

# FLEX NORYL™ RESIN WCD815U

REGION ASIA

## DESCRIPTION

Flexible, Ultra-violet stabilized and non-halogenated flame retardant extrusion grade intended for applications such as cable jacket in compliance with UL62. Flame retardant performance capable of meeting UL 1581 VW-1 requirement. 90C temperature rating as defined by UL 62 TPE category. 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.

## TYPICAL PROPERTY VALUES

Revision 20181012

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, brk, Type I, 50 mm/min	15	MPa	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	245	%	ASTM D 638
Flexural Modulus, 12.5 mm/min, 100 mm span	20	MPa	ASTM D 790
Hardness, Shore A, 30S reading	81	-	ASTM D 2240
Tensile Stress, break, 50 mm/min	17	MPa	ISO 527
Tensile Strain, break, 50 mm/min	260	%	ISO 527
Flexural Modulus, 12.5 mm/min	20	MPa	ISO 178
<b>PHYSICAL</b>			
Specific Gravity	1.03	-	ASTM D 792
Melt Flow Rate, 250°C/ 10.0 kgf	10	g/10 min	ASTM D 1238
<b>ELECTRICAL</b>			
Volume Resistivity	5.1E+15	Ohm-cm	ASTM D 257
Surface Resistivity	1.6E+16	Ohm	ASTM D 257
Dielectric Strength in oil, 2.0mm	25	kV/mm	ASTM D 149
Comparative Tracking Index	600	V	IEC 60112
Dielectric Constant, 5 GHz	2.6	-	SABIC method
Dissipation Factor, 5 GHz	0.002	-	SABIC method
<b>FLAME CHARACTERISTICS</b>			
Smoke Density on 0.5mm plaque, Non-flame, Ds, max	166	-	ASTM E 662
Smoke Density on 0.5mm plaque, Flame, Ds, max	117	-	ASTM E 662
Glow Wire Flammability Index 850°C, passes at	3	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 3.0 mm	775	°C	IEC 60695-2-13
Oxygen Index (LOI)	27	%	ISO 4589
<b>WIRE AND CABLE - UL 1581 TESTED ON 2.0MM WIRE WITH 0.12MMX20 STRANDED COPPER</b>			
Tensile strength @ break	22	MPa	UL 1581
Tensile elongation @ break	330	%	UL 1581
Tensile strength @ break after 7days @136°C	23	MPa	UL 1581
Tensile elongation @ break after 7days @136°C	290	%	UL 1581
Heat Deformation at 121°C/250g	10	%	UL 1581
VW-1	Pass	-	UL 1581
<b>WIRE COATING EXTRUSION</b>			
Drying Temperature	75 – 85	°C	
Drying Time	5 – 7	hrs	

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Time (Cumulative)	12	hrs	
Maximum Moisture Content	0.02	%	
Extruder Length/Diameter Ratio (L/D)	22:1 to 26:1	-	
Screw Speed	15 – 85	rpm	
Feed Zone Temperature	180 – 220	°C	
Middle Zone Temperatures	220 – 250	°C	
Head Zone Temperature	220 – 250	°C	
Neck Temperature	220 – 250	°C	
Cross-head Temperature	220 – 250	°C	
Die Temperature	220 – 250	°C	
Melt Temperature	220 – 250	°C	
Conductor Pre-heat Temperature	25 – 120	°C	
Screen Pack	150 – 100	-	
Cooling Water Air Gap	100 – 200	mm	
Water Bath Temperature	15 – 60	°C	

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