



NORYL™ Resin WCA955

Asia Pacific: COMMERCIAL

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.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, brk, Type I, 50 mm/min	150	kgf/cm ²	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	160	%	ASTM D 638
Flexural Modulus, 12.5 mm/min, 100 mm span	1500	kgf/cm ²	ASTM D 790
Hardness, Shore A, 30S reading	95	-	ASTM D 2240
Tensile Stress, break, 50 mm/min	15	MPa	ISO 527
Tensile Strain, break, 50 mm/min	160	%	ISO 527
Flexural Modulus, 12.5 mm/min	140	MPa	ISO 178
PHYSICAL			
Specific Gravity	1.02	-	ASTM D 792
Melt Flow Rate, 250°C/10.0 kgf	8	g/10 min	ASTM D 1238
ELECTRICAL			
Volume Resistivity	2.4E+16	Ohm-cm	IEC 60093
Comparative Tracking Index	600	V	IEC 60112
FLAME CHARACTERISTICS			
Glow Wire Flammability Index 750°C, passes at	3	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 3.0 mm	725	°C	IEC 60695-2-13
WIRE AND CABLE - UL 1581 tested on 2.0mm wire with 0.12mmx20 stranded copper			
Tensile strength @ break	27	MPa	UL 1581
Tensile elongation @ break	250	%	UL 1581
Tensile strength @ break after 7days @136°C	27	MPa	UL 1581
Tensile elongation @ break after 7days @136°C	180	%	UL 1581
UL temperature rating	105	°C	UL 1581
Heat Deformation at 121°C/250g	4	%	UL 1581
VW-1	Pass	-	UL 1581



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Wire Coating Extrusion		
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

• NOTE: Recommended Drying Parameters are based on usage of Dehumidify Drying / Drying Oven.