

NORYL™ WCD835 resin

Polyphenylene Ether + TPE

SABIC Innovative Plastics

Message:

Flexible, low odor, halogen free extrusion grade intended for evaluation in applications such as wire insulation and cable jacket. Flame performance capable of meeting UL VW1 requirements. 80C end use temperature rating and good heat deformation performance as defined by UL 1581. 83 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		
	The smell is low to none		
	Halogen-free		
Uses	Wire and cable applications		
	Wire sheath		
RoHS Compliance	RoHS compliance		
Processing Method	Extrusion coating		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.04	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (250°C/10.0 kg)	6.0	g/10 min	ASTM D1238
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore A, 30 sec)	83		ASTM D2240
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Fracture	17.0	MPa	UL 1581
Fracture ¹	10.0	MPa	ASTM D638
Fracture, 113°C ²	18.0	MPa	UL 1581
Fracture	10.0	MPa	ISO 527-2/50
Tensile Elongation			
Fracture	270	%	UL 1581
Fracture ³	250	%	ASTM D638
Fracture, 113°C ⁴	250	%	UL 1581
Fracture	230	%	ISO 527-2/50
Flexural Modulus ⁵			
100mm span	40.0	MPa	ASTM D790
--	35.0	MPa	ISO 178
Thermal	Nominal Value	Unit	Test Method
Brittleness Temperature	< -40.0	°C	ASTM D746

UL Temperature Rating	80	°C	UL 1581
Heat Deformation ⁶ (100°C)	20	%	UL 1581
VW-1	Pass		UL 1581
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	9.0E+15	ohms·cm	IEC 60093
Comparative Tracking Index	600	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Glow Wire Flammability Index (3.00 mm)	850	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (3.00 mm)	750	°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, 5.0 mm/min		
4.	After 7 days		
5.	13 mm/min		
6.	250 g		

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China



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