

# TRIEX<sup>®</sup> 3020U

## Polycarbonate Resin



samyang



# TRIREX 3020U 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 3020U 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 3020U resin grade is used for Injection molding products. UV stabilized.
- Low viscosity, Transparent colors only.

# TYPICAL DATA OF TRIREX 3020U GRADE



PROPERTY	UNIT	ISO METHOD	TYPICAL DATA
<b>PHYSICAL</b>			
Melt Flow Rate (300°C, 1.2kg)	g/10min	1133-1	24
<b>MECHANICAL</b>			
Tensile Strength at yield	MPa	527-2	65
Flexural Strength at yield	MPa	178	90
Flexural Modulus	MPa	178	2235
Izod Impact Strength, notched, 23°C	KJ/m <sup>2</sup>	180	59
<b>THERMAL</b>			
HDT, 18.1 MPa	°C	75-1/2	129
<b>OTHERS</b>			
UL-94 Flammability (1/16" thickness)	-	(UL 94)	V-2

※ 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 3020U GRADE



- General processing conditions for TRIEX 3020U 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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## CERTIFICATE OF ANALYSIS

USER : Koryfes SA  
PRODUCT : POLYCARBONATE TRIREX

SHIPMENT DATE : 2024-07-29  
ISSUE DATE : 2024-07-19

PROPERTIES	TEST METHOD	UNIT	
Production Date			2024-07-03
Grade			3020U
Lot-No			4GU2E03
Shipment Weight		Kg	16.000
YI (Yellow Index)	ASTM D1925	-	0.21
MI(300°C/1.2kg)	ASTM D1238	g/10min	21.48
TENSILE STRENGTH at Break	ASTM D638	kg/cm <sup>2</sup>	710
TENSILE ELONGATION	ASTM D638	%	141
FLEXURAL STRENGTH	ASTM D790	kg/cm <sup>2</sup>	926
FLEXURAL MODULUS	ASTM D790	kg/cm <sup>2</sup>	21930
IMPACT STRENGTH(1/8".notched)	ASTM D256	kg cm/cm	89

We duly certify that the above figures are true and correct

SAM YANG KASEI CO.,LTD.

SIGNATURE:

bongshin lee  
TEAM MANAGER  
QUALITY ASSURANCE TEAM

# TRIREX® 3020U(17)

Samyang Corporation - Polycarbonate

Thursday, January 30, 2025

## General Information

### Product Description

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### CHARACTERISTICS

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### APPLICATIONS

- TRIREX 3020U(17) resin grade is used for Injection molding products. UV stabilized.
- Ultra low viscosity. Transparent colors only.

### General

Material Status	• Commercial: Active
Availability	• Asia Pacific • Europe • North America
Additive	• <u>UV Stabilizer</u>
Features	• Good Dimensional Stability • Good Weather Resistance • Good Electrical Properties • Low Moisture Absorption • Low Viscosity • Good Flow • Low Temperature Impact Resistance • UV Resistant
Uses	• Appliances • Electrical/Electronic Applications • Automotive Applications • Optical Applications
Appearance	• Clear/Transparent
Forms	• Pellets
Processing Method	• Injection Molding

## ASTM & ISO Properties <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.20	g/cm <sup>3</sup>	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	36	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.00 mm)	0.50 to 0.70	%	ASTM D955
Water Absorption (24 hr, 23°C) <sup>a</sup>	0.15	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength (Yield)	66.0	MPa	ASTM D638
Tensile Elongation (Break)	130	%	ASTM D638
Flexural Modulus	2250	MPa	ASTM D790
Flexural Strength (Yield)	93.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C, 3.18 mm)	740	J/m	ASTM D256

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# TRIEX® 3020U(17)

## Samyang Corporation - Polycarbonate

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 1.8 MPa, Unannealed	130	°C	ASTM D648
CLTE - Flow	5.0E-5 to 7.0E-5	cm/cm/°C	ASTM D696
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	4.0E+16	ohms·cm	ASTM D257
Dielectric Strength	30	kV/mm	ASTM D149
Arc Resistance	120	sec	ASTM D495
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.6 mm)	V-2		UL 94

### Processing Information

Injection	Nominal Value	Unit
Drying Temperature	120	°C
Drying Time	3.0 to 5.0	hr
Suggested Max Moisture	0.020	%
Rear Temperature	235 to 260	°C
Middle Temperature	250 to 275	°C
Front Temperature	265 to 290	°C
Nozzle Temperature	265 to 300	°C
Processing (Melt) Temp	265 to 300	°C
Mold Temperature	65 to 105	°C
Back Pressure	0.250 to 0.700	MPa
Screw Speed	40 to 70	rpm
Vent Depth	0.020 to 0.080	mm

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.