

NORYL™ WCD915 resin

Polyphenylene Ether + TPE

SABIC Innovative Plastics Asia Pacific

Message:

Flexible and non-halogenated flame retardant extrusion grade intended for evaluation in applications such as insulation materials. Flame retardant performance capable of meeting UL 1581 VW-1 requirement. 90C or 105C temperature rating as defined by UL 62 TPE category. 91 Shore A hardness. Processing typically conducted on standard extrusion equipment. UL 1581 tests conducted on 2.0 mm wire with 0.12 mm x 20 stranded copper conductor.

General Information			
Features	Good flexibility		
	Halogen-free		
	Flame retardancy		
Uses	Wire and cable applications		
	Insulating material		
Agency Ratings	UL 1581		
	UL 62		
	UL VW-1		
Processing Method	Extrusion coating		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.03	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (250°C/10.0 kg)	9.0	g/10 min	ASTM D1238
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A, 30 sec)	91		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Fracture	24.0	MPa	UL 1581
Fracture ¹	15.0	MPa	ASTM D638
Fracture, 136°C ²	23.5	MPa	UL 1581
Fracture	14.0	MPa	ISO 527-2/50
Tensile Elongation			
Fracture	270	%	UL 1581
Fracture ³	170	%	ASTM D638
Fracture, 136°C ⁴	230	%	UL 1581
Fracture	160	%	ISO 527-2/50
Flexural Modulus ⁵			
100mm span	100	MPa	ASTM D790

--	78.0	MPa	ISO 178
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -40.0	°C	ASTM D746
Heat Deformation (121°C) ⁶	5.0	%	UL 1581
VW-1	Pass		UL 1581
Smoke Density			ASTM E662
Flame, 0.5 mm plaque, Ds, max	120		ASTM E662
Non-Flame, 0.5 mm plaque, Ds, max	49		ASTM E662
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	3.3E+16	ohms·cm	ASTM D257
Dielectric Strength (2.00 mm, in Oil)	22	kV/mm	IEC 60243-1
Dielectric Constant (1 MHz)	2.60		ASTM D150
Dissipation Factor (1 MHz)	0.033		ASTM D150
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index (3.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (3.00 mm)	825	°C	IEC 60695-2-13
Oxygen Index	29	%	ISO 4589-2
Extrusion	Nominal Value	Unit	
Drying Temperature	75.0 - 85.0	°C	
Drying Time	5.0 - 7.0	hr	
Suggested Max Moisture	0.020	%	
Cylinder Zone 1 Temp.	180 - 220	°C	
Cylinder Zone 3 Temp.	220 - 250	°C	
Cylinder Zone 5 Temp.	220 - 250	°C	
Melt Temperature	220 - 250	°C	
Die Temperature	220 - 250	°C	
Extrusion instructions			
Conductor Pre-heat Temperature: 25 - 120 °CCooling Water Air Gap: 100 - 200 mmCross-head Temperature: 220 - 250 °CDrying Time (Cumulative): 12 hrsExtruder Length/Diameter Ratio (L/D): 22:1 to 26:1Neck Temperature: 220 - 250 °CScreen Pack: 150 - 100Screw Speed: 15 - 85 rpmWater Bath Temperature: 15 - 60 °C			
NOTE			
1.	Type 1, 50mm/min		
2.	After 7 days		
3.	Type 1, 50mm/min		
4.	After 7 days		
5.	13 mm/min		
6.	250 g		

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