

# LEXAN™ XHT1171 resin

Polycarbonate

SABIC Innovative Plastics

## Message:

XHT1171 is an 85 MVR high flow, high heat polycarbonate copolymer enabling high aesthetics, thin wall and complex designs. It is available in a range of opaque colors.

| General Information                  |                       |                        |                     |
|--------------------------------------|-----------------------|------------------------|---------------------|
| Features                             | Copolymer             |                        |                     |
|                                      | High liquidity        |                        |                     |
|                                      | Heat resistance, high |                        |                     |
| Uses                                 | Thin wall parts       |                        |                     |
| Appearance                           | Opacity               |                        |                     |
|                                      | Available colors      |                        |                     |
| 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)            |                       |                        | ASTM D1238          |
| 300°C/2.16 kg                        | 37                    | g/10 min               | ASTM D1238          |
| 330°C/2.16 kg                        | 90                    | g/10 min               | ASTM D1238          |
| Melt Volume-Flow Rate (MVR)          |                       |                        | ISO 1133            |
| 300°C/2.16 kg                        | 33.0                  | cm <sup>3</sup> /10min | ISO 1133            |
| 330°C/2.16 kg                        | 85.0                  | cm <sup>3</sup> /10min | ISO 1133            |
| Molding Shrinkage - Flow (3.20 mm)   | 0.60 - 0.90           | %                      | Internal method     |
| Water Absorption                     |                       |                        | ISO 62              |
| Saturated, 23°C                      | 0.25                  | %                      | ISO 62              |
| Equilibrium, 23°C, 50% RH            | 0.25                  | %                      | ISO 62              |
| Hardness                             | Nominal Value         | Unit                   | Test Method         |
| Rockwell Hardness (R-Scale)          | 125                   |                        | ISO 2039-2          |
| Ball Indentation Hardness (H 358/30) | 145                   | MPa                    | ISO 2039-1          |
| Mechanical                           | Nominal Value         | Unit                   | Test Method         |
| Tensile Modulus                      |                       |                        |                     |
| -- <sup>1</sup>                      | 2450                  | MPa                    | ASTM D638           |
| --                                   | 2400                  | MPa                    | ISO 527-2/1         |
| Tensile Strength                     |                       |                        |                     |
| Yield <sup>2</sup>                   | 70.0                  | MPa                    | ASTM D638           |
| Yield                                | 70.0                  | MPa                    | ISO 527-2/50        |
| Fracture <sup>3</sup>                | 60.0                  | MPa                    | ASTM D638           |

