

## Ryton® BR111BL

## polyphenylene sulfide

Ryton® BR111BL Ryton® BR111 is a black-colored glass fiber and mineral filled polyphenylene sulfide compound that provides enhanced mechanical strength with good electrical

properties and outstanding chemical resistance, even at elevated temperatures.

$\sim$					i
-	Δ	n	_	ro	

Material Status	<ul> <li>Commercial: Active</li> </ul>		
Availability	Asia Pacific	Latin America	
	• Europe	North America	
Filler / Reinforcement	Glass\Mineral		
Features	<ul> <li>Good Chemical</li> <li>Resistance</li> <li>Good Electrical Properties</li> <li>Good Strength</li> </ul>		
Uses	<ul> <li>Automotive Application</li> </ul>	ns	
RoHS Compliance	<ul> <li>RoHS Compliant</li> </ul>		
Automotive Specifications	<ul> <li>PSA Peugeot-Citroën S X62 4142</li> </ul>	SPA • PSA Peugeot-Citroën SPA X62 5104	
Appearance	• Black		
Forms	• Pellets		
Processing Method	<ul> <li>Injection Molding</li> </ul>		
Physical		Typical Value Unit	Test method
Specific Gravity		1.94	ASTM D792
Molding Shrinkage			
Flow: 3.20 mm		0.20 %	
Across Flow: 3.20 mm		0.40 %	
Water Absorption (23°C, 24 hr)		0.020 %	ASTM D570
Mechanical		Typical Value Unit	Test method
Tensile Strength			
		145 MPa	ASTM D638
		155 MPa	ISO 527-2
Tensile Elongation (Break)		1.0 %	ASTM D638 ISO 527-2
Flexural Modulus			
		19300 MPa	ASTM D790
		19000 MPa	ISO 178
Flexural Strength			
		228 MPa	ASTM D790
		235 MPa	ISO 178
Compressive Strength		295 MPa	ASTM D695
Poisson's Ratio		0.34	ISO 527

