



# Glactic<sup>®</sup> Embo PC Film & Sheet

**Product Name : CCL+EVM, CCL+EPM**

**Type : EVM(Velvet/Matte), EPM(Polish/Matte)**

**Materials : Polycarbonate**

**Dimension : User Spec**

**Thickness : 0.100mm~0.5mm**

| Property                               | Test Method                | Units | Value             | Note                       |
|--|----------------------------|-------|-------------------|----------------------------|
| <b>Manufacturing Specifications</b>    |                            |       |                   |                            |
| Thickness Tolerance                    | Thickness Measuring System | %     | < ±7              | 0.25mm or less than 0.25mm |
|  |                            |       | < ±5              | more than 0.25mm           |
| <b>Physical Property</b>               |                            |       |                   |                            |
| Specific gravity                       | ISO 1183                   |       | 1.2               |                            |
| Water absorption@23°C ,24hr            | ISO 62                     | %     | 0.2               |                            |
| <b>Mechanical and Thermal Property</b> |                            |       |                   |                            |
| Tensile Strength at yield              | ISO 527-2                  | MPa   | 56.5~66.5         |                            |
| Tensile Modulus                        | ISO 527-2                  | GPa   | 2.1~2.5           |                            |
| Tensile Elongation at Break            | ISO 527-2                  | %     | >100              |                            |
| Heat Deflection Temp.(1.8MPa)          | ISO 75-2                   | °C    | 130               |                            |
| <b>Optical Property</b>                |                            |       |                   |                            |
| Refractive Index n <sub>D</sub>        | ISO 489                    |       | 1.59              |                            |
| Light Transmittance                    | ASTM D1003                 | %     | >80               | at 550nm                   |
| Yellow Index                           | ASTM E313                  | %     | <1.5              |                            |
| Haze                                   | ASTM D1003                 | %     | >75               | EVM                        |
|  |                            |       | >50               | EPM                        |
| <b>Electrical Property</b>             |                            |       |                   |                            |
| Dielectric Strength                    | ASTM D149                  | kV/mm | 65~100            | 0.25~0.5mm                 |
| Surface Resistivity                    | ASTM D257                  | Ω/□   | >10 <sup>16</sup> |                            |
| Volume Resistivity                     | ASTM D257                  | Ω-cm  | >10 <sup>15</sup> |                            |
| <b>Surface Roughness Property</b>      |                            |       |                   |                            |
| Ra                                     | ISO 12085                  | um    | 0.5~1.5           | Matte                      |
|  | ISO 12085                  | um    | 2.0~3.5           | Velvet                     |
| <b>UL Flammability Rating</b>          |                            |       |                   |                            |
| Thickness                              |                            |       |                   |                            |
| 0.12 - 0.28mm                          | UL94                       |       | VTM-2             | UL File No.                |
| >0.38mm                                | UL94                       |       | V-2               | E226770                    |
| <b>RoHS</b>                            |                            |       |                   |                            |
| Cadmium(Cd)                            |                            |       | N.D.              |                            |
| Lead(Pb)                               |                            |       | N.D.              |                            |
| Mercury(Hg)                            |                            |       | N.D.              |                            |
| Hexavalent Chromium(Cr VI)             |                            |       | N.D.              |                            |
| Polybrominated Bisphenyl(PBBs)         |                            |       | N.D.              |                            |
| Polybrominated Diphenyl Ether(PBDEs)   |                            |       | N.D.              | Test Report                |
| <b>Halogen</b>                         |                            |       |                   |                            |
| Bromine(Br)                            |                            |       | N.D.              |                            |
| Chlorine(Cl)                           |                            |       | N.D.              |                            |
| Fluorine(F)                            |                            |       | N.D.              |                            |
| Iodine(I)                              |                            |       | N.D.              |                            |

\* These are typical properties are not intended for specification purposes.