

## SABIC Innovative Plastics Cycloy® CH6410 PC+ABS (Europe-Africa-Middle East)

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

### Material Notes:

CH6410 is a high heat, impact modified PC resin, with nonbrominated, nonchlorinated flame retardant system. Limited colors only. This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Cycloy-CH6410-PCABS-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycloy-CH6410-PCABS-Europe-Africa-Middle-East.php)

| Physical Properties         | Metric  | English   | Comments   |
|-----------------------------|---|---|--|
| Density                     | 1.20 g/cc   | 0.0434 lb/in <sup>3</sup>                           | ISO 1183   |
| Linear Mold Shrinkage, Flow | 0.0050 - 0.0070 cm/cm                               | 0.0050 - 0.0070 in/in                               | on tensile bar; SABIC Method                         |
| Melt Flow                   | 16 g/10 min<br>@Load 5.00 kg,<br>Temperature 260 °C | 16 g/10 min<br>@Load 11.0 lb,<br>Temperature 500 °F | [cm <sup>3</sup> /10 min] Melt Volume Rate; ISO 1133 |

| Mechanical Properties      | Metric  | English   | Comments            |
|----------------------------|---|---|---------------------|
| Hardness, H358/30          | 100 MPa   | 14500 psi   | ISO 2039-1          |
| Tensile Strength at Break  | 55.0 MPa  | 7980 psi  | 50 mm/min; ISO 527  |
| Tensile Strength, Yield    | 63.0 MPa  | 9140 psi  | 50 mm/min; ISO 527  |
| Elongation at Break        | 95 %  | 95 %  | 50 mm/min; ISO 527  |
| Elongation at Yield        | 5.0 %   | 5.0 %   | 50 mm/min; ISO 527  |
| Tensile Modulus            | 2.30 GPa  | 334 ksi   | 1 mm/min; ISO 527   |
| Flexural Yield Strength    | 90.0 MPa  | 13100 psi   | 2 mm/min; ISO 178   |
| Flexural Modulus           | 2.40 GPa  | 348 ksi   | 2 mm/min; ISO 178   |
| Izod Impact, Notched (ISO) | 15.0 kJ/m <sup>2</sup><br>@Temperature -30.0 °C | 7.14 ft-lb/in <sup>2</sup><br>@Temperature -22.0 °F | 80*10*3; ISO 180/1A |
|                            | 15.0 kJ/m <sup>2</sup><br>@Temperature -30.0 °C | 7.14 ft-lb/in <sup>2</sup><br>@Temperature -22.0 °F | 80*10*4; ISO 180/1A |
|                            | 19.0 kJ/m <sup>2</sup><br>@Temperature 0.000 °C | 9.04 ft-lb/in <sup>2</sup><br>@Temperature 32.0 °F  | 80*10*4; ISO 180/1A |
|                            | 50.0 kJ/m <sup>2</sup>                          | 23.8 ft-lb/in <sup>2</sup>                          | 80*10*4; ISO 180/1A |

| Mechanical Properties  | @Temperature 23.0 °C<br>Metric | @Temperature 73.4 °F<br>English | Comments                                      |
|------------------------|--------------------------------|---------------------------------|---|
|                        | 55.0 kJ/m <sup>2</sup>         | 26.2 ft-lb/in <sup>2</sup>      | 80*10*3; ISO 180/1A                           |
|                        | @Temperature 23.0 °C           | @Temperature 73.4 °F            |   |
| Charpy Impact, Notched | 1.50 J/cm <sup>2</sup>         | 7.14 ft-lb/in <sup>2</sup>      | V-notch Edgew 80*10*3 sp=62mm;<br>ISO 179/1eA |
|                        | @Temperature -30.0 °C          | @Temperature -22.0 °F           |   |
|                        | 1.50 J/cm <sup>2</sup>         | 7.14 ft-lb/in <sup>2</sup>      | V-notch Edgew 80*10*4 sp=62mm;<br>ISO 179/1eA |
|                        | @Temperature -30.0 °C          | @Temperature -22.0 °F           |   |
|                        | 5.50 J/cm <sup>2</sup>         | 26.2 ft-lb/in <sup>2</sup>      | V-notch Edgew 80*10*4 sp=62mm;<br>ISO 179/1eA |
|                        | @Temperature 23.0 °C           | @Temperature 73.4 °F            |   |
|                        | 5.50 J/cm <sup>2</sup>         | 26.2 ft-lb/in <sup>2</sup>      | V-notch Edgew 80*10*3 sp=62mm;<br>ISO 179/1eA |
|                        | @Temperature 23.0 °C           | @Temperature 73.4 °F            |   |

