Injection Molding

- **Molding condition**
  Standard injection molding conditions of Panlite are shown in the following tables.

- **Flow characteristics**
  Since flowability of Panlite is greatly influenced by the grade, wall thickness of product, resin temperature, injection pressure, etc., attention should be paid in designing products to the spiral flow and bar flow lengths (Fig. 47 and 48).

### Table of Standard injection conditions

<table>
<thead>
<tr>
<th>Predrying</th>
<th>129°C X 5 hours or more. Ensure thorough drying to reduce the moisture content to 0.02% or below.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Injection molding machine</td>
<td>Select a molding machine with a shot capacity of 1.5-3 times as that of the weight of the molded product.</td>
</tr>
<tr>
<td>Molding temperature</td>
<td>270-320°C</td>
</tr>
<tr>
<td>Mold temperature</td>
<td>80-120°C</td>
</tr>
<tr>
<td>Screw revolution</td>
<td>40-100rpm</td>
</tr>
<tr>
<td>Injection speed</td>
<td>medium - high</td>
</tr>
<tr>
<td>Injection pressure</td>
<td>98.1MPa - 147.1MPa</td>
</tr>
<tr>
<td>Back pressure</td>
<td>10MPa or less</td>
</tr>
</tbody>
</table>

#### Fig. 47-1 Flowability (Spiral Flow) of Panlite (Thickness of flow path 1-5mm)

- Injection Molding Machine: 65 ton clamp
  - Inj. pressure: 117.7 MPa (1,200 kgf/cm²)
  - Mold temp.: 90°C
  - (Archimedeans spiral flow mold)

- Length of spiral flow, mm

#### Fig. 48-1 Flowability (Spiral Flow) of Panlite G (Thickness of flow path 1-5mm)

- Injection Molding Machine: 150 ton clamp
  - Inj. pressure: 127.5 MPa (1,300 kgf/cm²)
  - Mold temp.: 100°C
  - (Archimedeans spiral flow mold)

- Length of spiral flow, mm

### Graphical Data

- Fig. 47-1: Flowability (Spiral Flow) of Panlite (Thickness of flow path 1-5mm)
  - Injection Molding Machine: 90 ton clamp
    - Inj. pressure: 147.1 MPa (1,500 kgf/cm²)
    - Mold temp.: 100°C (Bar flow mold width 6 mm)

- Fig. 48-1: Flowability (Spiral Flow) of Panlite G (Thickness of flow path 1-5mm)
  - Injection Molding Machine: 90 ton clamp
    - Inj. pressure: 147.1 MPa (1,500 kgf/cm²)
    - Mold temp.: 100°C (Bar flow mold width 6 mm)