

# SABIC® PC PC0700 resin

Polycarbonate

SABIC Innovative Plastics Asia Pacific

## Message:

PC0700 resin is a low flow (MFR = 7 at 300°C/1.2kg), heat stabilized, polycarbonate product designed for use in the custom compounding market. It does not contain UV stabilizer or mold release. It is available exclusively at [www.sabicpc.com](http://www.sabicpc.com).

| General Information                        |                   |                        |                       |
|--------------------------------------------|-------------------|------------------------|-----------------------|
| UL YellowCard                              | E207780-101214036 |                        |                       |
| Additive                                   | Heat Stabilizer   |                        |                       |
| Features                                   | Heat Stabilized   |                        |                       |
|                                            | Low Flow          |                        |                       |
| Uses                                       | Compounding       |                        |                       |
| Processing Method                          | Injection Molding |                        |                       |
| Physical                                   | Nominal Value     | Unit                   | Test Method           |
| Specific Gravity                           | 1.20              | g/cm <sup>3</sup>      | ASTM D792, ISO 1183   |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)   | 7.0               | g/10 min               | ASTM D1238            |
| Melt Volume-Flow Rate (MVR) (300°C/1.2 kg) | 6.50              | cm <sup>3</sup> /10min | ISO 1133              |
| Molding Shrinkage - Flow                   |                   |                        | Internal Method       |
| -- <sup>1</sup>                            | 0.50 to 0.70      | %                      |                       |
| 3.20 mm                                    | 0.50 to 0.70      | %                      |                       |
| Water Absorption                           |                   |                        |                       |
| Saturation, 23°C                           | 0.35              | %                      | ISO 62                |
| Equilibrium, 23°C                          | 0.35              | %                      | ASTM D570             |
| Hardness                                   | Nominal Value     | Unit                   | Test Method           |
| Rockwell Hardness (R-Scale)                | 120               |                        | ASTM D785, ISO 2039-2 |
| Mechanical                                 | Nominal Value     | Unit                   | Test Method           |
| Tensile Modulus                            |                   |                        |                       |
| -- <sup>2</sup>                            | 2350              | MPa                    | ASTM D638             |
| --                                         | 2350              | MPa                    | ISO 527-2/1           |
| Tensile Strength                           |                   |                        |                       |
| Yield <sup>3</sup>                         | 63.0              | MPa                    | ASTM D638             |
| Yield                                      | 63.0              | MPa                    | ISO 527-2/50          |
| Tensile Elongation                         |                   |                        |                       |
| Yield <sup>4</sup>                         | 6.0               | %                      | ASTM D638             |
| Yield                                      | 6.0               | %                      | ISO 527-2/50          |
| Break <sup>5</sup>                         | > 70              | %                      | ASTM D638             |
| Break                                      | > 70              | %                      | ISO 527-2/50          |
| Flexural Modulus                           |                   |                        |                       |

