

Ryton° XK2340 polyphenylene sulfide alloy

Ryton® XK2340 40% glass fiber reinforced polyphenylene sulfide alloy compound provides excellent mechanical strength, toughness, and rigidity, along with excellent flow in thin-walled

parts, low flash characteristics, and fast cycle times. It may be easily molded in conventional injection molding equipment utilizing water heated molds.

Ochiciai					
Material Status	 Commercial: Active 				
Availability	Asia Pacific Latin America				
Availability	• Europe • North America				
Filler / Reinforcement	Glass Fiber, 40% Filler by Weight				
	 Fast Molding Cycle Good Flow Good Strangeth High Rigidity 				
Features					
	Good Strength				
Uses	Automotive Application	IS .			
RoHS Compliance	RoHS Compliant				
Appearance	• Black				
Forms	• Pellets				
Processing Method	Injection Molding				
Physical		Typical Value Unit	Test method		
Density / Specific Gravity		1.56	ASTM D792		
Molding Shrinkage					
Flow : 3.20 mm		0.30 %			
Across Flow : 3.20 mm		0.60 %			
Water Absorption (24 hr, 23°C)		0.30 %	ASTM D570		
Mechanical		Typical Value Unit	Test method		
Tensile Strength					
		193 MPa	ASTM D638		
		195 MPa	ISO 527-2		
Tensile Elongation (Break)		1.8 %	ASTM D638 ISO 527-2		
Flexural Modulus					
		12400 MPa	ASTM D790		
		12000 MPa	ISO 178		
Flexural Strength					
		255 MPa	ASTM D790		
		270 MPa	ISO 178		
					