# Ryton® BR111BL polyphenylene sulfide

Notched Izod Impact   3.18 mm   59 J/m   ASTM D266     7.0 kJ/m²   ISO 180/A	Impact	Typical Value Ur	nit	Test method
7.0 kJ/m² ISO 180/A Unnotched Izod Impact 3.18 mm 270 J/m ASTM D4812 20 kJ/m² ISO 180 Hardness Typical Value Unit Test method Rockwell Hardness ASTM D785 M-Scale 101 R-Scale 119  Thermal Typical Value Unit Test method Deflection Temperature Under Load 1.8 MPa, Unannealed 265 °C  CLTE ASTM D648 1.8 MPa, Unannealed 265 °C  CLTE ASTM E831 Flow: -50 10 50°C 1.5E-5 cm/cm/°C Transverse: -60 to 50°C 3.0E-5 cm/cm/°C Transverse: -50 to 50°C 3.0E-5 cm/cm/°C Transverse: -50 to 50°C 3.0E-5 cm/cm/°C Transverse: -50 to 50°C 7.0E-5 cm/cm/°C Thermal Conductivity 0.51 W/m/K UL Temperature Rating 220 to 240 °C UL 746B  Electrical Typical Value Unit Test method Surface Resistivity 1.0E+15 ohms-cm ASTM D257 Volume Resistivity 1.0E+15 ohms-cm ASTM D257 Volume Resistivity 1.0E+15 ohms-cm ASTM D257 Dielectric Strength 18 kV/mm ASTM D149 Dielectric Constant 4.70 25°C, 1 kHz 4.70 25°C, 1 kHz 4.70 25°C, 1 kHz 3.0E-3 25°C, 1 kHz 3.0E-3 Arc Resistance 180 sec ASTM D495 Comparative Tracking Index (CTI) 225 V UL 746 Insulation Resistance 190°C) 1.0E+10 ohms Flammability Typical Value Unit Test method Tes	Notched Izod Impact			
Unnotched Izod Impact         270 J/m         ASTM D4812            20 kJ/m²         ISO 180           Hardness         Typical Value Unit         Test method           Rockwell Hardness         101           M-Scale         101           R-Scale         1119           Thermal         Typical Value Unit         Test method           Deflection Temperature Under Load         4.8 MPa, Unannealed         265 °C           CLTE         ASTM D648         4.8 MPa, Unannealed         265 °C           Flow: -50 to 50°C         1.5E-5 cm/cm/°C         ASTM E831           Flow: -50 to 50°C         3.0E-5 cm/cm/°C         Transverse: -50 to 50°C         ASTM E851           Transverse: -50 to 50°C         3.0E-5 cm/cm/°C         Transverse: -50 to 50°C         Transverse: -5	3.18 mm	59 J/r	m	ASTM D256
3.18 mm         270 J/m         ASTM D4812 cm           4 mrdness         Typical Value Unit         Test method           Rockwell Hardness         ASTM D785           M-Scale         101 cm         ASTM D785           M-Scale         119         ASTM D648           Prescale         119         ASTM D648           1.8 MPa, Unannealed         265 °C         ASTM D648           1.8 MPa, Unannealed         265 °C         ASTM E831           Flow: -50 to 50°C         1.5E-5 cm/cm/°C         ASTM E831           Flow: -50 to 50°C         1.0E-5 cm/cm/°C         ASTM E831           Transverse: -50 to 50°C         3.0E-5 cm/cm/°C         ASTM E831           Transverse: -50 to 50°C         3.0E-5 cm/cm/°C         UL 746B           Thermal Conductivity         0.51 W/m/K         UL 746B           UL Temperature Rating         220 to 240 °C         UL 746B           Electrical         Typical Value Unit         Test method           Surface Resistivity         1.0E+16 ohms cm         ASTM D257           Volume Resistivity         1.0E+16 ohms cm         ASTM D257           Dielectric Strength         18 kV/mm         ASTM D150           25°C, 1 kHz         4.70         4.70           25		7.0 kJ	I/m²	ISO 180/A
Part	Unnotched Izod Impact			
Hardness         Typical Value Unit         Test method           McRockwell Hardness         ASTM D785           M-Scale         101           R-Scale         1119           Thermal         Typical Value Unit         Test method           Deflection Temperature Under Load         265 °C           1.8 MPa, Unannealed         265 °C           CLTE         ASTM E831           Flow: -50 to 50°C         1.5E-5 cm/cm/°C           Flow: 100 to 200°C         1.0E-5 cm/cm/°C           Transverse: -50 to 50°C         3.0E-5 cm/cm/°C           Transverse: 100 to 200°C         7.0E-5 cm/cm/°C           Thermal Conductivity         0.51 W/m/K           UL Temperature Rating         220 to 240 °C         UL 746B           Electrical         Typical Value Unit         Test method           Surface Resistivity         1.0E+16 ohms         ASTM D257           Volume Resistivity         1.0E+15 ohms cm         ASTM D257           Volume Resistivity         1.0E+15 ohms cm         ASTM D150           25°C, 1 kHz         4.70         4.60           Dissipation Factor         ASTM D150         25°C, 1 kHz         2.0E-3           25°C, 1 kHz         2.0E-3         2.0E-3         2.0E-3      <	3.18 mm	270 J/r	m	ASTM D4812
