



NORYL™ Resin WCD835
Americas: COMMERCIAL

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.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, brk, Type I, 50 mm/min	100	kgf/cm ²	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	250	%	ASTM D 638
Flexural Modulus, 12.5 mm/min, 100 mm span	400	kgf/cm ²	ASTM D 790
Hardness, Shore A, 30S reading	83	-	ASTM D 2240
Tensile Stress, break, 50 mm/min	10	MPa	ISO 527
Tensile Strain, break, 50 mm/min	225	%	ISO 527
Flexural Modulus, 12.5 mm/min	30	MPa	ISO 178
IMPACT			
Brittleness Temperature	<-40	°C	ASTM D 746
PHYSICAL			
Specific Gravity	1.04	-	ASTM D 792
Melt Flow Rate, 250°C/10.0 kgf	6	g/10 min	ASTM D 1238
ELECTRICAL			
Volume Resistivity	9.E+15	Ohm-cm	IEC 60093
Comparative Tracking Index	600	V	IEC 60112
FLAME CHARACTERISTICS			
Glow Wire Flammability Index 850°C, passes at	3	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 3.0 mm	750	°C	IEC 60695-2-13
WIRE AND CABLE - UL 1581 tested on 2.0mm wire with 0.12mmx20 stranded copper			
Tensile strength @ break	17	MPa	UL 1581
Tensile elongation @ break	270	%	UL 1581
Tensile strength @ break after 7days @113°C	18	MPa	UL 1581
Tensile elongation @ break after 7days @113°C	250	%	UL 1581
UL temperature rating	80	°C	UL 1581
Heat Deformation at 100°C/250g	20	%	UL 1581
VW-1	Pass	-	UL 1581

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.
 (3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
 (6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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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.

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