Compressive Strength		255 MPa	ASTM D695		

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Notched Izad Impact 85 J/m ASTM D26 8.5 kJ/m² ISO 180/A Unnotched Izad Impact 318 mm 6.40 J/m ASTM D4812 35 kJ/m² ISO 180 Hardness Typical Value Unit Test method Rockwell Hardness ASTM D785 M-Scale 95 R-Scale 115 Thermal Typical Value Unit Test method Deflection Temperature Under Load 245 °C 1.8 MPa, Unannealed 245 °C ASTM D848 Flow: -50 to 50°C 2.0E-5 cm/cm/°C Flow: 100 to 200°C ASTM E831 Flow: 100 to 200°C 1.5E-5 cm/cm/°C Transverse: -50 to 50°C Test method ASTM D257	Impact	Typical Value	Unit	Test method
8.5 kJ/m² ISO 180/A Unnotched Izod Impact 3.18 mm 640 J/m ASTM D4812 2 35 kJ/m² ISO 180 Hardness Typical Value Unit Test method R-Scale 95 ASTM D785 R-Scale 95 Rescale R-Scale 115 Test method Deflection Temperature Under Load 245 °C CITE LIS MPA, Unannealed 245 °C ASTM D648 1.8 MPA, Unannealed 245 °C ASTM E831 Flow: -50 to 50°C 2.0E-5 cm/cm/°C ASTM E831 Flow: -50 to 50°C 2.0E-5 cm/cm/°C Test method Transverse: -50 to 50°C 5.5E-5 cm/cm/°C Test method Transverse: -50 to 50°C 5.5E-5 cm/cm/°C Test method Electrical Typical Value Unit Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms-cm ASTM D150	Notched Izod Impact			
Unnotched Izod Impact 318 mm 640 J/m ASTM D4812 35 kJ/m² ISO 180 180	3.18 mm	85	J/m	ASTM D256
Same		8.5	kJ/m²	ISO 180/A
Hardness Typical Value Unit Test method	Unnotched Izod Impact			
Hardness	3.18 mm	640	J/m	ASTM D4812
Rockwell Hardness ASTM D785 M~Scale R~Scale 95 I115 R~Scale 95 I115 Thermal Typical Value Unit Test method Deflection Temperature Under Load 1.8 MPa, Unannealed 245 °C C CLTE ASTM E831 Flow: -50 to 50°C ASTM E831 Flow: -50 to 50°C Flow: 100 to 200°C 1.5E-5 cm/cm/°C 1.0E-2 cm/cm/°C ASTM E831 Transverse: -50 to 50°C Transverse: 100 to 200°C 5.5E-5 cm/cm/°C 1.0E-4 cm/cm/°C Test method Thermal Conductivity 0.34 W/m/k Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms cm ASTM D257 Volume Resistivity 1.0E+14 ohms cm ASTM D150 25°C, 1 kHz 4.30		35	kJ/m²	ISO 180
Rockwell Hardness ASTM D785 M~Scale R~Scale 95 I115 R~Scale 95 I115 Thermal Typical Value Unit Test method Deflection Temperature Under Load 1.8 MPa, Unannealed 245 °C C CLTE ASTM E831 Flow: -50 to 50°C ASTM E831 Flow: -50 to 50°C Flow: 100 to 200°C 1.5E-5 cm/cm/°C 1.0E-2 cm/cm/°C ASTM E831 Transverse: -50 to 50°C Transverse: 100 to 200°C 5.5E-5 cm/cm/°C 1.0E-4 cm/cm/°C Test method Thermal Conductivity 0.34 W/m/k Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms cm ASTM D257 Volume Resistivity 1.0E+14 ohms cm ASTM D150 25°C, 1 kHz 4.30	Hardness	Typical Value	Unit	Test method
R-Scale 115 Thermal Typical Value Unit Test method Deflection Temperature Under Load 245 °C L8 MPa, Unannealed 245 °C CLTE ASTM E831 Flow: -50 to 50°C 2.0E-5 cm/cm/°C Flow: 100 to 200°C 1.5E-5 cm/cm/°C Transverse: -50 to 50°C 5.5E-5 cm/cm/m°C Transverse: 100 to 200°C 1.0E-4 cm/cm/°C Thermal Conductivity 0.34 W/m/k Electrical Typical Value Unit Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms-cm ASTM D257 Dielectric Strength 22 kV/mm ASTM D150 25°C, 1 kHz 4.30 25°C, 1 kHz 25°C, 1 kHz 0.020 25°C, 1 kHz 25°C, 1 kHz 0.020 25°C, 1 kHz 25°C, 1 kHz 0.010 ASTM D495 Comparative Tracking Index (CTI) 275 V U. 746A Insulation Resistance¹ (90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method <tr< td=""><td></td><td>/ </td><td></td><td></td></tr<>		/		
Thermal Typical Value Unit Test method Deflection Temperature Under Load 245 °C 1.8 MPa, Unannealed 245 °C CLTE ASTM E831 Flow: -50 to 50°C 2.0E-5 cm/cm/°C Flow: 100 to 200°C 1.5E-5 cm/cm/°C Transverse: -50 to 50°C 5.5E-5 cm/cm/°C Transverse: 100 to 200°C 1.0E-4 cm/cm/°C Thermal Conductivity 0.34 W/m/k Electrical Typical Value Unit Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms·cm ASTM D257 Dielectric Strength 22 kV/mm ASTM D149 Dielectric Constant ASTM D150 ASTM D150 25°C, 1 kHz 3.90 ASTM D150 25°C, 1 kHz 0.020 ASTM D150	M-Scale	95		
Deflection Temperature Under Load ASTM D648 1.8 MPa, Unannealed 245 °C CLTE ASTM E831 Flow: -50 to 50°C 2.0E-5 cm/cm/°C Flow: 100 to 200°C 1.5E-5 cm/cm/°C Transverse: -50 to 50°C 5.5E-5 cm/cm/°C Transverse: 100 to 200°C 1.0E-4 cm/cm/°C Thermal Conductivity 0.34 W/m/k Electrical Typical Value Unit Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms-cm ASTM D150 25°C, 1 kHz 4.30 ASTM D150 25°C, 1 kHz 4.30 ASTM D150 25°C, 1 kHz 3.90 ASTM D150 25°C, 1 kHz 0.020 ASTM D150 25°C, 1 kHz 0.020 ASTM D495 25°C, 1 MHz 0.010 ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance 1 (90°C) 1.0E+12 ohms Test method Flammability Typical Value Unit </td <td>R-Scale</td> <td>115</td> <td></td> <td></td>	R-Scale	115		