| Thermal Properties                             | Metric                          | English                            | Comments                              |
|--|---------------------------------|------------------------------------|---------------------------------------|
| CTE, linear, Parallel to Flow                  | 70.0 µm/m-°C                    | 38.9 µin/in-°F                     | ISO 11359-2                           |
|  | @Temperature 23.0 -<br>60.0 °C  | @Temperature 73.4 -<br>140 °F      |                                       |
|  | 75.0 µm/m-°C                    | 41.7 µin/in-°F                     | ISO 11359-2                           |
|  | @Temperature -40.0 -<br>40.0 °C | @Temperature -40.0 -<br>104 °F     |                                       |
| CTE, linear, Transverse to Flow                | 70.0 µm/m-°C                    | 38.9 µin/in-°F                     | ISO 11359-2                           |
|  | @Temperature 23.0 -<br>60.0 °C  | @Temperature 73.4 -<br>140 °F      |                                       |
|  | 75.0 µm/m-°C                    | 41.7 µin/in-°F                     | ISO 11359-2                           |
|  | @Temperature -40.0 -<br>40.0 °C | @Temperature -40.0 -<br>104 °F     |                                       |
| Thermal Conductivity                           | 0.200 W/m-K                     | 1.39 BTU-in/hr-ft <sup>2</sup> -°F | ISO 8302                              |
| Deflection Temperature at 0.46 MPa<br>(66 psi) | 126 °C                          | 259 °F                             | Edgew 120*10*4 sp=100mm; ISO<br>75/Be |
| Deflection Temperature at 1.8 MPa<br>(264 psi) | 113 °C                          | 235 °F                             | Edgew 120*10*4 sp=100mm; ISO<br>75/Ae |
| Vicat Softening Point                          | 134 °C                          | 273 °F                             | Rate B/50; ISO 306                    |
|  | 135 °C                          | 275 °F                             | Rate B/120; ISO 306                   |
| UL RTI, Electrical                             | 100 °C                          | 212 °F                             | UL 746B                               |
| UL RTI, Mechanical with Impact                 | 100 °C                          | 212 °F                             | UL 746B                               |

| UL RTI Mechanical without Impact<br>Thermal Properties | 100 °C<br>Metric   | 212 °F<br>English    | UL 746B<br>Comments                                   |
|--|--------------------|----------------------|---|
| Flammability, UL94                                     | V-1                | V-1                  | UL 94   |
|  | @Thickness 1.00 mm | @Thickness 0.0394 in |   |
|  | V-0                | V-0                  | UL 94   |
|  | @Thickness 1.50 mm | @Thickness 0.0591 in |   |
| Oxygen Index   | 38 %               | 38 %                 | LOI; ISO 4589   |
| Glow Wire Test   | 825 °C             | 1520 °F              | Glow Wire Ignitability Temperature;<br>IEC 60695-2-13 |
|  | @Thickness 2.00 mm | @Thickness 0.0787 in |   |
|  | 825 °C             | 1520 °F              | Glow Wire Ignitability Temperature;<br>IEC 60695-2-13 |
|  | @Thickness 1.00 mm | @Thickness 0.0394 in |   |
|  | 960 °C             | 1760 °F              | Glow Wire Flammability Index; IEC<br>60695-2-12       |
|  | @Thickness 1.50 mm | @Thickness 0.0591 in |   |

| Electrical Properties | Metric                    | English                   | Comments            |
|-----------------------|---------------------------|---------------------------|---------------------|
| Volume Resistivity    | >= 1.00e+15 ohm-cm        | >= 1.00e+15 ohm-cm        | IEC 60093           |
| Surface Resistance    | >= 1.00e+15 ohm           | >= 1.00e+15 ohm           | ROA; IEC 60093      |
| Dielectric Constant   | 2.7                       | 2.7                       | IEC 60250           |
|                       | @Frequency 1.00e+6 Hz     | @Frequency 1.00e+6 Hz     |                     |
|                       | 2.7                       | 2.7                       | IEC 60250           |
|                       | @Frequency 50.0 - 60.0 Hz | @Frequency 50.0 - 60.0 Hz |                     |
| Dielectric Strength   | 18.0 kV/mm                | 457 kV/in                 | in oil; IEC 60243-1 |
|                       | @Thickness 3.20 mm        | @Thickness 0.126 in       |                     |
|                       | 25.0 kV/mm                | 635 kV/in                 | in oil; IEC 60243-1 |
|                       | @Thickness 1.60 mm        | @Thickness 0.0630 in      |                     |
|                       | 35.0 kV/mm                | 889 kV/in                 | in oil; IEC 60243-1 |
|                       | @Thickness 0.800 mm       | @Thickness 0.0315 in      |                     |
| Dissipation Factor    | 0.0010                    | 0.0010                    | IEC 60250           |
|                       | @Frequency 50.0 - 60.0 Hz | @Frequency 50.0 - 60.0 Hz |                     |
|                       | 0.010                     | 0.010                     | IEC 60250           |
|                       | @Frequency 1.00e+6        | @Frequency 1.00e+6        |                     |

| Electrical Properties      | Hz<br>Metric | Hz<br>English | Comments                     |
|----------------------------|--------------|---------------|------------------------------|
| Comparative Tracking Index | 175 - 250 V  | 175 - 250 V   | PLC code 3; UL 746A          |
|                            | 225 V        | 225 V         | IEC 60112                    |
| Hot Wire Ignition, HWI     | 30 - 60 sec  | 30 - 60 sec   | PLC code 2; UL 746A          |
| High Amp Arc Ignition, HAI | >= 120 arcs  | >= 120 arcs   | surface, PLC code 0; UL 746A |

| Descriptive Properties            | Value  | Comments       |
|-----------------------------------|--------|----------------|
| Ball Pressure Test, 125°C +/- 2°C | PASSES | IEC 60695-10-2 |

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