PC/ABS RESIN PROCESSING CONDITIONS

1. The Process Conditions of TAIRILAC PC/ABS:
   a. Drying:

<table>
<thead>
<tr>
<th>Condition</th>
<th>Unit</th>
<th>AC2000</th>
<th>AC2500</th>
<th>AC2300</th>
<th>AC3100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature</td>
<td>℃</td>
<td>100-110</td>
<td>95-105</td>
<td>80-90</td>
<td></td>
</tr>
<tr>
<td>Time</td>
<td>Hour</td>
<td>3~4</td>
<td>3~4</td>
<td></td>
<td>3~4</td>
</tr>
</tbody>
</table>

   b. The drying conditions depend on the following factors:
      i. Surroundings Humidity
      ii. Storage condition
      iii. The dryer performance
   c. Recommended Processing conditions:

   ![Suggested Processing Conditions Diagram]

   Table 1 - The Suggested Process Conditions of TAIRILAC PC/ABS

<table>
<thead>
<tr>
<th>Grade</th>
<th>Mold Temp. (℃)</th>
<th>Resin Temp. (℃)</th>
<th>Dies (℃)</th>
<th>Zone 3 (℃)</th>
<th>Zone 2 (℃)</th>
<th>Zone 1 (℃)</th>
<th>Hopper (℃)</th>
<th>Water Content (%)</th>
<th>Drying Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC2000 AC2500</td>
<td>70-90</td>
<td>250-270</td>
<td>230-270</td>
<td>240-270</td>
<td>240-270</td>
<td>220-250</td>
<td>60-80</td>
<td>0.02 ↓</td>
<td>3-4</td>
</tr>
<tr>
<td>AC2300 AC2501AF AC2500AF</td>
<td>70-90</td>
<td>240-260</td>
<td>220-250</td>
<td>230-260</td>
<td>230-260</td>
<td>210-240</td>
<td>60-80</td>
<td>0.02 ↓</td>
<td>3-4</td>
</tr>
<tr>
<td>AC3100 AC3250 AC3300</td>
<td>50-70</td>
<td>230-260</td>
<td>220-250</td>
<td>230-260</td>
<td>220-250</td>
<td>200-200</td>
<td>60-80</td>
<td>0.02 ↓</td>
<td>3-4</td>
</tr>
<tr>
<td>AC3100AF</td>
<td>50-70</td>
<td>210-240</td>
<td>200-230</td>
<td>210-240</td>
<td>200-230</td>
<td>180-210</td>
<td>60-80</td>
<td>0.02 ↓</td>
<td>3-4</td>
</tr>
</tbody>
</table>

   d. Products quality from injection process depends on the following factors:
      i. Wall thickness of Products
      ii. Mold cooling loop design
iii. Mold gate and runner design

e. Mold temperature:

In terms of surface appearance and forming cycle, a better product can be
formed when the mold temperature is at the median value of the recommended
temperature. Higher mold temperature will always bring a good flowability and a
stronger welding line with less residual stresses of injection. A higher residual stresses
of injection may exhibit and the product’s dimensions may be contract if the mold
temperature is lower than the recommended value.

f. Back Pressure

Recommended back pressure: 50 - 100 psi (0.35 - 0.7 Mpa)

g. Injection Volume

Recommended injection volume: 30 - 80% of injection machine’s capacity.

h. Injection Pressure

Actual injection pressure is related to many factors, such as resin temperature, mold
temperature, product’s appearance, wall thickness, flow length and other equipment
conditions. In general, it is recommended to select the lowest injection pressure that
satisfy the basic appearance and performance requirements.

Besides, the recommended range of secondary pressure is proper for 50~60% of
injection pressure.

i. Molding Cycle

For most products, wall thickness usually determines the molding cycle. The thicker
the wall, the longer the molding cycle. To adjust molding cycle, it is recommended to
adjust with the fastest injection speed and the shortest secondary pressure time to
complete the gate cooling and shorten the cooling time. Fig. 1 shows the typical
relationship between molding cycle and wall thickness for PC/ABS alloys.

2. Considerations for Injection Molding

a. Keep the raw material free from any contamination during the operation.

b. Do not keep the material staying in high temperature screw for a prolonged time.

c. Keep injection temperature lower than 270 ºC to avoid material degradation.

3. Molding Shrinkage of TAIRILAC PC/ABS

<table>
<thead>
<tr>
<th>Grade</th>
<th>AC2000</th>
<th>AC2300</th>
<th>AC3100</th>
<th>AC3250</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AC2500</td>
<td>AC2501AF</td>
<td>AC3300</td>
<td>AC3100AF</td>
</tr>
<tr>
<td></td>
<td>AC2500AF</td>
<td>AC3100AF</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrinkage(%)</td>
<td>0.4~0.6</td>
<td>0.4~0.6</td>
<td>0.4~0.6</td>
<td>0.3~0.5</td>
</tr>
</tbody>
</table>

4. Operation Suggestion on Clearing Screw:

Generally thermoplastic resin is used as pipe clearing agent for PC/ABS, such as PE
(polyethylene), GPPS or PP (polypropylene). The screw can be cleared at process
temperature, and then decrease temperature gradually till 200 ºC. Maintain an
appropriate ventilation at the working environment while clearing the screw.