Deflection Temperature Under Load ASTM D648 1.8 MPa, Unannealed 245 °C CLTE ASTM E831 Flow: -50 to 50°C 2.0E-5 cm/cm/°C Flow: 100 to 200°C 1.5E-5 cm/cm/°C Transverse: -50 to 50°C 5.5E-5 cm/cm/°C Transverse: 100 to 200°C 1.0E-4 cm/cm/°C Thermal Conductivity 0.34 W/m/k Electrical Typical Value Unit Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms-cm ASTM D150 25°C, 1 kHz 4.30 ASTM D150 25°C, 1 kHz 4.30 ASTM D150 25°C, 1 kHz 3.90 ASTM D150 25°C, 1 kHz 0.020 ASTM D150 25°C, 1 kHz 0.020 ASTM D495 25°C, 1 MHz 0.010 ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance 1 (90°C) 1.0E+12 ohms Test method Flammability Typical Value Unit </td <td>Thermal</td> <td>Typical Value</td> <td>Unit</td> <td>Test method</td>	Thermal	Typical Value	Unit	Test method
1.8 MPa, Unannealed 245 °C CLTE ASTM E83I Flow: -50 to 50°C 2.0E-5 cm/cm/°C Flow: 100 to 200°C 1.5E-5 cm/cm/°C Transverse: -50 to 50°C 5.5E-5 cm/cm/°C Transverse: 100 to 200°C 1.0E-4 cm/cm/°C Thermal Conductivity 0.34 W/m/K Electrical Typical Value Unit Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms·cm ASTM D257 Dielectric Strength 22 kV/mm ASTM D150 25°C, 1 kHz 4.30 25°C, 1 kHz 25°C, 1 kHz 3.90 Dissipation Factor ASTM D150 25°C, 1 kHz 0.020 25°C, 1 kHz 0.020 25°C, 1 kHz 0.000 ASTM D495 25°C, 1 kHz 0.000 0.000 ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance 1 (90°C) 1.0E+12 ohms Test method Flammability Typical Value Unit Test method Flammability Typical Value Unit Test method		. /		
CLTE ASTM E831 Flow: -50 to 50°C 2.0E-5 cm/cm/°C Flow: 100 to 200°C 1.5E-5 cm/cm/°C Transverse: -50 to 50°C 5.5E-5 cm/cm/°C Transverse: 100 to 200°C 1.0E-4 cm/cm/°C Thermal Conductivity 0.34 W/m/k Electrical Typical Value Unit Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms·cm ASTM D257 Dielectric Strength 22 kV/mm ASTM D150 25°C, 1 kHz 4.30 4.30 25°C, 1 kHz 3.90 ASTM D150 25°C, 1 kHz 0.020 ASTM D150 25°C, 1 kHz 0.010 ASTM D45 25°C, 1 kHz 0.010 ASTM D495 25°C, 1 MHz 0.010 ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance 1 (90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flammability Typical Value Unit Test method	•	245	°C	
Flow: -50 to 50°C 2.0E-5 cm/cm/°C Flow: 100 to 200°C 1.5E-5 cm/cm/°C Transverse: -50 to 50°C 5.5E-5 cm/cm/°C Transverse: 100 to 200°C 1.0E-4 cm/cm/°C Thermal Conductivity 0.34 W/m/k Electrical Typical Value Unit Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms·cm ASTM D257 Dielectric Strength 22 kV/mm ASTM D149 Dielectric Constant ASTM D150 25°C, 1 kHz 4.30 3.90 Dissipation Factor ASTM D150 ASTM D150 25°C, 1 kHz 0.020 25°C, 1 kHz 0.010 25°C, 1 kHz 0.010 Arc Resistance 100 sec ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance¹ (90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flamma Rating (1.6 mm, Tested by CP Chemical) HB UL 94				ASTM E831
Flow : 100 to 200°C 1.5E-5 cm/cm/°C Transverse : -50 to 50°C 5.5E-5 cm/cm/°C Transverse : 100 to 200°C 1.0E-4 cm/cm/°C Thermal Conductivity 0.34 W/m/k Electrical Typical Value Unit Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms·cm ASTM D257 Dielectric Strength 22 kV/mm ASTM D149 Dielectric Constant ASTM D150 25°C, 1 kHz 4.30 25°C, 1 kHz 3.90 Dissipation Factor ASTM D150 25°C, 1 kHz 0.020 25°C, 1 kHz 0.010 Arc Resistance 100 sec ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance 1 (90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flamma Rating (1.6 mm, Tested by CP Chemical) HB UL 94		2.0E-5	cm/cm/°C	
Transverse : -50 to 50°C 5.5E-5 cm/cm/°C Transverse : 100 to 200°C 1.0E-4 cm/cm/°C Thermal Conductivity 0.34 W/m/k Electrical Typical Value Unit Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms·cm ASTM D257 Dielectric Strength 22 kV/mm ASTM D149 Dielectric Constant ASTM D150 25°C, 1 kHz 4.30 4.30 25°C, 1 MHz 3.90 ASTM D150 25°C, 1 kHz 0.020 4.30 25°C, 1 kHz 0.020 4.30 25°C, 1 kHz 0.010 4.30 25°C	Flow: 100 to 200°C			
Thermal Conductivity0.34 W/m/kElectricalTypical Value UnitTest methodSurface Resistivity1.0E+15 ohmsASTM D257Volume Resistivity1.0E+14 ohms·cmASTM D257Dielectric Strength22 kV/mmASTM D149Dielectric ConstantASTM D15025°C, 1 kHz4.304.3025°C, 1 MHz3.90ASTM D150Dissipation FactorASTM D15025°C, 1 kHz0.0204.3025°C, 1 MHz0.0104.30Arc Resistance100 secASTM D495Comparative Tracking Index (CTI)275 VUL 746AInsulation Resistance¹(90°C)1.0E+12 ohmsFlammabilityTypical Value UnitTest methodFlammabilityTypical Value UnitTest methodFlammabilityTypical Value UnitTest method	Transverse: -50 to 50°C	5.5E-5	cm/cm/°C	
