# TRIREX® 3025U

#### Polycarbonate

#### Samyang Corporation

#### Message:

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 3025U is a UV stabilized polycarbonate resin grade which has a low melt viscosity and transparency in combination with superior physical properties.

**CHARACTERISTICS** 

High ultraviolet(UV) stability

High flowability

Good impact resistance

Workable under a wide range of temperatures (-100 ?  $\sim$  135 ?)

High electrical performance

Good dimensional stability

**Excellent transparency** 

Low moisture absorbency

Good weather resistance

**APPLICATIONS** 

TRIREX 3025U resin grade is used in out-door applications such as electric meter cover, window panes, sing board, wind break, signal lamps, and ship lights etc.

General Information			
UL YellowCard	E121254-220622	E257054-521377	
Additive	UV Stabilizer		
Features	Good Dimensional Stability		
	Good Electrical Properties		
	Good Impact Resistance		
	Good UV Resistance		
	Good Weather Resistance		
	High Clarity		
	High Flow		
	Low Moisture Absorption		
	Medium Viscosity		
Uses	Appliances		
	Automotive Applications		
	Electrical/Electronic Applica	tions	
	Lighting Fixtures		
	Optical Applications		
	Outdoor Applications		
	Windows & Doors		
Forms	Pellets		

Physical   Nominal Value   Unit   Test Method	Processing Method	Injection Molding		
Melt Mass-Flow Rate (MFR) (300°C/12 kg)         13         g/10 min         ASTM D1238           Water Absorption (23°C, 24 hr)         0.15         %         ASTM D570           Mechanical         Nominal Value         Unit         Test Method           Tensile Strength (Yield)         70.1         MPa         ASTM D638           Flexural Modulus         2260         MPa         ASTM D790           Flexural Strength (Yield)         91.2         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Ized Impact (23°C, 3.18 mm)         930         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 Mpa, Unannealed)         134         "C         ASTM D568           CLTE - Flow         5.08-5 to 7.08-5         cm/cm/***C         ASTM D568           Electrical         Nominal Value         Unit         Test Method           Volume Resistivity         4.08-16         whrs cm         ASTM D257           Flammability         Nominal Value         whrs cm         ASTM D495           Flamma Rating (1.59 mm)         V-2         Unit         Test Method           Dying Tim	Physical	Nominal Value	Unit	Test Method
Water Absorption (23°C, 24 hr)         0.15         %         ASTM D570           Mechanical         Nominal Value         Unit         Test Method           Tensile Strength (Yield)         70.1         MPa         ASTM D638           Tensile Elongation (Break)         140         %         ASTM D790           Flexural Modulus         2250         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         930         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8** MPA, Unannealed)         134         °C         ASTM D648           CLTE - Flow         5.06-5 to 7.06-5         cm/cm/"C         ASTM D696           Electrical         Nominal Value         Unit         Test Method           Volume Resistivity         4.06-16         whms-cm         ASTM D497           Arc Resistance         120         sec         ASTM D496           Flammability         Nominal Value         Unit         Test Method           Injection         Nominal Value         Unit         Test Method           Drying Time         3.0 to 5.0 <td>Specific Gravity</td> <td>1.20</td> <td>g/cm³</td> <td>ASTM D792</td>	Specific Gravity	1.20	g/cm³	ASTM D792
Mechanical         Nominal Value         Unit         Test Method           Tensile Strength (Yield)         70.1         MPa         ASTM D638           Tensile Elongation (Break)         140         %         ASTM D638           Flexural Modulus         2260         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         930         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.88         134         °C         ASTM D648           CLTE - Flow         5.0E-5 to 7.0E-5         cm/cm/°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 D495           Flammability         Nominal Value         Unit         Test Method           Flamma Rating (1.59 mm)         V-2         U. 94           Unjug Temperature         20 to 5.0         rc           Drying Temperature         250 to 275         °C           Midd	Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	13	g/10 min	ASTM D1238
