

**Makroblend® KU2-7912/4**

 Covestro - Polycarbonates - *Polycarbonate + PBT*

## General Information

**Product Description**

(PC+PBT)-blend, impact modified, Injection molding grade, high toughness at low temperatures, ideal for painted applications, unreinforced

**General**

|                   |                               |                             |                 |
|-------------------|-------------------------------|-----------------------------|-----------------|
| Material Status   | • Commercial: Active          |                             |                 |
| Availability      | • Africa & Middle East        | • Europe                    | • North America |
|                   | • Asia Pacific                | • Latin America             |                 |
| Additive          | • Impact Modifier             |                             |                 |
| Features          | • Impact Modified             | • Low Temperature Toughness | • Paintable     |
| RoHS Compliance   | • RoHS Compliant              |                             |                 |
| Processing Method | • Injection Molding           |                             |                 |
| ISO Designation   | • ISO 7792-1-PBT/PC,MHPR,-020 |                             |                 |

 Properties <sup>1</sup>

| Physical   | Nominal Value | Unit                   | Test Method  |
|--|---------------|------------------------|--------------|
| Density (73°F)   | 1.20          | g/cm <sup>3</sup>      | ISO 1183     |
| Apparent (Bulk) Density                                  | 0.70          | g/cm <sup>3</sup>      | ISO 60       |
| Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)               | 16            | cm <sup>3</sup> /10min | ISO 1133     |
| Molding Shrinkage  |               |                        | ISO 2577     |
| Across Flow <sup>2</sup>                                 | 0.70 to 0.90  | %                      |              |
| Across Flow : 194°F, 1 hr                                | 0.10 to 0.20  | %                      |              |
| Flow <sup>2</sup>  | 0.70 to 0.90  | %                      |              |
| Flow : 194°F, 1 hr                                       | 0.10 to 0.20  | %                      |              |
| Water Absorption (Saturation, 73°F)                      | 0.60          | %                      | ISO 62       |
| Water Absorption (Equilibrium, 73°F, 50% RH)             | 0.20          | %                      | ISO 62       |
| Mechanical   | Nominal Value | Unit                   | Test Method  |
| Tensile Modulus (73°F)                                   | 297000        | psi                    | ISO 527-1/1  |
| Tensile Stress (Yield, 73°F)                             | 7250          | psi                    | ISO 527-2/50 |
| Tensile Stress (Break, 73°F)                             | 6530          | psi                    | ISO 527-2/50 |
| Tensile Strain (Yield, 73°F)                             | 4.0           | %                      | ISO 527-2/50 |
| Nominal Tensile Strain at Break (73°F)                   | > 50          | %                      | ISO 527-2/50 |
| Flexural Modulus <sup>3</sup> (73°F)                     | 305000        | psi                    | ISO 178      |
| Flexural Stress <sup>3</sup>                             |               |                        | ISO 178      |
| 3.5% Strain, 73°F  | 9570          | psi                    |              |
| 73°F   | 10900         | psi                    |              |
| Flexural Strain at Flexural Strength <sup>4</sup> (73°F) | 5.5           | %                      | ISO 178      |
| Impact   | Nominal Value | Unit                   | Test Method  |
| Charpy Notched Impact Strength                           |               |                        | ISO 179/1eA  |
| -22°F  | 21            | ft·lb/in <sup>2</sup>  |              |
| 73°F   | 29            | ft·lb/in <sup>2</sup>  |              |
| Charpy Unnotched Impact Strength                         |               |                        | ISO 179/1eU  |
| -22°F  | No Break      |                        |              |
| 73°F   | No Break      |                        |              |
| Notched Izod Impact Strength                             |               |                        | ISO 180/A    |
| -22°F  | 21            | ft·lb/in <sup>2</sup>  |              |
| -4°F   | 25            | ft·lb/in <sup>2</sup>  |              |
| 73°F   | 29            | ft·lb/in <sup>2</sup>  |              |



