

# FLEX NORYL™ RESIN WCA875

REGION ASIA

## DESCRIPTION

Non-halogenated flame retardant Flexible NORYL extrusion grade intended for evaluation in applications such as wire insulation and cable jacket. Excellent flame retardant performance with balanced tensile elongation, capable of VW-1 performance and 105C temperature rating as defined by UL 1581. 87 Shore A hardness. Processing typically conducted on standard extrusion equipment. UL 1581 tests conducted on 2.0mm wire with 0.12mm X 20 stranded copper conductor.

## TYPICAL PROPERTY VALUES

Revision 20180905

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, brk, Type I, 50 mm/min	16	MPa	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	180	%	ASTM D 638
Flexural Modulus, 12.5 mm/min, 100 mm span	40	MPa	ASTM D 790
Hardness, Shore A, 30S reading	87	-	ASTM D 2240
Tensile Stress, break, 50 mm/min	16	MPa	ISO 527
Tensile Strain, break, 50 mm/min	170	%	ISO 527
Flexural Modulus, 12.5 mm/min	40	MPa	ISO 178
<b>IMPACT</b>			
Brittleness Temperature	<-40	°C	ASTM D 746
<b>PHYSICAL</b>			
Specific Gravity	1.03	-	ASTM D 792
Melt Flow Rate, 250°C/ 10.0 kgf	16	g/10 min	ASTM D 1238
<b>ELECTRICAL</b>			
Volume Resistivity	2.2 – 1000000000000000000	Ohm-cm	ASTM D 257
Dielectric strength in oil, 2.0mm	22.8	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.7	-	IEC 60250
Dissipation Factor, 1 MHz	0.0035	-	IEC 60250
Comparative Tracking Index	600	V	IEC 60112
<b>FLAME CHARACTERISTICS</b>			
Smoke Density on 0.5mm plaque, Non-flame, Ds, max	112	-	ASTM E 662
Smoke Density on 0.5mm plaque, Flame, Ds, max	146	-	ASTM E 662
Glow Wire Flammability Index 960°C, passes at	3	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 3.0 mm	800	°C	IEC 60695-2-13
Oxygen Index (LOI)	29	%	ISO 4589
<b>WIRE AND CABLE - UL 1581 TESTED ON 2.0MM WIRE WITH 0.12MMX20 STRANDED COPPER</b>			
Tensile strength @ break	27	MPa	UL 1581
Tensile elongation @ break	250	%	UL 1581
Tensile strength @ break after 7days @136°C	26	MPa	UL 1581
Tensile elongation @ break after 7days @136°C	190	%	UL 1581
UL temperature rating	105	°C	UL 1581
Heat Deformation at 121°C/250g	10	%	UL 1581
VW-1	Pass	-	UL 1581
<b>WIRE COATING EXTRUSION</b>			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Drying Temperature	75 – 85	°C	
Drying Time	5 – 7	hrs	
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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