

CYCOLOY\* CX7259 Resin  
SABIC Innovative Plastics Asia Pacific - Polycarbonate

| General Information                                                                                                                                                                                                                                             |                                  |                                               |                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------------------------------------|-----------------|
| Product Description                                                                                                                                                                                                                                             |                                  |                                               |                 |
| Cycloy resin grade CX7259 is a flame retardant impact modified polycarbonate blend aiming at ultra thin wall designs. It is listed as UL-94 V1 at 0.5mm & V0 at 0.6mm with excellent flow and balanced heat resistance ideally for many thin wall applications. |                                  |                                               |                 |
| General                                                                                                                                                                                                                                                         |                                  |                                               |                 |
| Additive                                                                                                                                                                                                                                                        | • Impact Modifier                |                                               |                 |
| Features                                                                                                                                                                                                                                                        | • Flame Retardant<br>• High Flow | • Impact Modified<br>• Medium Heat Resistance |                 |
| Uses                                                                                                                                                                                                                                                            | • Thin-walled Parts              |                                               |                 |
| Forms                                                                                                                                                                                                                                                           | • Pellets                        |                                               |                 |
| Processing Method                                                                                                                                                                                                                                               | • Injection Molding              |                                               |                 |
| ASTM and ISO Properties <sup>1</sup>                                                                                                                                                                                                                            |                                  |                                               |                 |
| Physical                                                                                                                                                                                                                                                        | Nominal Value (English)          | Nominal Value (SI)                            | Test Method     |
| Specific Gravity                                                                                                                                                                                                                                                |                                  |                                               |                 |
| --                                                                                                                                                                                                                                                              | 1.20                             | 1.20                                          | ASTM D792       |
| --                                                                                                                                                                                                                                                              | 1.20 g/cm³                       | 1.20 g/cm³                                    | ISO 1183        |
| Melt Mass-Flow Rate (MFR) (260°C/2.16 kg)                                                                                                                                                                                                                       | 23 g/10 min                      | 23 g/10 min                                   | ASTM D1238      |
| Melt Volume-Flow Rate (MVR)                                                                                                                                                                                                                                     |                                  |                                               | ISO 1133        |
| 260°C/2.16 kg                                                                                                                                                                                                                                                   | 1.16 in³/10min                   | 19.0 cm³/10min                                |                 |
| 300°C/1.2 kg                                                                                                                                                                                                                                                    | 1.71 in³/10min                   | 28.0 cm³/10min                                |                 |
| Molding Shrinkage - Flow (0.126 in (3.20 mm))                                                                                                                                                                                                                   | 0.0050 to 0.0070 in/in           | 0.50 to 0.70 %                                | Internal Method |
| Water Absorption                                                                                                                                                                                                                                                |                                  |                                               | ISO 62          |
| Saturation, 73°F (23°C)                                                                                                                                                                                                                                         | 0.17 %                           | 0.17 %                                        |                 |
| Equilibrium, 73°F (23°C), 50% RH                                                                                                                                                                                                                                | 0.10 %                           | 0.10 %                                        |                 |



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| Mechanical                                    | Nominal Value (English)    | Nominal Value (SI)      | Test Method  |
|-----------------------------------------------|----------------------------|-------------------------|--------------|
| Tensile Modulus                               |                            |                         |              |
| -- <sup>2</sup>                               | 381000 psi                 | 2630 MPa                | ASTM D638    |
| --                                            | 377000 psi                 | 2600 MPa                | ISO 527-2/1  |
| Tensile Strength                              |                            |                         |              |
| Yield <sup>3</sup>                            | 8670 psi                   | 59.8 MPa                | ASTM D638    |
| Yield                                         | 9280 psi                   | 64.0 MPa                | ISO 527-2/50 |
| Break <sup>3</sup>                            | 7700 psi                   | 53.1 MPa                | ASTM D638    |
| Break                                         | 7110 psi                   | 49.0 MPa                | ISO 527-2/50 |
| Tensile Elongation                            |                            |                         |              |
| Yield <sup>3</sup>                            | 3.8 %                      | 3.8 %                   | ASTM D638    |
| Yield                                         | 3.8 %                      | 3.8 %                   | ISO 527-2/50 |
| Break <sup>3</sup>                            | 80 %                       | 80 %                    | ASTM D638    |
| Break                                         | 70 %                       | 70 %                    | ISO 527-2/50 |
| Flexural Modulus                              |                            |                         |              |
| 1.97 in (50.0 mm) Span <sup>4</sup>           | 381000 psi                 | 2630 MPa                | ASTM D790    |
| -- <sup>5</sup>                               | 387000 psi                 | 2670 MPa                | ISO 178      |
| Flexural Strength                             |                            |                         |              |
| -- <sup>5, 6</sup>                            | 14200 psi                  | 98.0 MPa                | ISO 178      |
| Yield, 1.97 in (50.0 mm) Span <sup>4</sup>    | 13900 psi                  | 96.0 MPa                | ASTM D790    |
| Impact                                        | Nominal Value (English)    | Nominal Value (SI)      | Test Method  |
| Charpy Notched Impact Strength <sup>7</sup>   |                            |                         | ISO 179/1eA  |
| -22°F (-30°C)                                 | 4.28 ft-lb/in <sup>2</sup> | 9.00 kJ/m <sup>2</sup>  |              |
| 73°F (23°C)                                   | 4.76 ft-lb/in <sup>2</sup> | 10.00 kJ/m <sup>2</sup> |              |
| Charpy Unnotched Impact Strength <sup>7</sup> |                            |                         | ISO 179/1eU  |
| -22°F (-30°C)                                 | No Break                   | No Break                |              |
| 73°F (23°C)                                   | No Break                   | No Break                |              |
| Notched Izod Impact                           |                            |                         |              |
| -22°F (-30°C)                                 | 1.29 ft-lb/in              | 69.0 J/m                | ASTM D256    |
| 73°F (23°C)                                   | 2.38 ft-lb/in              | 127 J/m                 | ASTM D256    |
| -22°F (-30°C) <sup>8</sup>                    | 4.28 ft-lb/in <sup>2</sup> | 9.00 kJ/m <sup>2</sup>  | ISO 180/1A   |
| 73°F (23°C) <sup>8</sup>                      | 4.76 ft-lb/in <sup>2</sup> | 10.00 kJ/m <sup>2</sup> | ISO 180/1A   |
| Unnotched Izod Impact Strength <sup>8</sup>   |                            |                         | ISO 180/1U   |
| -22°F (-30°C)                                 | No Break                   | No Break                |              |
| 73°F (23°C)                                   | No Break                   | No Break                |              |
| Instrumented Dart Impact                      |                            |                         | ASTM D3763   |
| 73°F (23°C), Total Energy                     | 620 in-lb                  | 70.0 J                  |              |