|   |                                   |                    |
|---|-----------------------------------|--------------------|
| Unnotched Izod Impact Strength                          |                                   | ISO 180            |
| -22°F   | No Break                          |                    |
| 73°F  | No Break                          |                    |
| <b>Hardness</b>   | <b>Nominal Value Unit</b>         | <b>Test Method</b> |
| Ball Indentation Hardness                               | 14500 psi                         | ISO 2039-1         |
| <b>Thermal</b>  | <b>Nominal Value Unit</b>         | <b>Test Method</b> |
| Deflection Temperature Under Load (66 psi, Unannealed)  | 223 °F                            | ISO 75-2/B         |
| Deflection Temperature Under Load (264 psi, Unannealed) | 180 °F                            | ISO 75-2/A         |
| Vicat Softening Temperature                             | 248 °F                            | ISO 306/B120       |
| Melting Temperature <sup>5</sup>                        | 433 °F                            | ISO 11357-3        |
| CLTE - Flow (73 to 131°F)                               | 5.0E-5 in/in/°F                   | ISO 11359-2        |
| CLTE - Transverse (73 to 131°F)                         | 5.0E-5 in/in/°F                   | ISO 11359-2        |
| Thermal Conductivity <sup>6</sup> (73°F)                | 1.4 Btu·in/hr/ft <sup>2</sup> /°F | ISO 8302           |
| <b>Electrical</b>                                       | <b>Nominal Value Unit</b>         | <b>Test Method</b> |
| Surface Resistivity                                     | > 1.0E+17 ohms                    | IEC 60093          |
| Volume Resistivity (73°F)                               | > 1.0E+17 ohms·cm                 | IEC 60093          |
| Electric Strength (73°F, 0.0394 in)                     | 890 V/mil                         | IEC 60243-1        |
| Relative Permittivity                                   |                                   | IEC 60250          |
| 73°F, 100 Hz  | 3.20                              |                    |
| 73°F, 1 MHz   | 3.10                              |                    |
| Dissipation Factor                                      |                                   | IEC 60250          |
| 73°F, 100 Hz  | 1.5E-3                            |                    |
| 73°F, 1 MHz   | 0.013                             |                    |
| Comparative Tracking Index                              |                                   | IEC 60112          |
| Solution A  | 500 V                             |                    |
| Solution B  | 100 V                             |                    |
| Electrolytic Corrosion (73°F)                           | A1                                | IEC 60426          |
| <b>Flammability</b>                                     | <b>Nominal Value Unit</b>         | <b>Test Method</b> |
| Flame Rating (0.06 in)                                  | HB                                | UL 94              |
| Glow Wire Flammability Index (0.08 in)                  | 1290 °F                           | IEC 60695-2-12     |
| Oxygen Index <sup>7</sup>                               | 21 %                              | ISO 4589-2         |
| Burning Rate <sup>8</sup> (> 39.4 mil)                  | passed                            | ISO 3795           |
| <b>Additional Information</b>                           | <b>Nominal Value Unit</b>         | <b>Test Method</b> |
| Gottfert Melt Viscosity <sup>9</sup> (500°F)            | 670 Pa·s                          | Internal Method    |

### Processing Information

|                                    | Nominal Value    | Unit |
|------------------------------------|------------------|------|
| <b>Injection</b>                   |                  |      |
| Drying Temperature - Dry Air Dryer | 221              | °F   |
| Drying Time - Dry Air Dryer        | 2.0 to 4.0       | hr   |
| Suggested Max Moisture             | < 0.020          | %    |
| Suggested Shot Size                | 30 to 70         | %    |
| Rear Temperature                   | 446 to 464       | °F   |
| Middle Temperature                 | 464 to 482       | °F   |
| Front Temperature                  | 482 to 500       | °F   |
| Nozzle Temperature                 | 500 to 518       | °F   |
| Processing (Melt) Temp             | 482 to 518       | °F   |
| Mold Temperature                   | 140 to 176       | °F   |
| Back Pressure                      | 725 to 1450      | psi  |
| Vent Depth                         | 9.8E-4 to 3.0E-3 | in   |

### Injection Notes

Peripheral Screw Speed: 0.1-0.2 m/s  
Hold Pressure (% of Injection Pressure): 50-75%  
Standard Melt Temperature: 260°C

