

# Polytermacon SN<sup>®</sup> Magnet Wire

## General description

The POLYTERMACON SN<sup>®</sup> magnet wire is manufactured with enamel formulated from solderable polyesterimide resins and a polyamide (Nylon) overcoat, thus giving excellent properties in solderability, thermal resistance, tenacity, winding ease, and cracking resistance.

This product is manufactured in two insulation builds – Single and Heavy, and is offered with a Copper conductor.

The POLYTERMACON SN<sup>®</sup> magnet wire is recommended for use in electrical equipment with a thermal class of up to 180 °C.

UL Designation	Thermal class (°C)	NEMA MW-1000
PSN 155	155	MW 27
PSN 180	180	MW 78

## Range of gauges

Copper Conductors		
Insulation build	AWG	mm
Single	14 - 38	1.628 – 0.101
Heavy	21 - 38	0.723 – 0.101

## Principal applications:

- Generators
- Automotive coils
- Electronic coils
- Special transformer coils
- Shaded coils
- Motors with slit winding
- Applications with high winding stress

## Specifications

Meets the requirements set forth in the following standards:

- NEMA MW 1000, MW 27 and MW 78
- UL recognition under file E102627

## Characteristics

- Highly resistant to heat
- High dielectric strength
- Solderable without having to strip the insulating film
- High thermoplastic flow
- Excellent winding ease
- High resistance to abrasion

## TYPICAL TEST VALUES FOR A POLYTERMACON SN<sup>®</sup> HEAVY 25 AWG WIRE (PSN 180)

Typical values only, not intended to be used as a specification

TEST	SPECIFICATION (ANSI / NEMA MW 1000) MW 78	TEST METHOD	TYPICAL RESULTS
<b>Electrical</b>			
Continuity (faults)	≤ 5 @ 1000 V	NEMA	0
Dielectric strength	≥ 4270	NEMA	10500 V

<b>Mechanical</b>			
Scrape resistance (g)	Average of 3 measurements, ≥ 635	NEMA	684
Adherence and Flexibility	No cracks when elongated 20%, wrapped around a 3d mandrel	NEMA	No cracks
Elongation (%)	≥ 30	NEMA	33
Springback (°)	≤ 72	NEMA	68

<b>Chemical</b>			
Solderability	Maximum 6 seconds immersion time @ 470°C	NEMA	passes
Solubility	Not soften sufficiently to expose the bare conductor	NEMA	OK

<b>Thermal</b>			
Thermoplastic flow (°C)	≥ 200	NEMA	320
Heat shock	No cracks @ 20%, 3d, ½ hour, 200 °C	NEMA	No cracks