

# WONDERLITE® PC-115

Polycarbonate  
CHI MEI CORPORATION

Message:

WONDERLITE® PC-115 is a Polycarbonate (PC) product. It can be processed by injection molding and is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America.  
Characteristics include:  
Flame Rated  
RoHS Compliant  
Low Viscosity

| General Information                        |                   |                        |                     |
|--------------------------------------------|-------------------|------------------------|---------------------|
| UL YellowCard                              | E56070-100239157  |                        |                     |
| Features                                   | Low Viscosity     |                        |                     |
| 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, ISO 1183 |
| Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)   | 15                | g/10 min               | ASTM D1238          |
| Melt Volume-Flow Rate (MVR) (300°C/1.2 kg) | 15.0              | cm <sup>3</sup> /10min | ISO 1133            |
| Molding Shrinkage                          |                   |                        | ASTM D955           |
| Flow                                       | 0.50 to 0.70      | %                      |                     |
| Across Flow                                | 0.50 to 0.70      | %                      |                     |
| Water Absorption (23°C, 24 hr)             | 0.20              | %                      | ASTM D570           |
| Hardness                                   | Nominal Value     | Unit                   | Test Method         |
| Rockwell Hardness (M-Scale)                | 77                |                        | ASTM D785           |
| Ball Indentation Hardness (H 358/30)       | 101               | MPa                    | ISO 2039-1          |
| Mechanical                                 | Nominal Value     | Unit                   | Test Method         |
| Tensile Strength                           |                   |                        |                     |
| Yield, 3.18 mm <sup>1</sup>                | 61.8              | MPa                    | ASTM D638           |
| Yield                                      | 64.0              | MPa                    | ISO 527-2/50        |
| Break                                      | 70.0              | MPa                    | ISO 527-2/50        |
| Tensile Elongation                         |                   |                        |                     |
| Yield, 3.18 mm <sup>2</sup>                | 6.0               | %                      | ASTM D638           |
| Break, 3.18 mm <sup>3</sup>                | 110               | %                      | ASTM D638           |
| Break                                      | 120               | %                      | ISO 527-2/50        |
| Flexural Modulus                           |                   |                        |                     |
| 6.35 mm <sup>4</sup>                       | 2350              | MPa                    | ASTM D790           |
| -- <sup>5</sup>                            | 2400              | MPa                    | ISO 178             |
| Flexural Strength                          |                   |                        |                     |
| 6.35 mm <sup>6</sup>                       | 90.2              | MPa                    | ASTM D790           |

|                                   |                  |                   |                                                    |
|-----------------------------------|------------------|-------------------|----------------------------------------------------|
| -- <sup>7</sup>                   | 90.0             | MPa               | ISO 178                                            |
| Compressive Strength              | 76.5             | MPa               | ASTM D695                                          |
| Impact                            | Nominal Value    | Unit              | Test Method                                        |
| Charpy Notched Impact Strength    | 70               | kJ/m <sup>2</sup> | ISO 179                                            |
| Notched Izod Impact               |                  |                   |                                                    |
| 3.18 mm                           | 850              | J/m               | ASTM D256                                          |
| --                                | 75               | kJ/m <sup>2</sup> | ISO 180/1A                                         |
| Thermal                           | Nominal Value    | Unit              | Test Method                                        |
| Deflection Temperature Under Load |                  |                   |                                                    |
| 0.45 MPa, Unannealed <sup>8</sup> | 136              | °C                | ASTM D648                                          |
| 1.8 MPa, Unannealed <sup>9</sup>  | 125              | °C                | ASTM D648                                          |
| 1.8 MPa, Unannealed               | 128              | °C                | ISO 75-2/A                                         |
| 1.8 MPa, Annealed                 | 143              | °C                | ISO 75-2/A                                         |
| Vicat Softening Temperature       |                  |                   |                                                    |
| --                                | 150              | °C                | ASTM D1525, ISO 306/A50 <sup>7</sup> <sup>10</sup> |
| --                                | 145              | °C                | ISO 306/B50                                        |
| CLTE - Flow (44 to 100°C)         | 6.0E-5 to 8.0E-5 | cm/cm/°C          | ASTM D696                                          |
| Thermal Conductivity              | 0.20             | W/m/K             | ASTM C177                                          |
| Electrical                        | Nominal Value    | Unit              | Test Method                                        |
| Volume Resistivity                | 3.0E+16          | ohms · cm         | ASTM D257                                          |
| Dielectric Strength (1.60 mm)     | 30               | kV/mm             | ASTM D149                                          |
| Dielectric Constant               |                  |                   | ASTM D150                                          |
| 60 Hz                             | 2.95             |                   |                                                    |
| 1 MHz                             | 2.90             |                   |                                                    |
| Dissipation Factor                |                  |                   | ASTM D150                                          |
| 60 Hz                             | 4.0E-4           |                   |                                                    |
| 1 MHz                             | 9.0E-3           |                   |                                                    |
| Arc Resistance <sup>11</sup>      | 110              | sec               | ASTM D495                                          |
| Flammability                      | Nominal Value    | Unit              | Test Method                                        |
| Flame Rating                      |                  |                   | UL 94                                              |
| 0.400 mm                          | V-2              |                   |                                                    |
| 1.50 mm                           | V-2              |                   |                                                    |
| 2.50 mm                           | V-2              |                   |                                                    |
| Optical                           | Nominal Value    | Unit              | Test Method                                        |
| Refractive Index                  | 1.585            |                   | ASTM D542                                          |
| Transmittance (76200 μm)          | 89.0             | %                 | ASTM D1003                                         |
| Haze (81300 μm)                   | < 0.80           | %                 | ASTM D1003                                         |
| Injection                         | Nominal Value    | Unit              |                                                    |
| Drying Temperature                | 120              | °C                |                                                    |
| Drying Time                       | 4.0              | hr                |                                                    |
| Rear Temperature                  | 230 to 300       | °C                |                                                    |

|                    |             |    |
|--------------------|-------------|----|
| Middle Temperature | 250 to 310  | °C |
| Front Temperature  | 250 to 300  | °C |
| Mold Temperature   | 70.0 to 120 | °C |

#### NOTE

|     |                                   |
|-----|-----------------------------------|
| 1.  | 6.0 mm/min                        |
| 2.  | 6.0 mm/min                        |
| 3.  | 6.0 mm/min                        |
| 4.  | 2.8 mm/min                        |
| 5.  | 2.0 mm/min                        |
| 6.  | 2.8 mm/min                        |
| 7.  | 2.0 mm/min                        |
| 8.  | 120°C/hr                          |
| 9.  | 120°C/hr                          |
| 10. | Rate A (50°C/h), Loading 1 (10 N) |
| 11. | Tungsten Electrode                |

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