Tensile Strength (Yield)         70.1         MPa         ASTM D638           Tensile Elongation (Break)         140         %         ASTM D638           Flexural Modulus         2260         MPa         ASTM D790           Flexural Strength (Yield)         91.2         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         930         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         134         °C         ASTM D648           CLTE - Flow         5.6E-5 to 7.0E-5         cm/cm/*°C         ASTM D648           Electrical         Nominal Value         Unit         Test Method           Volume Resistivity         4.0E+16         ohms · cm         ASTM D495           Flammability         Nominal Value         Unit         Test Method           Arc Resistance         120         sc         ASTM D495           Flammability         Nominal Value         Unit         Test Method           Drying Temperature         120         °C         Test Method           Drying Time         3.0 to 5.0	Water Absorption (23°C, 24 hr)	0.15	%	ASTM D570
Tensile Elongation (Break)         140         %         ASTM D638           Flexural Modulus         2260         MPa         ASTM D790           Flexural Strength (Yield)         91.2         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         930         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         134         °C         ASTM D648           CLTE - Flow         50.6-5 to 7.0E-5         cm/cm/°C         ASTM D648           Electrical         Nominal Value         Unit         Test Method           Volume Resistivity         4.0E+16         ohms·cm         ASTM D495           Dielectric Strength         30         kV/mm         ASTM D495           Flammability         Nominal Value         Unit         Test Method           Flammability         Nominal Value         Unit         Test Method           Drying Temperature         120         °C         Prominal Value           Drying Time         3.0 to 5.0         hr         Prominal Value         Prominal Value         Prominal Value         P	Mechanical	Nominal Value	Unit	Test Method
Flexural Modulus         2660         MPa         ASTM D790           Flexural Strength (Yield)         91.2         MPa         ASTM D790           Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         930         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         134         °C         ASTM D648           CLTE - Flow         5.0E-5 to 7.0E-5         cm/cm/°C         ASTM D648           Electrical         Nominal Value         Unit         Test Method           Volume Resistivity         4.0E+16         whrscm         ASTM D495           Dielectric Strength         30         kV/mm         ASTM D495           Flamme Rating (1.59 mm)         V-2         Unit         Test Method           Flame Rating (1.59 mm)         V-2         Unit         Test Method           Drying Temperature         120         °C         Test Method           Suggested Max Moisture         0.020         °C         Test Method           Programme Autre         250 to 275         °C         Test Method           Moildle Temperature         265 to 3	Tensile Strength (Yield)	70.1	MPa	ASTM D638
Fleward Strength (Yield)         91.2         MPa         ASTM D790           Inpact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         930         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         134         °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 D495           Flammability         Nominal Value         Unit         Test Method           Flame Rating (1.59 mm)         V-2         Ve         Ut 94           Injection         Nominal Value         Unit         Test Method           Injection         Nominal Value	Tensile Elongation (Break)	140	%	ASTM D638
Impact         Nominal Value         Unit         Test Method           Notched Izod Impact (23°C, 3.18 mm)         930         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPA, Unannealed)         134         °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 D495           Flammability         Nominal Value         Unit         Test Method           Flame Rating (1.59 mm)         V-2         Unit         Test Method           Injection         Nominal Value         Unit         UL 94           Injection         Nominal Value         Unit         Test Method           Injection         Nominal Value         Unit         Ve           Injection         Nominal Value         Unit         Ve           Unit         200         Ve         Ve           Suggested Max Moisture         0.020         %         Ve <td>Flexural Modulus</td> <td>2260</td> <td>MPa</td> <td>ASTM D790</td>	Flexural Modulus	2260	MPa	ASTM D790
Notched Izod Impact (23°C, 3.18 mm)         930         J/m         ASTM D256           Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8. MPa, Unannealed)         134         °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 D495           Flammability         Nominal Value         Unit         Test Method           Flame Rating (1.59 mm)         V-2         V         UL 94           Injection         Nominal Value         Unit         Test Method           Injection         Nominal Value	Flexural Strength (Yield)	91.2	MPa	ASTM D790
