

SABIC Innovative Plastics Cycloy® CM6140 PC+ABS (Europe-Africa-Middle East)

Category : Polymer , Thermoplastic , ABS Polymer , Polycarbonate/ABS Alloy, Unreinforced , Polycarbonate (PC)

Material Notes:

Cycloy resin grade CM6140 is a flame retardant, filled PC/ABS blend. It is of non-brominated & non-chlorinated FR system to meet UL94 V0 at 0.8mm. Key features include thin wall FR, higher stiffness, balanced properties in flow, impact and heat designed for various thin wall applications.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycloy-CM6140-PCABS-Europe-Africa-Middle-East.php

| Physical Properties | Metric | English | Comments |
|-----------------------------------|---|---|---|
| Specific Gravity | 1.26 g/cc | 1.26 g/cc | ASTM D792 |
| Density | 1.25 g/cc | 0.0452 lb/in ³ | ISO 1183 |
| Water Absorption | 0.10 % @Time 86400 sec | 0.10 % @Time 24.0 hour | ASTM D570 |
| Moisture Absorption | 0.0100 % | 0.0100 % | 50% RH, 24 hrs; ASTM D570 |
| | 0.0100 % | 0.0100 % | 23°C / 50% RH; ISO 62 |
| Water Absorption at Saturation | 0.090 % | 0.090 % | ISO 62 |
| Linear Mold Shrinkage, Flow | 0.0030 - 0.0050 cm/cm @Thickness 3.20 mm | 0.0030 - 0.0050 in/in @Thickness 0.126 in | SABIC Method |
| Linear Mold Shrinkage, Transverse | 0.0040 - 0.0060 cm/cm @Thickness 3.20 mm | 0.0040 - 0.0060 in/in @Thickness 0.126 in | SABIC Method |
| Melt Flow | 17.5 g/10 min @Load 2.16 kg, Temperature 260 °C | 17.5 g/10 min @Load 4.76 lb, Temperature 500 °F | ASTM D1238 |
| Melt Index of Compound | 14 g/10 min @Load 5.00 kg, Temperature 220 °C | 14 g/10 min @Load 11.0 lb, Temperature 428 °F | MVR [cm ³ /10 min]; ISO 1133 |

| Mechanical Properties | Metric | English | Comments |
|---------------------------|----------|----------|------------------------------|
| Tensile Strength at Break | 50.0 MPa | 7250 psi | Type I, 5 mm/min; ASTM D638 |
| | 50.0 MPa | 7250 psi | 5 mm/min; ISO 527 |
| Tensile Strength, Yield | 65.0 MPa | 9430 psi | Type I, 50 mm/min; ASTM D638 |

| Mechanical Properties | 65.0 MPa Metric | 9430 psi English | Type I, 5 mm/min; ASTM D638 Comments |
|----------------------------|-------------------------|----------------------------|---|
| Elongation at Break | 15 % | 15 % | 50 mm/min; ISO 527 |
| | 100 % | 100 % | Type I, 5 mm/min; ASTM D638 |
| Elongation at Yield | 3.5 % | 3.5 % | 5 mm/min; ISO 527 |
| | 4.0 % | 4.0 % | Type I, 5 mm/min; ASTM D638 |
| Tensile Modulus | 3.20 GPa | 464 ksi | 1 mm/min; ISO 527 |
| | 3.50 GPa | 508 ksi | 5 mm/min; ASTM D638 |
| Flexural Yield Strength | 97.0 MPa | 14100 psi | 2 mm/min; ISO 178 |
| | 100 MPa | 14500 psi | 1.3 mm/min, 50 mm span; ASTM D790 |
| Flexural Modulus | 3.30 GPa | 479 ksi | 1.3 mm/min, 50 mm span; ASTM D790 |
| | 3.45 GPa | 500 ksi | 2 mm/min; ISO 178 |
| Izod Impact, Notched | 2.00 J/cm | 3.75 ft-lb/in | ASTM D256 |
| | 0.880 J/cm | 1.65 ft-lb/in | ASTM D256 |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Izod Impact, Notched (ISO) | 10.0 kJ/m ² | 4.76 ft-lb/in ² | 80*10*3; ISO 180/1A |
| | 5.00 kJ/m ² | 2.38 ft-lb/in ² | 80*10*3; ISO 180/1A |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Charpy Impact, Notched | 1.00 J/cm ² | 4.76 ft-lb/in ² | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | 0.500 J/cm ² | 2.38 ft-lb/in ² | Edgew 80*10*3 sp=62mm; ISO 179/1eA |
| | @Temperature -30.0 °C | @Temperature -22.0 °F | |
| Dart Drop, Total Energy | 50.0 J | 36.9 ft-lb | ASTM D3763 |
| | @Temperature 23.0 °C | @Temperature 73.4 °F | |

| Thermal Properties | Metric | English | Comments |
|-------------------------------|------------------------------|-----------------------------|-------------|
| CTE, linear, Parallel to Flow | 55.0 µm/m-°C | 30.6 µin/in-°F | ASTM E 831 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |
| | 55.0 µm/m-°C | 30.6 µin/in-°F | ISO 11359-2 |
| | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | |

| Thermal Properties | Metric | English | Comments |
|---|------------------------------|-----------------------------|----------------------------------|
| CTE, linear, transverse to flow | @Temperature -40.0 - 40.0 °C | @Temperature -40.0 - 104 °F | ASTM E 831 |
| | 60.0 µm/m-°C | 33.3 µin/in-°F | ISO 11359-2 |
| Deflection Temperature at 0.46 MPa (66 psi) | 97.0 °C | 207 °F | unannealed; ASTM D648 |
| | @Thickness 6.40 mm | @Thickness 0.252 in | |
| Deflection Temperature at 1.8 MPa (264 psi) | 80.0 °C | 176 °F | Flatw 80*10*4 sp=64mm; ISO 75/Af |
| | 83.0 °C | 181 °F | unannealed; ASTM D648 |
| | @Thickness 3.20 mm | @Thickness 0.126 in | |
| | 89.0 °C | 192 °F | unannealed; ASTM D648 |
| | @Thickness 6.40 mm | @Thickness 0.252 in | |
| | Vicat Softening Point | 91.0 °C | 196 °F |
| | 98.0 °C | 208 °F | Rate B/50; ISO 306 |
| | 102 °C | 216 °F | Rate B/120; ISO 306 |
| Flammability, UL94 | V-1 | V-1 | UL 94 |
| | @Thickness 0.600 mm | @Thickness 0.0236 in | |
| | V-0 | V-0 | UL 94 |
| | @Thickness 0.800 mm | @Thickness 0.0315 in | |
| | 5VB | 5VB | UL 94 |
| | @Thickness 1.50 mm | @Thickness 0.0591 in | |
| Glow Wire Test | 800 °C | 1470 °F | IEC 60695-2-13 |
| | 850 °C | 1560 °F | IEC 60695-2-13 |
| | 960 °C | 1760 °F | IEC 60695-2-12 |
| | @Thickness 0.800 mm | @Thickness 0.0315 in | |

| Electrical Properties | Metric | English | Comments |
|-----------------------|-----------------|-----------------|-----------|
| Volume Resistivity | 2.68e+16 ohm-cm | 2.68e+16 ohm-cm | ASTM D257 |
| Surface Resistance | 3.54e+15 ohm | 3.54e+15 ohm | ASTM D257 |

| Descriptive Properties | Value | Comments |
|------------------------|-------|----------|
|------------------------|-------|----------|

Descriptive Properties $0^{\circ}\text{C} \sim -2^{\circ}\text{C}$

Value CS

Comments $10-2$

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