Rockwell Hardness		20 kJ	I/m <sup>2</sup>	ISO 180
Rockwell Hardness	Hardness	Typical Value Ur	nit	Test method
R-Scale         119           Thermal         Typical Value Unit         Test method           Deflection Temperature Under Load         ASTM D648           1.8 MPa, Unannealed         265 °C           CLTE         ASTM E831           Flow: -50 to 50°C         1.5E-5 cm/cm/°C           Flow: 100 to 200°C         1.0E-5 cm/cm/°C           Transverse: -50 to 50°C         3.0E-5 cm/cm/°C           Transverse: 100 to 200°C         7.0E-5 cm/cm/°C           Thermal Conductivity         0.51 W/m/K           UL Temperature Rating         220 to 240 °C         UL 746B           Electrical         Typical Value Unit         Test method           Surface Resistivity         1.0E+16 ohms         ASTM D257           Volume Resistivity         1.0E+16 ohms         ASTM D257           Dielectric Strength         18 kV/mm         ASTM D150           25°C, 1 kHz         4.70         4.60           25°C, 1 kHz         4.60         4.60           Dissipation Factor         ASTM D150         4.60           25°C, 1 kHz         3.0E-3         4.70           25°C, 1 kHz         3.0E-3         4.70           25°C, 1 kHz         3.0E-3         4.70           25°C, 1 kHz         <	Rockwell Hardness			ASTM D785
Thermal         Typical Value Unit         Test method           Deflection Temperature Under Load         ASTM D648           1.8 MPa, Unannealed         265 °C           CLTE         ASTM E831           Flow: -50 to 50 °C         1.5E-5 cm/cm/°C           Flow: 100 to 200 °C         1.0E-5 cm/cm/°C           Transverse: -50 to 50 °C         3.0E-5 cm/cm/°C           Transverse: 100 to 200 °C         7.0E-5 cm/cm/°C           Thermal Conductivity         0.51 W/m/K           UL Temperature Rating         220 to 240 °C         UL 746B           Electrical         Typical Value Unit         Test method           Surface Resistivity         1.0E+16 ohms         ASTM D257           Dielectric Strength         1.8 kV/mm         ASTM D257           Dielectric Strength         1.8 kV/mm         ASTM D150           25°C, 1 kHz         4.70         4.60           Dissipation Factor         ASTM D150         ASTM D150           25°C, 1 kHz         3.0E-3         ASTM D15	M-Scale	101		
Deflection Temperature Under Load         ASTM D648           1.8 MPa, Unannealed         265 °C           CLTE         ASTM E831           Flow: -50 to 50°C         1.5E-5 cm/cm/°C           Flow: 100 to 200°C         1.0E-5 cm/cm/°C           Transverse: -50 to 50°C         3.0E-5 cm/cm/°C           Transverse: 100 to 200°C         7.0E-5 cm/cm/°C           Thermal Conductivity         0.51 W/m/K           UL Temperature Rating         220 to 240 °C         UL 746B           Electrical         Typical Value Unit         Test method           Surface Resistivity         1.0E+16 ohms         ASTM D257           Volume Resistivity         1.0E+15 ohms·cm         ASTM D257           Dielectric Strength         18 kW/mm         ASTM D150           25°C, 1 kHz         4.70         4.70           25°C, 1 kHz         4.60         4.60           Dissipation Factor         ASTM D150         25°C, 1 kHz         3.0E-3           25°C, 1 kHz         3.0E-3         4.70         4.70           25°C, 1 kHz         3.0E-3         4.70         4.70           25°C, 1 kHz         3.0E-3         4.70         4.70           25°C, 1 kHz         3.0E-3         4.70         4.70         4.7	R-Scale	119		
