

PC/ABS RESIN PROCESSING CONDITIONS

1. The Process Conditions of TAIRILAC PC/ABS:

a. Drying:

Condition	Unit	AC2000 AC2500	AC2300 AC2501-AF AC2500-AF	AC3100 AC3250 AC3300 AC3100AF
Temperature	°C	100-110	95-105	80-90
Time	Hour	3~4	3~4	3~4

b. The drying conditions depend on the following factors:

- i. Surroundings Humidity
- ii. Storage condition
- iii. The dryer performance

c. Recommended Processing conditions:

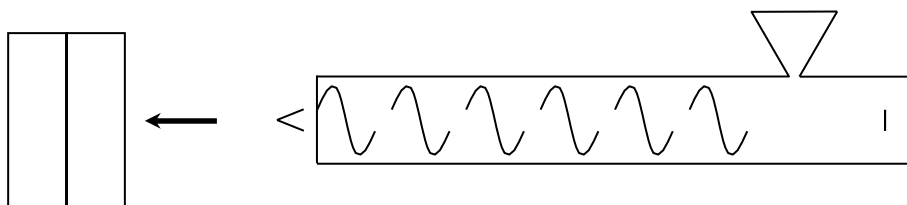


Table1、The Suggested Process Conditions of TAIRILAC PC/ABS

Grade	Mold Temp. (°C)	Resin Temp. (°C)	Dies (°C)	Zone 3 (°C)	Zone 2 (°C)	Zone 1 (°C)	Hopper (°C)	Water Content (%)	Drying Time	
									Hour	°C
AC2000 AC2500	70-90	250-270	230-270	240-270	240-270	220-250	60-80	0.02 ↓	3-4	100-110
AC2300 AC2501AF AC2500AF	70-90	240-260	220-250	230-260	230-260	210-240	60-80	0.02 ↓	3-4	95-105
AC3100 AC3250 AC3300	50-70	230-260	220-250	230-260	220-250	200-230	60-80	0.02 ↓	3-4	80-90
AC3100AF	50-70	210-240	200-230	210-240	200-230	180-210	60-80	0.02 ↓	3-4	80-90

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 °C to avoid material degradation.

3. Molding Shrinkage of TAIRILAC PC/ABS

Grade	AC2000 AC2500	AC2300 AC2501AF AC2500AF	AC3100 AC3300 AC3100AF	AC3250
Shrinkage(%)	0.4~0.6	0.4~0.6	0.4~0.6	0.3~0.5

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 °C. Maintain an appropriate ventilation at the working environment while clearing the screw.

