

# XYLEX™ X8409AC resin

Polycarbonate + Polyester

SABIC Innovative Plastics

Message:

PC + Polyester, Injection (Blow) Molding, or Extrusion Blow molding grade, Chemical Resistance and Transparency

| General Information                         |                          |                        |                     |
|---------------------------------------------|--------------------------|------------------------|---------------------|
| Features                                    | Good chemical resistance |                        |                     |
| Appearance                                  | Clear/transparent        |                        |                     |
| Processing Method                           | Extrusion blow 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) (265°C/2.16 kg)   | 4.8                      | g/10 min               | ASTM D1238          |
| Melt Volume-Flow Rate (MVR) (265°C/2.16 kg) | 3.80                     | cm <sup>3</sup> /10min | ISO 1133            |
| Molding Shrinkage                           |                          |                        | Internal method     |
| Flow: 3.20mm                                | 0.50 - 0.80              | %                      | Internal method     |
| Transverse flow: 3.20mm                     | 0.50 - 0.80              | %                      | Internal method     |
| Water Absorption                            |                          |                        | ISO 62              |
| Saturated, 23°C                             | 0.37                     | %                      | ISO 62              |
| Equilibrium, 23°C, 50% RH                   | 0.13                     | %                      | ISO 62              |
| Mechanical                                  | Nominal Value            | Unit                   | Test Method         |
| Tensile Modulus                             |                          |                        |                     |
| -- <sup>1</sup>                             | 2370                     | MPa                    | ASTM D638           |
| --                                          | 2180                     | MPa                    | ISO 527-2/1         |
| Tensile Strength                            |                          |                        |                     |
| Yield <sup>2</sup>                          | 57.0                     | MPa                    | ASTM D638           |
| Yield                                       | 60.0                     | MPa                    | ISO 527-2/50        |
| Fracture <sup>3</sup>                       | 55.0                     | MPa                    | ASTM D638           |
| Fracture                                    | 60.0                     | MPa                    | ISO 527-2/50        |
| Tensile Elongation                          |                          |                        |                     |
| Yield <sup>4</sup>                          | 6.0                      | %                      | ASTM D638           |
| Yield                                       | 5.8                      | %                      | ISO 527-2/50        |
| Fracture <sup>5</sup>                       | 92                       | %                      | ASTM D638           |
| Fracture                                    | 120                      | %                      | ISO 527-2/50        |
| Flexural Modulus                            |                          |                        |                     |
| 50.0mm span <sup>6</sup>                    | 2220                     | MPa                    | ASTM D790           |
| -- <sup>7</sup>                             | 2000                     | MPa                    | ISO 178             |
| Flexural Stress                             |                          |                        |                     |
| --                                          | 89.0                     | MPa                    | ISO 178             |