|                                                      |               |                   |                                       |
|------------------------------------------------------|---------------|-------------------|---------------------------------------|
| 50.0 mm Span <sup>6</sup>                            | 2300          | MPa               | ASTM D790                             |
| -- <sup>7</sup>                                      | 2300          | MPa               | ISO 178                               |
| Flexural Stress                                      |               |                   |                                       |
| --                                                   | 90.0          | MPa               | ISO 178                               |
| Yield, 50.0 mm Span <sup>8</sup>                     | 90.0          | MPa               | ASTM D790                             |
| Impact                                               | Nominal Value | Unit              | Test Method                           |
| Notched Izod Impact                                  |               |                   |                                       |
| 23°C                                                 | 900           | J/m               | ASTM D256                             |
| -30°C <sup>9</sup>                                   | 12            | kJ/m <sup>2</sup> | ISO 180/1A                            |
| 23°C <sup>10</sup>                                   | 70            | kJ/m <sup>2</sup> | ISO 180/1A                            |
| Unnotched Izod Impact                                |               |                   |                                       |
| 23°C                                                 | No Break      |                   | ASTM D4812, ISO 180/1U                |
| -30°C <sup>11</sup>                                  | No Break      |                   | ISO 180/1U                            |
| Instrumented Dart Impact (23°C, Energy at Peak Load) | 65.0          | J                 | ASTM D3763                            |
| Thermal                                              | Nominal Value | Unit              | Test Method                           |
| Deflection Temperature Under Load                    |               |                   |                                       |
| 0.45 MPa, Unannealed, 3.20 mm                        | 138           | °C                | ASTM D648                             |
| 0.45 MPa, Unannealed, 64.0 mm Span <sup>12</sup>     | 138           | °C                | ISO 75-2/Bf                           |
| 1.8 MPa, Unannealed, 3.20 mm                         | 127           | °C                | ASTM D648                             |
| 1.8 MPa, Unannealed, 64.0 mm Span <sup>13</sup>      | 127           | °C                | ISO 75-2/Af                           |
| Vicat Softening Temperature                          | 144           | °C                | ISO 306/B50, ASTM D1525 <sup>14</sup> |
| Ball Pressure Test (125°C)                           | Pass          |                   | IEC 60695-10-2                        |
| CLTE - Flow                                          |               |                   |                                       |
| -40 to 95°C                                          | 7.0E-5        | cm/cm/°C          | ASTM E831                             |
| 23 to 80°C                                           | 7.0E-5        | cm/cm/°C          | ISO 11359-2                           |
| Thermal Conductivity                                 | 0.20          | W/m/K             | ASTM C177, ISO 8302                   |
| Electrical                                           | Nominal Value | Unit              | Test Method                           |
| Volume Resistivity                                   | > 1.0E+15     | ohms·cm           | ASTM D257, IEC 60093                  |
| Dielectric Strength (1.60 mm)                        | 27            | kV/mm             | ASTM D149, IEC 60243-1                |
| Dielectric Constant                                  |               |                   | ASTM D150, IEC 60250                  |
| 60 Hz                                                | 3.00          |                   |                                       |
| 1 MHz                                                | 3.00          |                   |                                       |
| Dissipation Factor                                   |               |                   | ASTM D150, IEC 60250                  |
| 60 Hz                                                | 1.0E-3        |                   |                                       |
| 1 MHz                                                | 0.010         |                   |                                       |
| Flammability                                         | Nominal Value | Unit              | Test Method                           |
| Flame Rating (1.50 mm)                               | V-2           |                   | UL 94                                 |
| Optical                                              | Nominal Value | Unit              | Test Method                           |
| Refractive Index                                     | 1.586         |                   | ASTM D542, ISO 489                    |
| Transmittance (2540 µm)                              | 88.0 to 90.0  | %                 | ASTM D1003                            |
| Haze (2540 µm)                                       | < 0.80        | %                 | ASTM D1003                            |

| Injection              | Nominal Value | Unit |
|------------------------|---------------|------|
| Drying Temperature     | 120           | °C   |
| Drying Time            | 2.0 to 4.0    | hr   |
| Suggested Max Moisture | 0.020         | %    |
| Hopper Temperature     | 60.0 to 80.0  | °C   |
| Rear Temperature       | 270 to 300    | °C   |
| Middle Temperature     | 280 to 310    | °C   |
| Front Temperature      | 290 to 320    | °C   |
| Nozzle Temperature     | 280 to 310    | °C   |
| Processing (Melt) Temp | 290 to 320    | °C   |
| Mold Temperature       | 80.0 to 120   | °C   |

#### NOTE

1. Tensile Bar
2. 50 mm/min
3. Type I, 50 mm/min
4. Type I, 50 mm/min
5. Type I, 50 mm/min
6. 1.3 mm/min
7. 2.0 mm/min
8. 1.3 mm/min
9. 80\*10\*3
10. 80\*10\*3
11. 80\*10\*3
12. 80\*10\*4 mm
13. 80\*10\*4 mm
14. Rate B (120°C/h), Loading 2 (50 N)

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