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Film Insulation Characteristics

Information to be used as a guide only. *Teflon is a registered trademark of DuPont.

Thermal Class	Insulation Type	NEMA Standard (MW 1000)	IEC Standard (60317)	Insulation Characteristics	General Applications
155°C	Polyurethane - 155°C	MW79	317-20	Insulated with a smooth, uniform film of modified polyurethane type resin, soldering at 390°C.	Relays, Encapsulated Coils, ignition, solenoids, low voltage transformers, motors, R.F. coils.
	Polyurethane Nylon - 155°C	MW80	317-17	AWG 24-56 Solderable at 390°C, AWG 14-23 Solderable at 430°C	
180°C	Polyurethane - 180°C	MW82	314-51	Solderable at 390°C	Solenoids, transformers, automotive relays and ignition coils.
	Polyurethane Nylon - 180°C	MW83	None	Exhibits high temperature thermal stress and low temperature solderability at 390°C. Offers excellent abrasion resistance for ferrite core coils and transformers.	Small appliance motors, relays pulse transformers, torroid coils.
	Polyester - Imide	MW30	317-8	Insulated with a Class H modified polyester resin. Requires mechanical or chemical stripping. Good thermal endurance, solvent resistance and exhibits low co-efficient friction to improve windability.	Encapsulated coils, subfractional instrument and servo-motors, appliance motors, tool motors, continuous operation coils, solenoids.
	Polyester - Nylon	MW76	None	Film insulation with a modified polyester basecoat nylon topcoat.	Fractional and integral horsepower motors, coils and relays, control and dry transformers, encapsulated coils, and DC field coils.
	Solderable Polyester	MW77	317-23	An ester-imide insulated wire which is solderable at 470°C.	Special transformer coils, shaded pole motor coils, automotive coils.
	Solderable Polyester - Nylon	MW78	None	Solderable at 470°C.	Shaded pole motor coils, special control coils, automotive coils.
	Polyester-imide Bondable Polyester-amide Bondable Solderable Polyester Bondable	None None None	317-37 None None	Bond Coat may be epoxy or polyester. The addition of the bond coat does add one overall build level to the wire dimension.	Helical, toroidal, brake, clutch, television, yoke coils.
200°C	Glass Fibers	MW44 (RD) MW43 (SQ and RECT) MW45 (RD) MW46 (SQ and RECT)	None	Advantages of glass is its high resistance to overload burnout and the advantage of Dacron is its abrasion resistance and better flexibility than glass. Glass can be chased, fused and unvarnished.	Class B motors
	Dacron Glass		None		
	Polyester - 200°C	MW74	317-42	High temperature thermal properties and good chemical resistance.	Motors, small coils, transformers
	Polyester A/I Topcoat	MW35 (RD) MW36 (SQ and RECT)	317-13 (RD) 317-29 (SQ & RECT)	Two part insulation consisting of a modified polyester base coat with a super-imposed amide-imide outer coating. Exceptional windability, heat shock resistance, and ability to withstand overloads. Chemical resistance to most solvents and insulating varnishes is good. Not softened by refrigerants and extractions are essentially zero.	Dry type transformers, automotive and hand tool armatures, fractional and integral horsepower motors.
	Polytetrafluoroethylene (Teflon*)	None	None	High heat resistance, excellent resistance to most solvents, acids and corrosive chemicals. High dielectric constant.	Miniature rotating components and windings where severe environments are encountered.
240°C	Polyimide - ML	MW16 (RD) MW20 (SQ and RECT)	317-7 (RD) 317-30 (SQ & RECT)	Class 200°C thermal life insulation with exceptional resistance to chemical solvents and burnout. Operates up to 204°C	Fractional and integral horsepower motor, high temperature continuous duty coils and relay, hermetic and sealed units, heavy duty hand tool motors, encapsulated coils.