Thermal         Nominal Value         Unit         Test Method           Deflection Temperature Under Load (1.8 MPa, Unannealed)         134         °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 D495           Flammability         Nominal Value         Unit         Test Method           Flame Rating (1.59 mm)         V-2         Unit         Test Method           Flame Rating (1.59 mm)         V-2         Unit         Test Method           Florying Temperature         120         °C         Unit           Drying Temperature         120         °C         Unit           Suggested Max Moisture         3.0 to 5.0         hr         "C           Suggested Max Moisture         250 to 275         "C         "C           Middle Temperature         250 to 275         "C         "C           Nozzle Temperature         265 to 300         "C         "C           Mold Temperature         65.0 to 105         "C         "	Impact	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed)         134         °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 D49           Arc Resistance         120         sec         ASTM D495           Flammability         Nominal Value         Unit         Test Method           Injection         Nominal Value         Unit         Unit           Drying Temperature         120         °C           Drying Time         3.0 to 5.0         hr           Suggested Max Moisture         0.020         %           Rear Temperature         2.05 to 275         °C           Middle Temperature         2.05 to 275         °C           Front Temperature         2.65 to 300         °C           Nozzle Temperature         2.65 to 300         °C           Mold Temperature         6.50 to 105         °C           Mold Temperature         6.50 to 105         °C           Mold Temperature         6.50 to	Notched Izod Impact (23°C, 3.18 mm)	930	J/m	ASTM D256
MPa, Unannealed)         134         "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 D495           Arc Resistance         120         sec         ASTM D495           Flammability         Nominal Value         Unit         Test Method           Injection         Nominal Value         Unit         Unit           Drying Temperature         120         "C         "C           Drying Time         3.0 to 5.0         hr         "C           Suggested Max Moisture         0.020         "C         "C           Middle Temperature         25 to 260         "C         "C           Middle Temperature         265 to 290         "C         "C           Nozzle Temperature         265 to 300         "C         "C           Nodd Temperature         265 to 300         "C         "C           Mold Temperature         65.0 to 105         "C         "C           Mold Temperature         65.0 to 1	Thermal	Nominal Value	Unit	Test Method
Electrical         Nominal Value         Unit         Test Method           Volume Resistivity         4.0E+16         ohms cm         ASTM D257           Dielectric Strength         30         kV/mm         ASTM D496           Arc Resistance         120         sec         ASTM D495           Flammability         Nominal Value         Unit         Test Method           Injection         Nominal Value         Unit         Unit           Drying Temperature         120         °C         "C           Drying Time         3.0 to 5.0         hr         "C           Suggested Max Moisture         0.020         %         "C           Rear Temperature         250 to 275         °C         "C           Front Temperature         265 to 290         "C         "C           Nozzle Temperature         265 to 300         "C         "C           Processing (Melt) Temp         265 to 300         "C         "C           Mold Temperature         65.0 to 105         "C         "C           Back Pressure         0.250 to 0.700         MPa         "C           Screw Speed         40 to 70         rpm         "C		134	°C	ASTM D648
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           Injection         Nominal Value         Unit         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         65.0 to 105         °C           Back Pressure         0.250 to 0.700         MPa           Screw Speed         40 to 70         rpm	CLTE - Flow	5.0E-5 to 7.0E-5	cm/cm/°C	ASTM D696
