



COPPER WIRE, SOFT OR ANNEALED ROUND - SINGLE HIGH TEMPERATURE MODIFIED POLYESTER AND EPOXY CEMENT INSULATED

ESH-M2L62-A

1. SCOPE

The material defined by this specification is soft or annealed round copper wire insulated with a single film of high temperature modified polyester resin having an epoxy cement overcoat. This is a Class "H" rated insulation.

2. APPLICATION

This specification is released for a self bonding wire to be used for the air conditioning clutch coil windings.

3. REQUIREMENTS

3.0 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

Material suppliers and part producers must conform to the Company's Standard Requirements For Production Materials (WSS-M99P1111-A).

3.1 WIRE SIZE SPECIFICATION

The wire size shall be specified on the engineering drawing and/or release according to the American Wire Gage number desired.

Example: #14 gage ESH-M2L62-A

3.2 COLOR

The color of the insulation shall be specified on the engineering drawing and/or release by the numerical suffix following the letter suffix of the material desired. The numerical color coding suffixes shall correspond to the following:

0 – Black	4 – Yellow	8 - Gray
1 – Brown	5 – Green	9 - White
2 – Red	6 – Blue	22 - Natural
3 – Orange	7 - Violet	

Example: #14 gage ESH-M2L62-A3 shall designate an orange high temperature modified polyester and epoxy cement covered soft or annealed round copper wire, complying with the requirements of this specification.

Date	Action	Revisions
2003 06 30	Revised	Para 3.0 inserted; Para 3.18 & 4 deleted
1982 04 12	Released	C.F. Carter H8L-62





3.3 BARE WIRE

The copper wire used as the base wire shall conform to ESF-M2L1-A, except as noted herein.

3.4 JOINTS

Joints made in the insulated wire shall conform to ESF-M2L1-A and shall be covered with a high temperature modified polyester and epoxy cement film so as to be equally as well covered as other portions of the wire.

3.5 INSULATION COATING AND THICKNESS

The wire shall be coated with a continuous insulating film of high temperature modified polyester having an epoxy cement overcoat, of such quality as to meet the requirements of this specification. The minimum increase in the diameter of the wire due to the insulating film and the maximum overall diameter shall be as shown in Table I of specification ESF-M2L2-A.

The addition to the diameter of the bare wire due to the coating shall be determined utilizing the test method shown in specification ESF-M2L2-A, para 3.4.

3.6 INTERMEDIATE SIZES

For wire sizes between the American Wire Gage sizes, the increase in diameter due to the coating shall be the same as for the next smaller Awg size.

3.7 INSULATION ADHESION (NEMA MW 1000, IEC 851)

No cracks in the coating.

3.8 INSULATION FLEXIBILITY (NEMA MW 1000, IEC 851)

No cracks in the coating.

3.9 ELONGATION (NEMA MW 1000, IEC 851)

The insulated wire shall meet the requirements of Table II.

3.10 SOFTNESS OF COPPER (NEMA MW 1000, IEC 851)

The insulated wire shall meet the requirements of Table I.

3.11 UNIDIRECTIONAL SCRAPE RESISTANCE (NEMA MW 1000, IEC 851)

The lowest "grams to fail" load, representing failure of the insulating film, in any one of the three tests shall not be less than the minimum value and the average of the three tests shall not be less than the average specified in Table I.

3.12 DIELECTRIC TEST, min (NEMA MW 1000, IEC 851)

2000 V/mil (79 kV/mm)

3.13 CONTINUITY TEST (NEMA MW 1000, IEC 851)

The insulated wire shall meet the requirements of Table I.