Deflection Temperature Under Load         ASTM D648           1.8 MPa, Unannealed         265 °C           CLTE         ASTM E831           Flow: -50 to 50°C         1.5E-5 cm/cm/°C           Flow: 100 to 200°C         1.0E-5 cm/cm/°C           Transverse: -50 to 50°C         3.0E-5 cm/cm/°C           Transverse: 100 to 200°C         7.0E-5 cm/cm/°C           Thermal Conductivity         0.51 W/m/K           UL Temperature Rating         220 to 240 °C         UL 746B           Electrical         Typical Value Unit         Test method           Surface Resistivity         1.0E+16 ohms         ASTM D257           Volume Resistivity         1.0E+15 ohms·cm         ASTM D257           Dielectric Strength         18 kW/mm         ASTM D150           25°C, 1 kHz         4.70         4.70           25°C, 1 kHz         4.60         4.60           Dissipation Factor         ASTM D150         25°C, 1 kHz         3.0E-3           25°C, 1 kHz         3.0E-3         4.70         4.70           25°C, 1 kHz         3.0E-3         4.70         4.70           25°C, 1 kHz         3.0E-3         4.70         4.70           25°C, 1 kHz         3.0E-3         4.70         4.70         4.7	Thermal	Typical Value Ur	nit	Test method
CLTE         ASTM E831           Flow : -50 to 50°C         1.5E-5 cm/cm/°C           Flow : 100 to 200°C         1.0E-5 cm/cm/°C           Transverse : -50 to 50°C         3.0E-5 cm/cm/°C           Transverse : 100 to 200°C         7.0E-5 cm/cm/°C           Thermal Conductivity         0.51 W/m/K           UL Temperature Rating         220 to 240 °C         UL 746B           Electrical         Typical Value Unit         Test method           Surface Resistivity         1.0E+16 ohms         ASTM D257           Volume Resistivity         1.0E+16 ohms         ASTM D257           Dielectric Strength         18 kV/mm         ASTM D149           Dielectric Constant         ASTM D150         ASTM D150           25°C, 1 kHz         4.70         4.60           Dissipation Factor         ASTM D150         ASTM D150           25°C, 1 kHz         2.0E-3         3.0E-3           25°C, 1 MHz         3.0E-3         ASTM D495           Comparative Tracking Index (CTI)         225 V         UL 746           Insulation Resistance 1 (90°C)         1.0E+10 ohms           Flammability         Typical Value Unit         Test method           Flammability         V-0         5VA         UL 94	Deflection Temperature Under Load			ASTM D648
Flow: -50 to 50°C         1.5E-5 cm/cm/°C           Flow: 100 to 200°C         1.0E-5 cm/cm/°C           Transverse: -50 to 50°C         3.0E-5 cm/cm/°C           Transverse: 100 to 200°C         7.0E-5 cm/cm/°C           Thermal Conductivity         0.51 W/m/K           UL Temperature Rating         220 to 240 °C         UL 746B           Electrical         Typical Value Unit         Test method           Surface Resistivity         1.0E+16 ohms         ASTM D257           Volume Resistivity         1.0E+15 ohms·cm         ASTM D257           Dielectric Strength         18 kV/mm         ASTM D150           25°C, 1 kHz         4.70         4.70           25°C, 1 kHz         4.60         4.60           Dissipation Factor         ASTM D150         4.5°C, 1 kHz         4.60           25°C, 1 kHz         2.0E-3         4.5°C, 1 kHz         4.60           25°C, 1 kHz         3.0E-3         4.5°C         ASTM D495           Arc Resistance         180 sec         ASTM D495           Comparative Tracking Index (CTI)         225 V         UL 746           Insulation Resistance 1 (90°C)         1.0E+10 ohms         1.0E+10 ohms           Flammability         Typical Value Unit         Test method	1.8 MPa, Unannealed	265 °C	)	
Flow: 100 to 200°C       1.0E-5 cm/cm/°C         Transverse: -50 to 50°C       3.0E-5 cm/cm/°C         Transverse: 100 to 200°C       7.0E-5 cm/cm/°C         Thermal Conductivity       0.51 W/m/K         UL Temperature Rating       220 to 240 °C       UL 746B         Electrical       Typical Value Unit       Test method         Surface Resistivity       1.0E+16 ohms       ASTM D257         Volume Resistivity       1.0E+15 ohms-cm       ASTM D257         Dielectric Strength       18 kV/mm       ASTM D149         Dielectric Constant       ASTM D150         25°C, 1 kHz       4.70       4.60         25°C, 1 MHz       4.60       4.60         Dissipation Factor       ASTM D150       25°C, 1 kHz       2.0E-3         25°C, 1 kHz       2.0E-3       3.0E-3       3.0E-3         Arc Resistance       180 sec       ASTM D495       Comparative Tracking Index (CTI)       225 V       UL 746         Insulation Resistance 1 (90°C)       1.0E+10 ohms       1.0E+10 ohms       Test method         Flammability       Typical Value Unit       Test method         Flammability       V-0       5VA       UL 94	CLTE			ASTM E831
