

CYCOLOY™ RESIN CM8622

REGION EUROPE

DESCRIPTION

CYCOLOY CM8622 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) blend is an injection moldable high heat grade offering high modulus, low CTE, good practical impact and aesthetics.

TYPICAL PROPERTY VALUES

Revision 20190507

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------|--------------|
| MECHANICAL | | | |
| Tensile Stress, yld, Type I, 5 mm/min | 47 | MPa | ASTM D638 |
| Tensile Stress, brk, Type I, 5 mm/min | 60 | MPa | ASTM D638 |
| Tensile Strain, yld, Type I, 5 mm/min | 3.4 | % | ASTM D638 |
| Tensile Strain, brk, Type I, 5 mm/min | 55 | % | ASTM D638 |
| Tensile Modulus, 5 mm/min | 3600 | MPa | 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 | 3650 | MPa | ASTM D790 |
| Tensile Stress, yield, 5 mm/min | 50 | MPa | ISO 527 |
| Tensile Stress, break, 5 mm/min | 54 | MPa | ISO 527 |
| Tensile Strain, yield, 5 mm/min | 3.5 | % | ISO 527 |
| Tensile Strain, break, 5 mm/min | 50 | % | ISO 527 |
| Tensile Modulus, 1 mm/min | 3600 | MPa | ISO 527 |
| Flexural Stress, yield, 2 mm/min | 90 | MPa | ISO 178 |
| Flexural Modulus, 2 mm/min | 3600 | MPa | ISO 178 |
| IMPACT | | | |
| Charpy Impact, unnotched, 23°C | 105 | kJ/m ² | ISO 179/2C |
| Charpy Impact, unnotched, -30°C | 100 | kJ/m ² | ISO 179/2C |
| Izod Impact, unnotched, 23°C | 1650 | J/m | ASTM D4812 |
| Izod Impact, unnotched, -30°C | 1450 | J/m | ASTM D4812 |
| Izod Impact, notched, 23°C | 250 | J/m | ASTM D256 |
| Izod Impact, notched, -30°C | 90 | J/m | ASTM D256 |
| Multiaxial Impact | 85 | J | ISO 6603 |
| Instrumented Dart Impact Total Energy, 23°C | 50 | J | ASTM D3763 |
| Izod Impact, unnotched 80*10*4 +23°C | 140 | kJ/m ² | ISO 180/1U |
| Izod Impact, unnotched 80*10*4 -30°C | 135 | kJ/m ² | ISO 180/1U |
| Izod Impact, notched 80*10*4 +23°C | 13 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*4 -30°C | 8 | kJ/m ² | ISO 180/1A |
| Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm | 12 | kJ/m ² | ISO 179/1eA |
| Charpy Impact, notched, 23°C | 12 | kJ/m ² | ISO 179/2C |
| Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm | 8 | kJ/m ² | ISO 179/1eA |
| Charpy Impact, notched, -30°C | 8 | kJ/m ² | ISO 179/2C |
| Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm | 105 | kJ/m ² | ISO 179/1eU |
| Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm | 100 | kJ/m ² | ISO 179/1eU |
| THERMAL | | | |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|----------------|-------------------------|----------------|
| HDT, 0.45 MPa, 3.2 mm, unannealed | 129 | °C | ASTM D648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 112 | °C | ASTM D648 |
| CTE, -40°C to 40°C, flow | 5.1E-05 | 1/°C | ISO 11359-2 |
| CTE, -40°C to 40°C, xflow | 6.4E-05 | 1/°C | ISO 11359-2 |
| CTE, -30°C to 80°C, flow | 5.6E-05 | 1/°C | ISO 11359-2 |
| CTE, -30°C to 80°C, xflow | 7.E-05 | 1/°C | ISO 11359-2 |
| Ball Pressure Test, 125°C +/- 2°C | PASSES | - | IEC 60695-10-2 |
| Vicat Softening Temp, Rate A/50 | 144 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/50 | 133 | °C | ISO 306 |
| Vicat Softening Temp, Rate B/120 | 134 | °C | ISO 306 |
| HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm | 129 | °C | ISO 75/Bf |
| HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm | 112 | °C | ISO 75/Af |
| PHYSICAL | | | |
| Specific Gravity | 1.25 | - | ASTM D792 |
| Mold Shrinkage on Tensile Bar, flow | 0.5 – 0.7 | % | SABIC method |
| Mold Shrinkage, flow, 3.2 mm | 0.4 – 0.6 | % | SABIC method |
| Mold Shrinkage on Tensile Bar, xflow | 0.4 – 0.6 | % | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm | 0.3 – 0.5 | % | SABIC method |
| Melt Flow Rate, 260°C/5.0 kgf | 16 | g/10 min | ASTM D 1238 |
| Density | 1.26 | g/cm ³ | ISO 1183 |
| Water Absorption, (23°C/saturated) | 0.2 | % | ISO 62-1 |
| Moisture Absorption (23°C / 50% RH) | 0.05 | % | ISO 62 |
| Melt Volume Rate, MVR at 260°C/5.0 kg | 15 | cm ³ /10 min | ISO 1133 |
| INJECTION MOLDING | | | |
| Drying Temperature | 110 – 120 | °C | |
| Drying Time | 2 – 6 | Hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 270 – 300 | °C | |
| Nozzle Temperature | 260 – 290 | °C | |
| Front - Zone 3 Temperature | 270 – 300 | °C | |
| Middle - Zone 2 Temperature | 265 – 290 | °C | |
| Rear - Zone 1 Temperature | 260 – 270 | °C | |
| Mold Temperature | 60 – 100 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |
| Screw Speed | 40 – 70 | rpm | |
| Shot to Cylinder Size | 30 – 80 | % | |
| Vent Depth | 0.038 – 0.076 | mm | |

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