98 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 2500 | MPa | ISO 178 |
| IMPACT | | | |
| Izod Impact, notched, 23°C | 800 | J/m | ASTM D 256 |
| Instrumented Impact Total Energy, 23°C | 72 | J | ASTM D 3763 |
| Izod Impact, notched 80*10*3 +23°C | 45 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*3 -30°C | 15 | kJ/m ² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm | 45 | kJ/m ² | ISO 179/1eA |
| Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm | 15 | kJ/m ² | ISO 179/1eA |
| THERMAL | | | |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 118 | °C | ASTM D 648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 105 | °C | ASTM D 648 |
| Vicat Softening Temp, Rate B/50 | 124 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 127 | °C | ISO 306 |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 106 | °C | ISO 75/Af |
| PHYSICAL | | | |
| Specific Gravity | 1.2 | - | ASTM D 792 |
| Mold Shrinkage, flow, 3.2 mm | 0.4 – 0.6 | % | SABIC method |
| Melt Flow Rate, 260°C/5.0 kgf | 15 | g/10 min | ASTM D 1238 |
| Melt Volume Rate, MVR at 260°C/5.0 kg | 12 | cm ³ /10 min | ISO 1133 |
| FLAME CHARACTERISTICS | | | |
| UL Recognized, 94V-0 Flame Class Rating | 2 | mm | UL 94 |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------|--------------|
| UL Recognized, 94-5VB Rating | 2 | mm | UL 94 |
| NBS Smoke Density, Flaming, Dmax | 225 | - | ASTM E 662 |
| NBS Smoke Density, Flaming, Ds 1.5 min | 40 | - | ASTM E 662 |
| NBS Smoke Density, Flaming, Ds 4 min | 150 | - | ASTM E 662 |
| INJECTION MOLDING | | | |
| Drying Temperature | 90 | °C | |
| Drying Time | 4 | hrs | |
| Maximum Moisture Content | 0.04 | % | |
| Melt Temperature | 270 – 300 | °C | |
| Nozzle Temperature | 265 – 300 | °C | |
| Front - Zone 3 Temperature | 265 – 300 | °C | |
| Middle - Zone 2 Temperature | 260 – 300 | °C | |
| Rear - Zone 1 Temperature | 260 – 300 | °C | |
| Hopper Temperature | 60 – 80 | °C | |
| Mold Temperature | 60 – 90 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |
| Screw Speed | 40 – 70 | rpm | |
| Shot to Cylinder Size | 40 – 80 | % | |
| Vent Depth | 0.038 – 0.076 | mm | |

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