

## Noryl\* Resin WCD795

## Asia Pacific: COMMERCIAL

Flexible and non-halogenated flame retardant extrusion grade intended for evaluation in applications such as cable jacket of UL 62 SVE and NISPE configurations. Flame retardant performance capable of meeting UL 1581 VW-1 requirement. 90C or 105C temperature rating as defined by UL 62 TPE category. 79 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.

### Property

TYPICAL PROPERTIES <sup>(1)</sup>			
<b>MECHANICAL</b>			
	Value	Unit	Standard
Tensile Stress, brk, Type I, 50 mm/min	14	MPa	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	240	%	ASTM D 638
Flexural Modulus, 12.5 mm/min, 100 mm span	30	MPa	ASTM D 790
Hardness, Shore A, 30S reading	79	-	ASTM D 2240
Tensile Stress, break, 50 mm/min	14	MPa	ISO 527
Tensile Strain, break, 50 mm/min	215	%	ISO 527
Flexural Modulus, 12.5 mm/min	30	MPa	ISO 178
<b>IMPACT</b>			
	Value	Unit	Standard
Brittleness Temperature	<-40	°C	ASTM D 746
<b>PHYSICAL</b>			
	Value	Unit	Standard
Specific Gravity	1.02	-	ASTM D 792
Melt Flow Rate, 250°C/10.0 kgf	11	g/10 min	ASTM D 1238
<b>ELECTRICAL</b>			
	Value	Unit	Standard
Volume Resistivity	1.4E+16	Ohm-cm	ASTM D 257
Relative Permittivity, 1 MHz	2.6	-	ASTM D 150
Dissipation Factor, 1 MHz	0.007	-	ASTM D 150
Dielectric strength in oil, 2.0mm	24.5	kV/mm	IEC 60243-1
Comparative Tracking Index	600	V	IEC 60112
<b>FLAME CHARACTERISTICS</b>			
	Value	Unit	Standard
Smoke Density on 0.5mm plaque, Non-flame, Ds, max	70	-	ASTM E 662
Smoke Density on 0.5mm plaque, Flame, Ds, max	117	-	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)	27	%	ISO 4589
<b>WIRE AND CABLE - UL 1581 tested on 2.0mm wire with 0.12mmx20 stranded copper</b>			
	Value	Unit	Standard
Tensile strength @ break	23	MPa	UL 1581
Tensile elongation @ break	310	%	UL 1581
Tensile strength @ break after 7days @136°C	21	MPa	UL 1581
Tensile elongation @ break after 7days @136°C	246	%	UL 1581
Heat Deformation at 121°C/250g	8	%	UL 1581
VW-1	Pass	-	UL 1581

## Processing

Parameter	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

Source GMD, last updated:2009/09/28

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

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(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.

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