Transverse : -50 to 50°C       3.0E-5 cm/cm/°C         Transverse : 100 to 200°C       7.0E-5 cm/cm/°C         Thermal Conductivity       0.51 W/m/K         UL Temperature Rating       220 to 240 °C       UL 746B         Electrical       Typical Value Unit       Test method         Surface Resistivity       1.0E+16 ohms       ASTM D257         Volume Resistivity       1.0E+15 ohms·cm       ASTM D257         Dielectric Strength       18 kV/mm       ASTM D149         Dielectric Constant       ASTM D150         25°C, 1 kHz       4.70       4.70         25°C, 1 MHz       4.60       ASTM D150         Dissipation Factor       ASTM D150       ASTM D150         25°C, 1 kHz       2.0E-3       ASTM D45         25°C, 1 MHz       3.0E-3       ASTM D495         Arc Resistance       180 sec       ASTM D495         Comparative Tracking Index (CTI)       225 V       UL 746         Insulation Resistance ¹ (90°C)       1.0E+10 ohms         Flammability       Typical Value Unit       Test method         Flammability       V-0       UL 94	Flow: -50 to 50°C	1.5E-5 cm	n/cm/°C	
Transverse : 100 to 200°C         7.0E-5 cm/cm/°C           Thermal Conductivity         0.51 W/m/K           UL Temperature Rating         220 to 240 °C         UL 746B           Electrical         Typical Value Unit         Test method           Surface Resistivity         1.0E+16 ohms         ASTM D257           Volume Resistivity         1.0E+15 ohms·cm         ASTM D257           Dielectric Strength         18 kV/mm         ASTM D149           Dielectric Constant         ASTM D150         ASTM D150           25°C, 1 kHz         4.70         ASTM D150           25°C, 1 kHz         4.60         ASTM D150           25°C, 1 kHz         2.0E-3         ASTM D150           25°C, 1 kHz         3.0E-3         ASTM D495           Arc Resistance         180 sec         ASTM D495           Comparative Tracking Index (CTI)         225 V         UL 746           Insulation Resistance 1 (90°C)         1.0E+10 ohms           Flammability         Typical Value Unit         Test method           Flame Rating (1.60 mm)         V-0         UL 94	Flow: 100 to 200°C	1.0E-5 cm	n/cm/°C	
Thermal Conductivity         0.51 W/m/K           UL Temperature Rating         220 to 240 °C         UL 746B           Electrical         Typical Value Unit         Test method           Surface Resistivity         1.0E+16 ohms         ASTM D257           Volume Resistivity         1.0E+15 ohms·cm         ASTM D257           Dielectric Strength         18 kV/mm         ASTM D149           Dielectric Constant         ASTM D150           25°C, 1 kHz         4.70         4.60           25°C, 1 MHz         4.60         4.60           Dissipation Factor         ASTM D150         4.60           25°C, 1 kHz         2.0E-3         4.60           25°C, 1 kHz         3.0E-3         4.60           Arc Resistance         180 sec         ASTM D495           Comparative Tracking Index (CTI)         225 V         UL 746           Insulation Resistance 1 (90°C)         1.0E+10 ohms           Flammability         Typical Value Unit         Test method           Flame Rating (1.60 mm)         V-0         UL 94	Transverse: -50 to 50°C	3.0E-5 cm	n/cm/°C	
Electrical         Typical Value Unit         Test method           Surface Resistivity         1.0E+16 ohms         ASTM D257           Volume Resistivity         1.0E+15 ohms·cm         ASTM D257           Dielectric Strength         18 kV/mm         ASTM D149           Dielectric Constant         ASTM D150           25°C, 1 kHz         4.70         4.60           25°C, 1 MHz         4.60         4.60           Dissipation Factor         ASTM D150         25°C, 1 kHz         2.0E-3           25°C, 1 kHz         2.0E-3         3.0E-3           Arc Resistance         180 sec         ASTM D495           Comparative Tracking Index (CTI)         225 V         UL 746           Insulation Resistance ¹ (90°C)         1.0E+10 ohms         Test method           Flammability         Typical Value Unit         Test method           Flame Rating (1.60 mm)         V-0         UL 94	Transverse: 100 to 200°C	7.0E-5 cm	n/cm/°C	
