

PRODUCT DATA SHEET

EPC-1001 (r-PC 70%)

Description :

EPC-1001 is polycarbonate F.R used **r-PC 70%** compound with high flow & high impact.

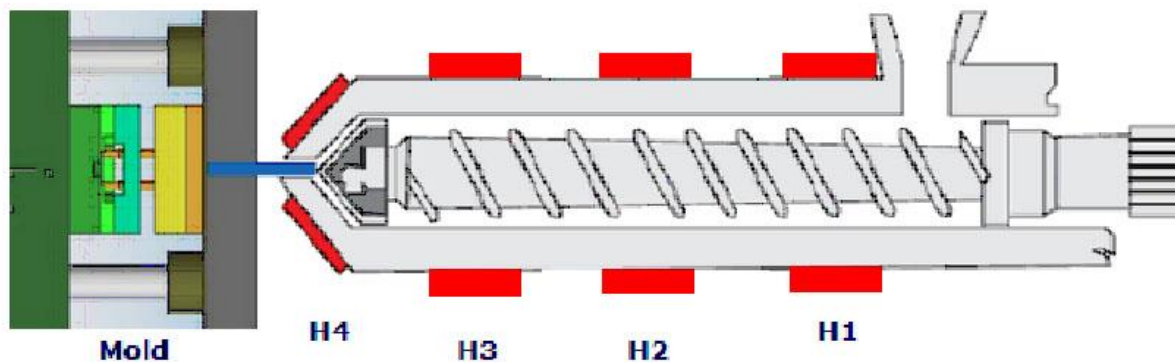
The product is available in black color pellet form which have good melt flow rate for easy injection molding, specifically designed to provide an excellent balance of stiffness and impact .

Suggested molding conditions is melt temperature: 270-290°C and mold temperature: 60-80°C.

Application : TV back cover, electronics parts or etc.

General properties	Typical value	Unit	Test method
Specific Gravity	1.20	g/cm ³	ISO 1183
Melt flow rate ,@260°C, 2.16kgf	38	g/10min	ISO 1133
Mold Shrinkage	0.4 ~ 0.7	% (4~7/1,000)	Polylex method
Mechanical properties			
Izod impact strength, 4mm notched @+23°C	14	KJ/m ²	ISO 180
Tensile stress, @ yield, 50 mm/min	60	MPa	ISO 527
Tensile strain, @ break, 50 mm/min	10	%	ISO 527
Flexural strength, @yield, 2mm/min	91	MPa	ISO 178
Flexural modulus, @yield, 2mm/min	2,730	MPa	ISO 178
Thermal properties			
Deflection temperature @1.8 MPa, 4mm	84	°C	ISO 75
Vicat softening Temperature, Rate B/50	98	°C	ISO R306
Flammability			
UL-94 Recognized	1.5	mm	V-0
	2.0	mm	V-0
	3.0	mm	V-0

PROCESSING GUIDE of EPC-1001 (r-PC 70%)



Parameter Injection Molding		Value	Unit
Drying Temperature		°C	75 ~ 85
Drying Time		Hr	3 ~ 4
Maximum moisture content		%	0.02
Melt Temperature		°C	270 ~ 290
Cylinder Temperature	H4	°C	270 ~ 280
	H3	°C	260 ~ 270
	H2	°C	250 ~ 260
	H1	°C	240 ~ 250
Mold Temperature		°C	60 ~ 80
Back Pressure		MPa	0.3 ~ 0.7
Screw rotating speed		rpm	40 ~ 80

PROCESSING GUIDE of EPC-1001 (r-PC 70%)

■ Dryer

For optimal results, it is strongly advised to use a dehumidifying hopper dryer for drying this material. While hot air ovens can be utilized with extreme caution, they are generally not recommended due to two main concerns:

1. Uneven drying: Overfilling trays may result in inadequate drying of the material at the bottom
2. Cross-contamination risk: When drying multiple materials simultaneously in different trays, there's a possibility of pellets falling into lower trays, leading to material contamination.

It is crucial to maintain the moisture content below 0.02%. Exceeding this threshold can negatively affect the physical properties of the molded product, potentially resulting in increased brittleness.

■ Injection processing guide before and after

The recommended drying process involves exposing the material to temperatures between 75-85°C for 3-4 hours. Caution is advised, as excessive heat may cause the material to become sticky if left outside the dryer.

Before initiating the molding process, it's essential to allow the screw to reach thermal equilibrium within the molding temperature zone for a minimum of 30 minutes.

When starting up, the molding machine should first be cleaned using high-density polyethylene or polypropylene at the suggested molding temperature. After this purging process, introduce the PC-FR raw material into the machine and continue purging until PC-FR is visible in the barrel.

To ensure optimal processing conditions, use a resin thermometer to verify that the melt temperature falls within the recommended range.

■ Termination condition

During the shutdown process for PC-FR resin molding, it's crucial to maintain the molding temperature in both the nozzle and barrel heater.

Before powering down, follow these steps:

1. Begin by purging the machine thoroughly with either high-density polyethylene or polypropylene.
2. Once the barrel is completely cleared, refill it with PC-FR resin.
3. Perform a final purge using polypropylene or high-density polyethylene to ensure all PC-FR resin has been removed from the system.
4. Only after completing these steps should you proceed to shut down the machine.

This procedure helps prevent material degradation and ensures a clean start for the next production run.