

PC-Polycarbonate

Facts:

Polycarbonate is strong, stiff, hard and transparent, it maintains properties over a wide temperature range and can be used in high temperature applications.

Polycarbonate is an amorphous engineering material with exceptionally good impact strength, heat resistance, clarity sterilisable, flame retardant and stain resistant. The notched Izod impact strength of PC is very high and mould shrinkage is low and consistent.

High Molecular weight PC's (Low melt flow rate) have higher mechanical properties, but processing can become more difficult.

Applications:

Automotive headlamps, glazing, electrical appliance housings, CD's, DVD's and medical applications.

Limitations:

- Subject to stress cracking
- Requires high processing temperatures
- Degrades with extended residence time
- Chemical resistance is fair
- Sensitive to aromatic compounds

Product Information

TRIEX[®] 3022U Polycarbonate Resin



TRIREX 3022U GRADE

DESCRIPTION

- TRIREX is the registered trademark of polycarbonate resin manufactured by Samyang Corporation. TRIREX polycarbonate resins offer superior mechanical properties, good dimensional stability and high electrical performance, which allows it to be widely used for electrical, electronic, appliance, automotive and optical industries.
- TRIREX 3022U is a polycarbonate resin grade which has high low temperature impact strength in combination with superior mechanical and physical property.

CHARACTERISTICS

- Superior low temperature impact resistance
- Good flow-ability
- Workable under a wide range of temperatures (-100 °C ~ 135 °C)
- High electrical performance
- Good dimensional stability
- Low moisture absorbency
- Good weather resistance

APPLICATIONS

- TRIREX 3022U resin grade is used for Injection molding products. UV stabilized.
- Medium viscosity. Transparent colors only.

TYPICAL DATA OF TRIEX 3022U GRADE



PROPERTY	UNIT	ASTM METHOD	TYPICAL DATA
PHYSICAL			
Specific Gravity	-	D792	1.20
Water Absorption (24 hours at 23°C)	%	D570	0.15
Melt Flow Rate (300°C, 1.2kg)	g/10min	D1238	15.5
MECHANICAL			
Tensile Strength at yield	kg _f /cm ²	D638	700
Tensile Elongation at break	%	D638	130
Flexural Strength at yield	kg _f /cm ²	D790	950
Flexural Modulus	kg _f /cm ²	D790	23,000
Izod Impact Strength, notched, 23°C (1/8")	kg _f ·cm/cm	D256	90
Rockwell Hardness	R scale	D785	
THERMAL			
HDT, 18.6 kg _f /cm ²	°C	D648	134
Coefficient of Linear Thermal Expansion	mm/mm/°C	D696	5~7 x 10 ⁻⁵
ELECTRICAL			
Volume Resistivity	Ω·cm	D257	4 x 10 ¹⁶
Dielectric Strength	kV/mm	D149	30
Dielectric Constant	-	D150	
Dissipation Factor	-	D150	
ARC Resistance	sec	D495	120
OTHERS			
UL-94 Flammability (1/16" thickness)	-	(UL 94)	V-2
Haze		D1003	0.4

※ The figures listed in this table are typical values obtained under the standard test methods and may not be applicable for products that are under different application condition.

PROCESSING GUIDE FOR TRIEX 3022U GRADE



- General processing conditions for TRIEX 3022U are shown below. Drying prior to processing is essential to ensure desired appearance and property performance.

SPECIFICATION	UNIT	CONDITIONS
Drying Temperature	°C	120
Drying Time	hr	3 ~ 5
Moisture Content, Max	%	0.02
Melt Temperature	°C	265 ~ 300
Nozzle Temperature	°C	265 ~ 300
Front Temperature	°C	265 ~ 290
Middle Temperature	°C	250 ~ 275
Rear Temperature	°C	235 ~ 260
Mold Temperature	°C	65 ~ 105
Back Pressure	MPa	0.25 ~ 0.7
Screw Speed	rpm	40 ~ 70
Vent Depth	mm	0.02 ~ 0.08

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