Electrical         Typical Value Unit         Test method           Surface Resistivity         1.0E+16 ohms         ASTM D257           Volume Resistivity         1.0E+15 ohms·cm         ASTM D257           Dielectric Strength         18 kV/mm         ASTM D149           Dielectric Constant         ASTM D150           25°C, 1 kHz         4.70         4.60           25°C, 1 MHz         4.60         ASTM D150           25°C, 1 kHz         2.0E-3         3.0E-3           25°C, 1 kHz         3.0E-3         ASTM D495           Arc Resistance         180 sec         ASTM D495           Comparative Tracking Index (CTI)         225 V         UL 746           Insulation Resistance 1 (90°C)         1.0E+10 ohms           Flammability         Typical Value Unit         Test method           Flame Rating (1.60 mm)         V-0         UL 94	Thermal Conductivity	0.51 W	/m/K	
Surface Resistivity         1.0E+16 ohms         ASTM D257           Volume Resistivity         1.0E+15 ohms·cm         ASTM D257           Dielectric Strength         18 kV/mm         ASTM D149           Dielectric Constant         ASTM D150           25°C, 1 kHz         4.70         4.60           25°C, 1 MHz         4.60         ASTM D150           25°C, 1 kHz         2.0E-3         25°C, 1 MHz           25°C, 1 MHz         3.0E-3         ASTM D495           Arc Resistance         180 sec         ASTM D495           Comparative Tracking Index (CTI)         225 V         UL 746           Insulation Resistance¹ (90°C)         1.0E+10 ohms           Flammability         Typical Value Unit         Test method           •         V-0         UL 94	UL Temperature Rating	220 to 240 °C	)	UL 746B
Surface Resistivity         1.0E+16 ohms         ASTM D257           Volume Resistivity         1.0E+15 ohms·cm         ASTM D257           Dielectric Strength         18 kV/mm         ASTM D149           Dielectric Constant         ASTM D150           25°C, 1 kHz         4.70         4.60           25°C, 1 MHz         4.60         ASTM D150           25°C, 1 kHz         2.0E-3         25°C, 1 MHz           25°C, 1 MHz         3.0E-3         ASTM D495           Arc Resistance         180 sec         ASTM D495           Comparative Tracking Index (CTI)         225 V         UL 746           Insulation Resistance¹ (90°C)         1.0E+10 ohms           Flammability         Typical Value Unit         Test method           •         V-0         UL 94	Electrical	Typical Value Ur	nit	Test method
Dielectric Strength         18 kV/mm         ASTM D149           Dielectric Constant         ASTM D150           25°C, 1 kHz         4.70           25°C, 1 MHz         4.60           Dissipation Factor         ASTM D150           25°C, 1 kHz         2.0E-3           25°C, 1 MHz         3.0E-3           Arc Resistance         180 sec         ASTM D495           Comparative Tracking Index (CTI)         225 V         UL 746           Insulation Resistance 1 (90°C)         1.0E+10 ohms           Flammability         Typical Value Unit         Test method           Flame Rating (1.60 mm)         V-0         UL 94	Surface Resistivity			ASTM D257
Dielectric Constant         ASTM D150           25°C, 1 kHz         4.70           25°C, 1 MHz         4.60           Dissipation Factor         ASTM D150           25°C, 1 kHz         2.0E-3           25°C, 1 MHz         3.0E-3           Arc Resistance         180 sec         ASTM D495           Comparative Tracking Index (CTI)         225 V         UL 746           Insulation Resistance ¹ (90°C)         1.0E+10 ohms           Flammability         Typical Value Unit         Test method           Flame Rating (1.60 mm)         V-0         UL 94	Volume Resistivity	1.0E+15 oh	nms·cm	ASTM D257
25°C, 1 kHz       4.70         25°C, 1 MHz       4.60         Dissipation Factor       ASTM D150         25°C, 1 kHz       2.0E-3         25°C, 1 MHz       3.0E-3         Arc Resistance       180 sec       ASTM D495         Comparative Tracking Index (CTI)       225 V       UL 746         Insulation Resistance 1 (90°C)       1.0E+10 ohms         Flammability       Typical Value Unit       Test method         Flame Rating (1.60 mm)       V-0       UL 94	Dielectric Strength	18 kV	//mm	ASTM D149
