

Noryl* Resin WCA871A
Americas: COMMERCIAL

Flame retardant performance and mechanical properties capable of meeting UL VW-1 requirement and 105C temperature rating as defined UL1581. UL1581 tests conducted on 1.0mmD wire with AWG28 conductor.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, brk, Type I, 50 mm/min	180	kgf/cm ²	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	140	%	ASTM D 638
Flexural Modulus, 12.5 mm/min, 100 mm span	1000	kgf/cm ²	ASTM D 790
Hardness, Shore A, 30S reading	87	-	ASTM D 2240
Tensile Stress, break, 50 mm/min	18	MPa	ISO 527
Tensile Strain, break, 50 mm/min	130	%	ISO 527
Flexural Modulus, 12.5 mm/min	100	MPa	ISO 178
IMPACT			
Brittleness Temperature	-40	°C	ASTM D 746
PHYSICAL			
Specific Gravity	1.06	-	ASTM D 792
Melt Flow Rate, 250°C/5.0 kgf	15	g/10 min	ASTM D 1238
ELECTRICAL			
Volume Resistivity	2.4E+16	Ohm-cm	ASTM D 257
Dielectric Strength in oil, 1.5mm	28	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.6	-	IEC 60250
Dissipation Factor, 1 MHz	0.002	-	IEC 60250
Comparative Tracking Index	600	V	IEC 60112
FLAME CHARACTERISTICS			
Smoke Density on 0.5mm plaque, Non-flame, Ds, max	67	-	ASTM E 662
Smoke Density on 0.5mm plaque, Flame, Ds, max	143	-	ASTM E 662
Glow Wire Flammability Index 960°C, passes at	3	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 3.0 mm	825	°C	IEC 60695-2-13
Oxygen Index (LOI)	28	%	ISO 4589
WIRE AND CABLE - UL 1581 tested on 2.0mm wire with 0.12mmx20 stranded copper			
Tensile strength @ break	30	MPa	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±176.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.

Source GMD, last updated:

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
WIRE AND CABLE - UL 1581 tested on 2.0mm wire with 0.12mmx20 stranded copper			
Tensile elongation @ break	280	%	UL 1581
Tensile strength @ break after 7days @136°C	27	MPa	UL 1581
Tensile elongation @ break after 7days @136°C	200	%	UL 1581
UL temperature rating	105	°C	UL 1581
Heat Deformation at 121°C/250g	20	%	UL 1581

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