Dielectric Strength         30         kV/mm         ASTM D149           Arc Resistance         120         sec         ASTM D495           Flammability         Nominal Value         Unit         Test Method           Injection         Nominal Value         Unit         Unit           Drying Temperature         120         °C         ***           Drying Time         3.0 to 5.0         hr         ***           Suggested Max Moisture         0.020         %         ***           Rear Temperature         250 to 275         °C         ***           Middle Temperature         265 to 290         °C         ***           Nozzle Temperature         265 to 300         °C         ***           Processing (Melt) Temp         265 to 300         °C         ***           Mold Temperature         65.0 to 105         °C         ***           Back Pressure         0.250 to 0.700         MPa         ***           Scew Speed         40 to 70         rpm         ***	Electrical	Nominal Value	Unit	Test Method
Arc Resistance         120         sec         ASTM D495           Flammability         Nominal Value         Unit         Test Method           Flame Rating (1.59 mm)         V-2         Unit         UL 94           Injection         Nominal Value         Unit         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 300         °C         ***           Nozzle Temperature         265 to 300         °C         ***           Mold Temperature         65.0 to 105         °C         ***           Mold Temperature         65.0 to 0.700         MPa         ***           Screw Speed         40 to 70         rpm         ***	Volume Resistivity	4.0E+16	ohms·cm	ASTM D257
Flammability         Nominal Value         Unit         Test Method           Flame Rating (1.59 mm)         V-2         Unit           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         65.0 to 105         °C           Back Pressure         0.250 to 0.700         MPa           Screw Speed         40 to 70         rpm	Dielectric Strength	30	kV/mm	ASTM D149
Flame Rating (1.59 mm)         V-2         UL 94           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         65.0 to 105         °C           Back Pressure         0.250 to 0.700         MPa           Screw Speed         40 to 70         rpm	Arc Resistance	120	sec	ASTM D495
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         65.0 to 105         °C           Back Pressure         0.250 to 0.700         MPa           Screw Speed         40 to 70         rpm	Flammability	Nominal Value	Unit	Test Method
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         65.0 to 105         °C           Back Pressure         0.250 to 0.700         MPa           Screw Speed         40 to 70         rpm	Flame Rating (1.59 mm)	V-2		UL 94
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         65.0 to 105         °C           Back Pressure         0.250 to 0.700         MPa           Screw Speed         40 to 70         rpm	Injection	Nominal Value	Unit	
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 55.0 to 105 °C  Back Pressure 0.250 to 0.700 MPa  Screw Speed 40 to 70 rpm	Drying Temperature	120	°C	
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         65.0 to 105         °C           Back Pressure         0.250 to 0.700         MPa           Screw Speed         40 to 70         rpm	Drying Time	3.0 to 5.0	hr	
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       65.0 to 105       °C         Back Pressure       0.250 to 0.700       MPa         Screw Speed       40 to 70       rpm	Suggested Max Moisture	0.020	%	
Front Temperature         265 to 290         °C           Nozzle Temperature         265 to 300         °C           Processing (Melt) Temp         265 to 300         °C           Mold Temperature         65.0 to 105         °C           Back Pressure         0.250 to 0.700         MPa           Screw Speed         40 to 70         rpm	Rear Temperature	235 to 260	°C	
Nozzle Temperature         265 to 300         °C           Processing (Melt) Temp         265 to 300         °C           Mold Temperature         65.0 to 105         °C           Back Pressure         0.250 to 0.700         MPa           Screw Speed         40 to 70         rpm	Middle Temperature	250 to 275	°C	
Processing (Melt) Temp         265 to 300         °C           Mold Temperature         65.0 to 105         °C           Back Pressure         0.250 to 0.700         MPa           Screw Speed         40 to 70         rpm	Front Temperature	265 to 290	°C	
Mold Temperature65.0 to 105°CBack Pressure0.250 to 0.700MPaScrew Speed40 to 70rpm	Nozzle Temperature	265 to 300	°C	
Back Pressure 0.250 to 0.700 MPa Screw Speed 40 to 70 rpm	Processing (Melt) Temp	265 to 300	°C	
Screw Speed 40 to 70 rpm	Mold Temperature	65.0 to 105	°C	
	Back Pressure	0.250 to 0.700	MPa	
Vent Depth 0.020 to 0.080 mm	Screw Speed	40 to 70	rpm	
	Vent Depth	0.020 to 0.080	mm	

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