



**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 <sup>1</sup>                                                     | TYPICAL VALUE | Unit                | Standard       |
|-------------------------------------------------------------------------------------|---------------|---------------------|----------------|
| <b>MECHANICAL</b>                                                                   |               |                     |                |
| Tensile Stress, brk, Type I, 50 mm/min                                              | 180           | kgf/cm <sup>2</sup> | 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 <sup>2</sup> | 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        |
| <b>IMPACT</b>                                                                       |               |                     |                |
| Brittleness Temperature                                                             | -40           | °C                  | ASTM D 746     |
| <b>PHYSICAL</b>                                                                     |               |                     |                |
| Specific Gravity                                                                    | 1.06          | -                   | ASTM D 792     |
| Melt Flow Rate, 250°C/5.0 kgf                                                       | 15            | g/10 min            | ASTM D 1238    |
| <b>ELECTRICAL</b>                                                                   |               |                     |                |
| 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      |
| <b>FLAME CHARACTERISTICS</b>                                                        |               |                     |                |
| 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       |
| <b>WIRE AND CABLE - UL 1581 tested on 2.0mm wire with 0.12mmx20 stranded copper</b> |               |                     |                |
| Tensile strength @ break                                                            | 30            | MPa                 | UL 1581        |



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| <b>WIRE AND CABLE - UL 1581 tested on 2.0mm wire with 0.12mmx20 stranded copper</b> |               |      |          |
| 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  |