25°C, 1 MHz       4.60         Dissipation Factor       ASTM D150         25°C, 1 kHz       2.0E-3         25°C, 1 MHz       3.0E-3         Arc Resistance       180 sec       ASTM D495         Comparative Tracking Index (CTI)       225 V       UL 746         Insulation Resistance 1 (90°C)       1.0E+10 ohms         Flammability       Typical Value Unit       Test method         Flame Rating (1.60 mm)       V-0       UL 94	Dielectric Constant			ASTM D150
Dissipation Factor         ASTM D150           25°C, 1 kHz         2.0E-3           25°C, 1 MHz         3.0E-3           Arc Resistance         180 sec         ASTM D495           Comparative Tracking Index (CTI)         225 V         UL 746           Insulation Resistance 1 (90°C)         1.0E+10 ohms           Flammability         Typical Value Unit         Test method           Flame Rating (1.60 mm)         V-0         UL 94	25°C, 1 kHz	4.70		
25°C, 1 kHz       2.0E-3         25°C, 1 MHz       3.0E-3         Arc Resistance       180 sec       ASTM D495         Comparative Tracking Index (CTI)       225 V       UL 746         Insulation Resistance¹ (90°C)       1.0E+10 ohms         Flammability       Typical Value Unit       Test method         Flame Rating (1.60 mm)       V-0       UL 94	25°C, 1 MHz	4.60		
25°C, 1 MHz       3.0E-3         Arc Resistance       180 sec       ASTM D495         Comparative Tracking Index (CTI)       225 V       UL 746         Insulation Resistance 1 (90°C)       1.0E+10 ohms         Flammability       Typical Value Unit       Test method         Flame Rating (1.60 mm)       V-0       UL 94	Dissipation Factor			ASTM D150
Arc Resistance         180 sec         ASTM D495           Comparative Tracking Index (CTI)         225 V         UL 746           Insulation Resistance 1 (90°C)         1.0E+10 ohms           Flammability         Typical Value Unit         Test method           Flame Rating (1.60 mm)         V-0         UL 94	25°C, 1 kHz	2.0E-3		
Comparative Tracking Index (CTI)  Insulation Resistance 1 (90°C)  1.0E+10 ohms  Flammability  Typical Value Unit  V-0  5VA  UL 746  UL 746  UL 746  UL 746		3.0E-3		
Insulation Resistance¹ (90°C)  1.0E+10 ohms  Flammability  Typical Value Unit  V-0  5VA  UL 94	Arc Resistance	180 se	eC	ASTM D495
Flammability Typical Value Unit Test method  • V-0 • 5VA  UL 94	Comparative Tracking Index (CTI)	225 V		UL 746
Flame Rating (1.60 mm)   • V-0  5VA  UL 94	Insulation Resistance 1 (90°C)	1.0E+10 oh	nms	
Flame Rating (1.60 mm)   • 5VA	Flammability	Typical Value Ur	nit	Test method
	Flame Rating (1.60 mm)			UL 94
	Oxygen Index			ASTM D2863

## Ryton® BR111BL

polyphenylene sulfide

### **Notes**

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

<sup>1</sup> 95%RH, 48 hr

## www.solvay.com

SpecialtyPolymers.EMEA@solvay.com | Europe, Middle East and Africa SpecialtyPolymers.Americas@solvay.com | Americas SpecialtyPolymers.Asia@solvay.com | Asia and Australia

Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

Neither Solvay Specialty Polymers nor any of its affiliates makes any warranty, express or implied, including merchantability or fitness for use, or accepts any liability in connection with this product, related information or its use. Some applications of which Solvay's products may be proposed to be used are regulated or restricted by applicable laws and regulations or by national or international standards and in some cases by Solvay's recommendation, including applications of food/feed, water treatment, medical, pharmaceuticals, and personal care. Only products designated as part of the Solviva® family of biomaterials may be considered as candidates for use in implantable medical devices. The user alone must finally determine suitability of any information or products for any contemplated use in compliance with applicable law, the manner of use and whether any patents are infringed. The information and the products are for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right.

All trademarks and registered trademarks are property of the companies that comprise the Solvay Group or their respective owners.

© 2015 Solvay Specialty Polymers. All rights reserved.