Electrical Typical Value Unit Test method Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms·cm ASTM D257 Dielectric Strength 22 kV/mm ASTM D149 Dielectric Constant ASTM D150 25°C, 1 kHz 4.30 4.30 25°C, 1 MHz 3.90 ASTM D150 Dissipation Factor ASTM D150 ASTM D150 25°C, 1 kHz 0.020 0.020 25°C, 1 MHz 0.010 Arc Resistance 100 sec ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance¹(90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flammability Typical Value Unit Test method	Transverse: 100 to 200°C	1.0E-4	cm/cm/°C	
Surface Resistivity 1.0E+15 ohms ASTM D257 Volume Resistivity 1.0E+14 ohms⋅cm ASTM D257 Dielectric Strength 22 kV/mm ASTM D149 Dielectric Constant 4.30 ASTM D150 25°C, 1 kHz 4.30 ASTM D150 25°C, 1 MHz 3.90 ASTM D150 25°C, 1 kHz 0.020 Consistance 25°C, 1 MHz 0.010 ASTM D495 Arc Resistance 100 sec ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance¹ (90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	Thermal Conductivity	0.34	W/m/K	
Volume Resistivity 1.0E+14 ohms·cm ASTM D257 Dielectric Strength 22 kV/mm ASTM D149 Dielectric Constant ASTM D150 25°C, 1 kHz 4.30 4.30 25°C, 1 MHz 3.90 ASTM D150 Dissipation Factor ASTM D150 ASTM D150 25°C, 1 kHz 0.020 0.010 Arc Resistance 100 sec ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance¹(90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	Electrical	Typical Value	Unit	Test method
Dielectric Strength22 kV/mmASTM DI49Dielectric Constant4.3025°C, 1 kHz4.3025°C, 1 MHz3.90Dissipation FactorASTM DI5025°C, 1 kHz0.02025°C, 1 kHz0.010Arc Resistance100 secASTM D495Comparative Tracking Index (CTI)275 VUL 746AInsulation Resistance¹ (90°C)1.0E+12 ohmsFlammabilityTypical Value UnitTest methodFlame Rating (1.6 mm, Tested by CP Chemical)HBUL 94	Surface Resistivity	1.0E+15	ohms	ASTM D257
Dielectric Constant ASTM D150 25°C, 1 kHz 4.30 25°C, 1 MHz 3.90 Dissipation Factor ASTM D150 25°C, 1 kHz 0.020 25°C, 1 MHz 0.010 Arc Resistance 100 sec ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance¹(90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	Volume Resistivity	1.0E+14	ohms·cm	ASTM D257
25°C, 1 kHz 4.30 25°C, 1 MHz 3.90 Dissipation Factor ASTM D150 25°C, 1 kHz 0.020 25°C, 1 MHz 0.010 Arc Resistance 100 sec ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance¹ (90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	Dielectric Strength	22	kV/mm	ASTM D149
25°C, 1 MHz 3.90 Dissipation Factor ASTM D150 25°C, 1 kHz 0.020 25°C, 1 MHz 0.010 Arc Resistance 100 sec ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance¹(90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	Dielectric Constant			ASTM D150
Dissipation Factor 25°C, 1 kHz 0.020 25°C, 1 MHz Arc Resistance 100 sec ASTM D495 Comparative Tracking Index (CTI) Insulation Resistance¹(90°C) Flammability Flammability Typical Value Unit Test method Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	25°C, 1 kHz	4.30		
25°C, 1 kHz 0.020 25°C, 1 MHz 0.010 Arc Resistance 100 sec ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance¹(90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	25°C, 1 MHz	3.90		
25°C, 1 MHz Arc Resistance 100 sec ASTM D495 Comparative Tracking Index (CTI) 1275 V UL 746A Insulation Resistance¹(90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	Dissipation Factor			ASTM D150
Arc Resistance 100 sec ASTM D495 Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance (90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	25°C, 1 kHz	0.020		
Comparative Tracking Index (CTI) 275 V UL 746A Insulation Resistance¹ (90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	25°C, 1 MHz	0.010		
Insulation Resistance 1 (90°C) 1.0E+12 ohms Flammability Typical Value Unit Test method Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	Arc Resistance	100	sec	ASTM D495
Flammability Typical Value Unit Test method Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	Comparative Tracking Index (CTI)	275	V	UL 746A
Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	Insulation Resistance¹ (90°C)	1.0E+12	ohms	
Flame Rating (1.6 mm, Tested by CP Chemical) HB UL 94	Flammability	Typical Value	Unit	Test method
	,	35	%	ASTM D2863

Notes

Typical properties: these are not to be construed as specifications.

¹ 95%RH, 48 hr

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