|                                                 |               |                   |                          |
|-------------------------------------------------|---------------|-------------------|--------------------------|
| Fracture                                        | 60.0          | MPa               | ISO 527-2/50             |
| Tensile Elongation                              |               |                   |                          |
| Yield <sup>4</sup>                              | 7.0           | %                 | ASTM D638                |
| Yield                                           | 7.0           | %                 | ISO 527-2/50             |
| Fracture <sup>5</sup>                           | > 25          | %                 | ASTM D638                |
| Fracture                                        | > 55          | %                 | ISO 527-2/50             |
| Flexural Modulus                                |               |                   |                          |
| 50.0mm span <sup>6</sup>                        | 2600          | MPa               | ASTM D790                |
| -- <sup>7</sup>                                 | 2350          | MPa               | ISO 178                  |
| Flexural Stress                                 |               |                   |                          |
| --                                              | 105           | MPa               | ISO 178                  |
| Yield, 50.0mm span <sup>8</sup>                 | 110           | MPa               | ASTM D790                |
| Impact                                          | Nominal Value | Unit              | Test Method              |
| Charpy Notched Impact Strength <sup>9</sup>     |               |                   | ISO 179/1eA              |
| -30°C                                           | 10            | kJ/m <sup>2</sup> | ISO 179/1eA              |
| 23°C                                            | 10            | kJ/m <sup>2</sup> | ISO 179/1eA              |
| Charpy Unnotched Impact Strength <sup>10</sup>  |               |                   | ISO 179/1eU              |
| -30°C                                           | No Break      |                   | ISO 179/1eU              |
| 23°C                                            | No Break      |                   | ISO 179/1eU              |
| Notched Izod Impact                             |               |                   |                          |
| -30°C                                           | 75            | J/m               | ASTM D256                |
| 23°C                                            | 80            | J/m               | ASTM D256                |
| -30°C <sup>11</sup>                             | 9.0           | kJ/m <sup>2</sup> | ISO 180/1A               |
| 23°C <sup>12</sup>                              | 9.0           | kJ/m <sup>2</sup> | ISO 180/1A               |
| Unnotched Izod Impact                           |               |                   | ASTM D4812, ISO 180/1U   |
| -30°C                                           | No Break      |                   | ASTM D4812, ISO 180/1U   |
| 23°C                                            | No Break      |                   | ASTM D4812, ISO 180/1U   |
| Thermal                                         | Nominal Value | Unit              | Test Method              |
| Deflection Temperature Under Load               |               |                   |                          |
| 0.45 MPa, unannealed, 3.20mm                    | 150           | °C                | ASTM D648                |
| 0.45 MPa, unannealed, 64.0mm span <sup>13</sup> | 150           | °C                | ISO 75-2/Bf              |
| 1.8 MPa, unannealed, 3.20mm                     | 138           | °C                | ASTM D648                |
| 1.8 MPa, unannealed, 64.0mm span <sup>14</sup>  | 138           | °C                | ISO 75-2/Af              |
| Vicat Softening Temperature                     |               |                   |                          |
|                                                 | 155           |                   |                          |
| --                                              | 156           | °C                | ASTM D1525 <sup>15</sup> |
| --                                              | 155           | °C                | ISO 306/B50              |
| --                                              | 158           | °C                | ISO 306/B120             |
| Ball Pressure Test (125°C)                      | Pass          |                   | IEC 60695-10-2           |
| Linear thermal expansion coefficient            |               |                   | ASTM E831, ISO 11359-2   |

| Flow: -40 to 40°C           | 6.0E-5                    | cm/cm/°C | ASTM E831, ISO 11359-2 |
|-----------------------------|---------------------------|----------|------------------------|
| Lateral: -40 to 40°C        | 6.0E-5                    | cm/cm/°C | ASTM E831, ISO 11359-2 |
| Thermal Conductivity (25°C) | 0.20                      | W/m/K    | ASTM C177              |
| Additional Information      | Nominal Value             | Unit     | Test Method            |
| Metallized Haze (1.50 mm)   | 145                       | °C       | Internal method        |
| Injection                   | Nominal Value             | Unit     |                        |
| Drying Temperature          | 130                       | °C       |                        |
| Drying Time                 | 4.0 - 6.0                 | hr       |                        |
| Suggested Max Moisture      | 0.020                     | %        |                        |
| Suggested Shot Size         | 40 - 60                   | %        |                        |
| Rear Temperature            | 260 - 310                 | °C       |                        |
| Middle Temperature          | 270 - 320                 | °C       |                        |
| Front Temperature           | 280 - 330                 | °C       |                        |
| Nozzle Temperature          | 275 - 325                 | °C       |                        |
| Processing (Melt) Temp      | 280 - 330                 | °C       |                        |
| Mold Temperature            | 85 - 110                  | °C       |                        |
| Back Pressure               | 0.300 - 0.700             | MPa      |                        |
| Screw Speed                 | 40 - 90                   | rpm      |                        |
| Vent Depth                  | 0.025 - 0.080             | mm       |                        |
| 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*3 sp=62mm           |          |                        |
| 10.                         | 80*10*3 sp=62mm           |          |                        |
| 11.                         | 80*10*3                   |          |                        |
| 12.                         | 80*10*3                   |          |                        |
| 13.                         | 80*10*4 mm                |          |                        |
| 14.                         | 80*10*4 mm                |          |                        |
| 15.                         | 标准 B (120°C/h), 载荷2 (50N) |          |                        |

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