

# Magnet Wire Insulation Guide

THERMAL CLASS	INSULATION TYPE	MWS PRODUCT CODE	NEMA STANDARD (MW1000)	IEC STANDARD (60317)	FEDERAL SPECIFICATION (JW 1177)
105°C	Plain Enamel	PEI	NONE	NONE	NONE
	Formvar	F	MW 15 (RD) MW 18 (SQ & RECT)	60317-1 (RD) 60317-17 (SQ & RECT)	JW 1177/4 (RD) JW 1177/16 (SQ & RECT)
	Formvar Bondable	FB	MW 19	60317-5	JW 1177/6
130°C	Polyurethane Bondable - 130	PB130	MW 130	60317-2	NONE
	Polyurethane Nylon Bondable - 130	PNB130	MW 135	NONE	NONE
155°C	Polyurethane - 155*	P155	MW 79	60317-20	JW 1177/41
	Polyurethane Nylon - 155*	PN155	MW 80	60317-21	JW 1177/42
	Polyurethane Bondable - 155	PB155	MW 131	60317-35	NONE
	Polyurethane Nylon Bondable - 155	PNB155	MW 136	NONE	NONE
	Dacron Glass - 155	DGLASS155	MW 45 (RD) MW 46 (SQ & RECT)	NONE (RD) 60317-60 (SQ & RECT)	JW 1177/20 (RD) JW 1177/25 (SQ & RECT)
180°C	Polyurethane - 180*	P180	MW 82	60317-51	NONE
	Polyurethane Nylon - 180*	PN180	MW 83	60317-55	NONE
	Polyester-imide	PT	MW 30	60317-8	JW 1177/12
	Polyester Nylon*	PTN	MW 76	60317-22	JW 1177/38
	Solderable Polyester*	SPT	MW 77	60317-23	JW 1177/39
	Solderable Polyester Nylon*	SPTN	MW 78	NONE	JW 1177/40
	Polyester-imide Bondable*	PTB	NONE	60317-37	NONE
	Polyester-amide-imide Bondable*	APT	MW 102	60317-38	NONE
	Solderable Polyester Bondable	SPTB	NONE	60317-36	NONE
	Dacron Glass High Temp	DGLASS HT	MW 51 (RD) MW 53 (SQ & RECT)	NONE (RD) 60317-61 (SQ & RECT)	JW 1177/24 (RD) JW 1177/26 (SQ & RECT)
200°C	Polyester - 200*	PT200	MW 74	60317-42	JW 1177/43
	Polyester A/I Topcoat*	APT	MW 35	60317-13 (RD) 60317-29 (SQ & RECT)	JW 1177/14 (RD) JW 1177/13 (SQ & RECT)
	Polyester A/I Polyamideimide	APTIG	MW 35, MW 73 (RD) MW 36 (SQ & RECT)	60317-13	NONE
	Polytetrafluoroethylene (Teflon**)	TEFLON	NONE	NONE	NONE
240°C	Polyimide - ML*	ML	MW 16 (RD) MW 20 (SQ & RECT)	60317-46 (RD) 60317-47 (SQ & RECT)	JW 1177/15 (RD) JW 1177/18 (SQ & RECT)

\* UL Recognized Insulations

\*\* Registered trademark of E. I. duPont de Nemours and Company

## General Product Information

INSULATION CODE NO.	INSULATION TYPE	THERMAL CLASS	DIELECTRIC CONSTANT	NEMA MW 1000 DESIGNATION	AVAILABLE COLORS
1	Polyurethane 155	155	3.70	MW 79-C	Red, Green, Natural, Blue, Yellow Black, Violet, Orange, White, Brown
1	Polyurethane 180	180	3.70	MW 82-C	
2	Poly-Nylon 155	155	3.81	MW 80-C	Red, Green, Natural, Blue, Yellow Black, Violet, Orange, White, Brown
2	Poly-Nylon 180	180	3.81	MW 83-C	
4	Polyester 200	200	3.82	MW 74-C	Red, Green, Natural, Black
5	Armored Polyester	200	3.86	MW 35-C	Red, Green, Natural, Black
6	Solderable Polyester	180	3.76	MW 77-C	Red, Green, Natural, Black
7	Formvar	105	7.40	MW 15-C	Red, Green, Natural, Black
8	Polyimide (ML)	240	3.90	MW 16-C	Red, Green, Natural, Black

BOND CODE NO.	BOND COAT	SOLVENT*
1	Polyvinyl Butyral	Alcohol
2	Nylon	None
3	Epoxy	MEK or Acetone

BOND THICKNESS STANDARDS		
AWG SIZE	THICKNESS	TOLERANCE
16-20	.0007"	± .0002"
21-28	.0005"	± .0002"
29-32	.0004"	± .0001"
33-36	.0003"	± .0001"
37-41	.0002"	± .0001"
42-finer	.0001"	+ .0001"/-0

\* Bonding films can be softened and removed by immersion in the solvent noted, except nylon which is non-soluble. Wiping with a soft cloth dampened with solvent may be necessary to separate wires.

Finished wire thermal class based on the underlying enamel of the individual strand.

NOTE: Other insulations, bond coats and thicknesses are available on request.

## Part Number Ordering System — Make your own part number by following the guidelines outlined below