| Yield, 50.0mm span <sup>8</sup>                                                                                                                                                                                                                   | 94.0           | MPa               | ASTM D790                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|-------------------|-------------------------------------------|
| Impact                                                                                                                                                                                                                                            | Nominal Value  | Unit              | Test Method                               |
| Charpy Notched Impact Strength <sup>9</sup> (23°C)                                                                                                                                                                                                | 8.0            | kJ/m <sup>2</sup> | ISO 179/1eA                               |
| Notched Izod Impact                                                                                                                                                                                                                               |                |                   |                                           |
| -30°C                                                                                                                                                                                                                                             | 200            | J/m               | ASTM D256                                 |
| 23°C                                                                                                                                                                                                                                              | 850            | J/m               | ASTM D256                                 |
| -30°C <sup>10</sup>                                                                                                                                                                                                                               | 8.0            | kJ/m <sup>2</sup> | ISO 180/1A                                |
| -10°C <sup>11</sup>                                                                                                                                                                                                                               | 8.0            | 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)                                                                                                                                                                                                     | 70.0           | J                 | ASTM D3763                                |
| Thermal                                                                                                                                                                                                                                           | Nominal Value  | Unit              | Test Method                               |
| Deflection Temperature Under Load                                                                                                                                                                                                                 |                |                   |                                           |
| 0.45 MPa, unannealed, 3.20mm                                                                                                                                                                                                                      | 116            | °C                | ASTM D648                                 |
| 1.8 MPa, unannealed, 3.20mm                                                                                                                                                                                                                       | 104            | °C                | ASTM D648                                 |
| 1.8 MPa, unannealed, 100 mm span <sup>13</sup>                                                                                                                                                                                                    | 102            | °C                | ISO 75-2/Ae                               |
| Vicat Softening Temperature                                                                                                                                                                                                                       |                |                   |                                           |
| --                                                                                                                                                                                                                                                | 123            | °C                | ASTM D1525, ISO 306/B120 11 <sup>14</sup> |
| --                                                                                                                                                                                                                                                | 121            | °C                | ISO 306/B50                               |
| Linear thermal expansion coefficient                                                                                                                                                                                                              |                |                   |                                           |
| Flow: -40 to 40°C                                                                                                                                                                                                                                 | 1.0E-4         | cm/cm/°C          | ASTM E831, ISO 11359-2                    |
| Flow: 23 to 60°C                                                                                                                                                                                                                                  | 6.0E-5         | cm/cm/°C          | ISO 11359-2                               |
| Lateral: -40 to 40°C                                                                                                                                                                                                                              | 1.0E-4         | cm/cm/°C          | ASTM E831, ISO 11359-2                    |
| Lateral: 23 to 60°C                                                                                                                                                                                                                               | 7.0E-5         | cm/cm/°C          | ISO 11359-2                               |
| Thermal Conductivity                                                                                                                                                                                                                              | 0.23           | W/m/K             | ISO 8302                                  |
| Optical                                                                                                                                                                                                                                           | Nominal Value  | Unit              | Test Method                               |
| Refractive Index                                                                                                                                                                                                                                  | 1.576          |                   | ASTM D542                                 |
| Transmittance (2540 µm)                                                                                                                                                                                                                           | 88.0           | %                 | ASTM D1003                                |
| Haze (2540 µm)                                                                                                                                                                                                                                    | 1.5            | %                 | ASTM D1003                                |
| Extrusion                                                                                                                                                                                                                                         | Nominal Value  | Unit              |                                           |
| Drying Temperature                                                                                                                                                                                                                                | 76.7 - 87.8    | °C                |                                           |
| Drying Time                                                                                                                                                                                                                                       | 4.0 - 6.0      | hr                |                                           |
| Suggested Max Moisture                                                                                                                                                                                                                            | 5.0E-3 - 0.020 | %                 |                                           |
| Cylinder Zone 1 Temp.                                                                                                                                                                                                                             | 235 - 260      | °C                |                                           |
| Cylinder Zone 2 Temp.                                                                                                                                                                                                                             | 235 - 260      | °C                |                                           |
| Cylinder Zone 3 Temp.                                                                                                                                                                                                                             | 235 - 260      | °C                |                                           |
| Cylinder Zone 4 Temp.                                                                                                                                                                                                                             | 235 - 260      | °C                |                                           |
| Cylinder Zone 5 Temp.                                                                                                                                                                                                                             | 235 - 260      | °C                |                                           |
| Adapter Temperature                                                                                                                                                                                                                               | 235 - 260      | °C                |                                           |
| Extrusion instructions                                                                                                                                                                                                                            |                |                   |                                           |
| Drying Time (Cumulative): 24 hrsHead - Zone 6 - Top Temperature: 241 - 271 °CHead - Zone 7 - Bottom Temperature: 241 - 271 °CHead - Zone 7 - Middle Temperature: 241 - 271 °CMelt Temperature (Parison): 249 - 271 °CMold Temperature: 32 - 77 °C |                |                   |                                           |

| NOTE |                           |
|------|---------------------------|
| 1.   | 50 mm/min                 |
| 2.   | Type 1, 50mm/min          |
| 3.   | Type 1, 50mm/min          |
| 4.   | Type 1, 50mm/min          |
| 5.   | Type 1, 50mm/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.  | 标准 B (120°C/h), 载荷2 (50N) |

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