

# XYLEX™ X7300CL resin

Polycarbonate + Polyester  
SABIC Innovative Plastics Europe

Message:

PC+ POLYESTER unreinforced alloy developed for optical or lense market. Chemical resistance.

| General Information         |                          |                        |                 |
|-----------------------------|--------------------------|------------------------|-----------------|
| Features                    | Good Chemical Resistance |                        |                 |
| Uses                        | Lenses                   |                        |                 |
| RoHS Compliance             | RoHS Compliant           |                        |                 |
| Processing Method           | Injection Molding        |                        |                 |
| Physical                    | Nominal Value            | Unit                   | Test Method     |
| Specific Gravity            |                          |                        |                 |
| --                          | 1.20                     | g/cm <sup>3</sup>      | ASTM D792       |
| --                          | 1.18                     | g/cm <sup>3</sup>      | ISO 1183        |
| Melt Mass-Flow Rate (MFR)   |                          |                        | ASTM D1238      |
| 265°C/2.16 kg               | 21                       | g/10 min               |                 |
| 300°C/1.2 kg                | 44                       | g/10 min               |                 |
| Melt Volume-Flow Rate (MVR) |                          |                        | ISO 1133        |
| 265°C/2.16 kg               | 20.0                     | cm <sup>3</sup> /10min |                 |
| 300°C/1.2 kg                | 42.0                     | cm <sup>3</sup> /10min |                 |
| Molding Shrinkage           |                          |                        | Internal Method |
| Flow : 3.20 mm              | 0.40 to 0.80             | %                      |                 |
| Across Flow : 3.20 mm       | 0.50 to 0.70             | %                      |                 |
| Water Absorption            |                          |                        | ISO 62          |
| Saturation, 23°C            | 0.50                     | %                      |                 |
| Equilibrium, 23°C, 50% RH   | 0.12                     | %                      |                 |
| Mechanical                  | Nominal Value            | Unit                   | Test Method     |
| Tensile Modulus             |                          |                        |                 |
| -- <sup>1</sup>             | 1840                     | MPa                    | ASTM D638       |
| --                          | 1900                     | MPa                    | ISO 527-2/1     |
| Tensile Strength            |                          |                        |                 |
| Yield <sup>2</sup>          | 49.0                     | MPa                    | ASTM D638       |
| Yield                       | 55.0                     | MPa                    | ISO 527-2/50    |
| Break <sup>3</sup>          | 52.0                     | MPa                    | ASTM D638       |
| Break                       | 55.0                     | MPa                    | ISO 527-2/50    |
| Tensile Elongation          |                          |                        |                 |
| Yield <sup>4</sup>          | 5.0                      | %                      | ASTM D638       |
| Yield                       | 5.0                      | %                      | ISO 527-2/50    |
| Break <sup>5</sup>          | 150                      | %                      | ASTM D638       |

|                                                    |               |                   |                          |
|----------------------------------------------------|---------------|-------------------|--------------------------|
| Break                                              | > 150         | %                 | ISO 527-2/50             |
| Flexural Modulus                                   |               |                   |                          |
| 50.0 mm Span <sup>6</sup>                          | 1940          | MPa               | ASTM D790                |
| -- <sup>7</sup>                                    | 2000          | MPa               | ISO 178                  |
| Flexural Stress                                    |               |                   |                          |
| --                                                 | 71.0          | MPa               | ISO 178                  |
| Yield, 50.0 mm Span <sup>8</sup>                   | 83.0          | MPa               | ASTM D790                |
| Impact                                             | Nominal Value | Unit              | Test Method              |
| Charpy Notched Impact Strength <sup>9</sup> (23°C) | 11            | kJ/m <sup>2</sup> | ISO 179/1eA              |
| Notched Izod Impact                                |               |                   |                          |
| -30°C                                              | 56            | J/m               | ASTM D256                |
| 23°C                                               | 660           | J/m               | ASTM D256                |
| -30°C <sup>10</sup>                                | 7.0           | kJ/m <sup>2</sup> | ISO 180/1A               |
| -10°C <sup>11</sup>                                | 5.0           | kJ/m <sup>2</sup> | ISO 180/1A               |
| 23°C <sup>12</sup>                                 | 10            | kJ/m <sup>2</sup> | ISO 180/1A               |
| Instrumented Dart Impact (23°C, Total Energy)      | 95.0          | J                 | ASTM D3763               |
| Thermal                                            | Nominal Value | Unit              | Test Method              |
| Deflection Temperature Under Load                  |               |                   |                          |
| 0.45 MPa, Unannealed, 3.20 mm                      | 102           | °C                | ASTM D648                |
| 1.8 MPa, Unannealed, 3.20 mm                       | 88.0          | °C                | ASTM D648                |
| 1.8 MPa, Unannealed, 100 mm Span <sup>13</sup>     | 90.0          | °C                | ISO 75-2/Ae              |
| 1.8 MPa, Unannealed, 64.0 mm Span <sup>14</sup>    | 92.0          | °C                | ISO 75-2/Af              |
| Vicat Softening Temperature                        |               |                   |                          |
| --                                                 | 108           | °C                | ASTM D1525 <sup>15</sup> |
| --                                                 | 107           | °C                | ISO 306/B50              |
| --                                                 | 106           | °C                | ISO 306/B120             |
| CLTE                                               |               |                   |                          |
| Flow : -40 to 40°C                                 | 1.2E-4        | cm/cm/°C          | ASTM E831                |
| Flow : 23 to 60°C                                  | 8.5E-5        | cm/cm/°C          | ISO 11359-2              |
| Transverse : -40 to 40°C                           | 1.1E-4        | cm/cm/°C          | ASTM E831                |
| Transverse : 23 to 60°C                            | 8.5E-5        | cm/cm/°C          | ISO 11359-2              |
| Flammability                                       | Nominal Value |                   | Test Method              |
| Flame Rating (3.00 mm)                             | V-2           |                   | UL 94                    |
| Optical                                            | Nominal Value | Unit              | Test Method              |
| Transmittance (2540 µm)                            | 88.0          | %                 | ASTM D1003               |
| Haze (2540 µm)                                     | 2.0           | %                 | ASTM D1003               |
| Injection                                          | Nominal Value | Unit              |                          |
| Drying Temperature                                 | 82.2 to 93.3  | °C                |                          |
| Drying Time                                        | 3.0 to 5.0    | hr                |                          |
| Drying Time, Maximum                               | 8.0           | hr                |                          |
| Suggested Max Moisture                             | 0.020         | %                 |                          |

|                        |                |     |
|------------------------|----------------|-----|
| Suggested Shot Size    | 40 to 80       | %   |
| Rear Temperature       | 238 to 249     | °C  |
| Middle Temperature     | 243 to 266     | °C  |
| Front Temperature      | 249 to 271     | °C  |
| Nozzle Temperature     | 249 to 271     | °C  |
| Processing (Melt) Temp | 249 to 271     | °C  |
| Mold Temperature       | 43.3 to 60.0   | °C  |
| Back Pressure          | 0.172 to 0.517 | MPa |
| Screw Speed            | 20 to 100      | rpm |
| Vent Depth             | 0.013 to 0.020 | mm  |

#### NOTE

|     |                                    |
|-----|------------------------------------|
| 1.  | 50 mm/min                          |
| 2.  | Type I, 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*4 sp=62mm                    |
| 10. | 80*10*4                            |
| 11. | 80*10*4                            |
| 12. | 80*10*4                            |
| 13. | 120*10*4 mm                        |
| 14. | 80*10*4 mm                         |
| 15. | Rate B (120°C/h), Loading 2 (50 N) |

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