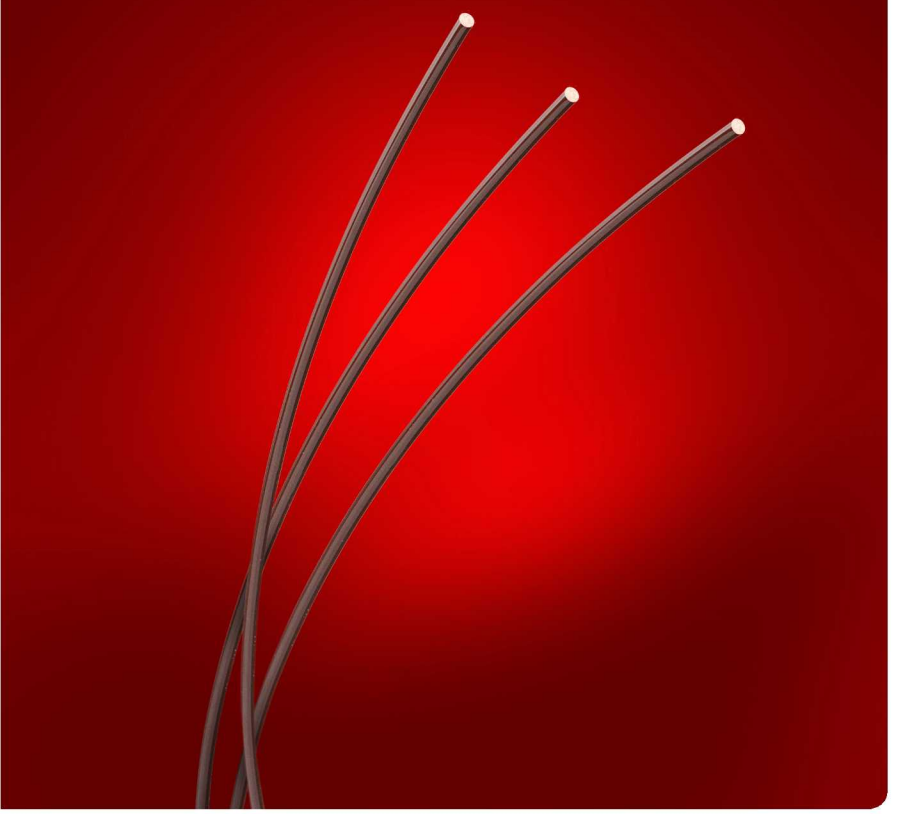
NanoMax

TAIHNM

Thermal Class: 220°C



Features and Benefits

Rea Magnet Wire has combined the best available manufacturing techniques and available enamels to create industry-leading, inverter-grade magnet wire. We proudly introduce, NanoMax, which is the best corona resistant magnet wire available in the market.

- 2X the corona resistance of the next-best inverter-grade wire as measured by voltage endurance testing to support the most rugged applications.
- 2X softer wire as measured by low-stress elongation to help in the winding process.
- Best-in-class scrape resistance as measured by repeated scrape testing for the most severe winding conditions.

Markets

Motors/Generators:

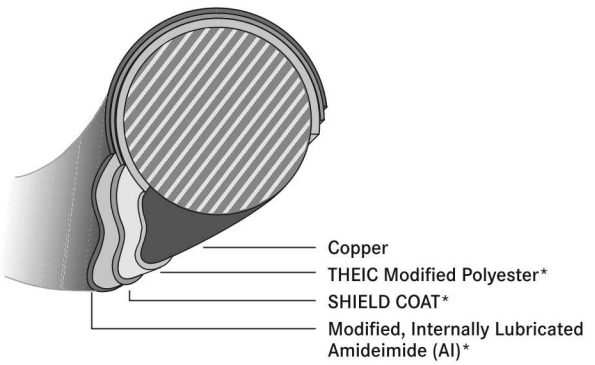
General

Commercial & Industrial

Generator

Typical Applications

Hand wound and high speed windings with difficult insertion and winding characteristics for inverter-driven motors, high frequency transformers, and high voltage motors



*Multiple Coats

General Information

Over 375 motor repair shops were surveyed in assistance to design this product.

Insulation Material

Rea Material Code: TAIHNM

Rea Insulation Code: 2J

Round

NEMA: MW 37-C

UL: file number. E37683

Availability

Round	heavy
Copper	14–19 AWG

Rea

Nanomax

Thermal

Thermal Endurance		
20,000 hr life	>200°C	
Thermoplastic Flow	**minimum**	**typical**
	325°C	350°C
Heat Shock (20%3x)		
1/2 hr at 240°C minimum no cracks		
Solderability		
Not designed to be self-solderable		

Mechanical

Mandrel Flexibility	minimum	typical
After Elongation	20% 3x OK	100% 2x OK
After Snap	3x OK	2x OK
Elongation	32	40
Unilateral Scrape		
Avg. of 3 sides	1150 gms	1300 gms
Repeated Scrape		
700 grams	100 gms	250 gms
Dynamic C of F		
		0.045

Electrical

Dielectric Breakdown	minimum	typical
NEMA	5.7 kV	12.0 kV
@ RT @220° C	12.0 kV 75% of room temperature	
Corona Inception Voltage		
	500V	600V
Pulse Endurance Test		
20,000 Hz, 2000 V, 0.025 microsecond rise time 150°C, 50% Duty Cycle - Twisted Pairs 18 HTAIH Reference = 600 seconds 18 HTAINM > 80,000 seconds		
Pulse Endurance Test >100		
>200		

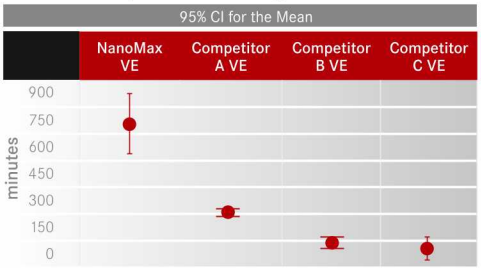
Chemical

Retained Dielectric
After 72 hrs exposure + 300°C conditioning: 3.5 kV
R-22 Extractables
.08%
Resistance to Solvents Including
After 24 hrs @ RT: Pass
Xylene 50/50 Cellosolve/Xylene Perchloroethylene 1% NaOH 28% Sulfuric Acid Gasohol

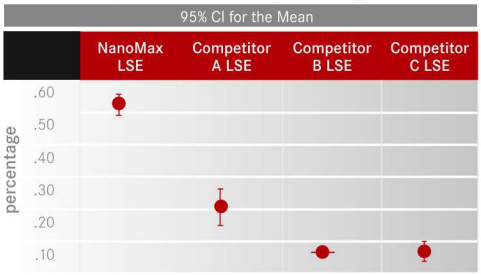
NanoMax versus Competitive Wire

Individual standard deviations are used to calculate the intervals.

Interval Plot of NanoMax vs. Competition on Voltage Endurance



Interval Plot of NanoMax vs. Competition on Low Stress Elongation



Interval Plot of NanoMax vs. Competition on Repeated Scrape