

NORYL™ WCA955 resin

Polyphenylene Ether + TPE

SABIC Innovative Plastics Asia Pacific

Message:

Non-halogenated flame retardant Flexible NORYL extrusion grade intended for evaluation in wire insulation, especially for internal wire. Excellent flame retardant performance with balanced tensile strength, tensile elongation, heat deformation, capable of VW-1 performance and 105C temperature rating as defined by UL 1581. Processing typically conducted on standard extrusion equipment. UL 1581 tests conducted on 2.0mm wire with 0.12mm X 20 stranded copper conductor. It's also suitable for coating of AWG26 and AWG28 copper conductor as well.

General Information			
Additive	Flame retardancy		
Features	Good flexibility		
	Halogen-free		
	Flame retardancy		
Uses	Wire and cable applications		
	Insulating material		
Agency Ratings	UL 1581		
Processing Method	Extrusion coating		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.02	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (250°C/10.0 kg)	8.0	g/10 min	ASTM D1238
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A, 30 sec)	95		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Fracture	27.0	MPa	UL 1581
Fracture ¹	15.0	MPa	ASTM D638
Fracture, 136°C ²	27.0	MPa	UL 1581
Fracture	15.0	MPa	ISO 527-2/50
Tensile Elongation			
Fracture	250	%	UL 1581
Fracture ³	160	%	ASTM D638
Fracture, 136°C ⁴	180	%	UL 1581
Fracture	160	%	ISO 527-2/50
Flexural Modulus ⁵			
100mm span	150	MPa	ASTM D790
--	140	MPa	ISO 178
Thermal	Nominal Value	Unit	Test Method

UL Temperature Rating	105	°C	UL 1581
Heat Deformation ⁶ (121°C)	4.0	%	UL 1581
VW-1	Pass		UL 1581
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	2.4E+16	ohms·cm	IEC 60093
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index (3.00 mm)	750	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (3.00 mm)	725	°C	IEC 60695-2-13
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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