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| Thermal                                                            | Nominal Value (English) | Nominal Value (SI) | Test Method                             |
|--------------------------------------------------------------------|-------------------------|--------------------|-----------------------------------------|
| Deflection Temperature Under Load                                  |                         |                    |                                         |
| 264 psi (1.8 MPa), Unannealed, 0.252 in (6.40 mm)                  | 199 °F                  | 93.0 °C            | ASTM D648                               |
| 264 psi (1.8 MPa), Unannealed, 2.52 in (64.0 mm) Span <sup>9</sup> | 185 °F                  | 85.0 °C            | ISO 75-2/Af                             |
| Vicat Softening Temperature                                        |                         |                    |                                         |
| --                                                                 | 214 °F                  | 101 °C             | ASTM D1525 <sup>10</sup><br>ISO 306/B50 |
| --                                                                 | 219 °F                  | 104 °C             | ISO 306/B120                            |
| CLTE                                                               |                         |                    |                                         |
| Flow: -40 to 104°F (-40 to 40°C)                                   | 0.000039 in/in/°F       | 0.000070 cm/cm/°C  | ASTM E831                               |
| Flow: -40 to 104°F (-40 to 40°C)                                   | 0.000038 in/in/°F       | 0.000069 cm/cm/°C  | ISO 11359-2                             |
| Transverse: -40 to 104°F (-40 to 40°C)                             | 0.000041 in/in/°F       | 0.000073 cm/cm/°C  | ASTM E831                               |
| Transverse: -40 to 104°F (-40 to 40°C)                             | 0.000040 in/in/°F       | 0.000072 cm/cm/°C  | ISO 11359-2                             |

| Flammability         | Nominal Value (English) | Nominal Value (SI) | Test Method |
|----------------------|-------------------------|--------------------|-------------|
| Flame Rating - UL    |                         |                    | UL 94       |
| 0.0118 in (0.300 mm) | V-2                     | V-2                |             |
| 0.0197 in (0.500 mm) | V-1                     | V-1                |             |
| 0.0236 in (0.600 mm) | V-0                     | V-0                |             |

| Processing Information |                         |                    |  |
|------------------------|-------------------------|--------------------|--|
| Injection              | Nominal Value (English) | Nominal Value (SI) |  |
| Drying Temperature     | 194 °F                  | 90.0 °C            |  |
| Drying Time            | 4.0 hr                  | 4.0 hr             |  |
| Suggested Max Moisture | 0.040 %                 | 0.040 %            |  |
| Suggested Shot Size    | 40 to 80 %              | 40 to 80 %         |  |
| Hopper Temperature     | 140 to 176 °F           | 60.0 to 80.0 °C    |  |
| Rear Temperature       | 500 to 572 °F           | 260 to 300 °C      |  |
| Middle Temperature     | 500 to 572 °F           | 260 to 300 °C      |  |
| Front Temperature      | 509 to 572 °F           | 265 to 300 °C      |  |
| Nozzle Temperature     | 509 to 572 °F           | 265 to 300 °C      |  |
| Processing (Melt) Temp | 518 to 572 °F           | 270 to 300 °C      |  |
| Mold Temperature       | 140 to 194 °F           | 60.0 to 90.0 °C    |  |
| Back Pressure          | 43.5 to 102 psi         | 0.300 to 0.700 MPa |  |
| Screw Speed            | 40 to 70 rpm            | 40 to 70 rpm       |  |
| Vent Depth             | 0.0015 to 0.0030 in     | 0.038 to 0.076 mm  |  |

