

ENGINEERING MATERIAL SPECIFICATION

Material Name	Specification Number
CABLE, LOW TENSION - VINYL INSULATED (105 °C) - BARE	ESF-M1L58-A
CABLE, LOW TENSION - VINYL INSULATED (105 °C) - TINNED	ESF-M1L59-A

1. SCOPE

The materials defined by these specifications are stranded vinyl covered low tension cables. The vinyl covering shall be 105 °C classification.

2. APPLICATION

These specifications were released originally for materials used for automotive electrical harnesses.

3. REQUIREMENTS

3.1 STANDARD REQUIREMENTS FOR PRODUCTION MATERIALS

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

3.2 WIRE SIZE

Shall be specified on the engineering drawing and/or release according to the SAE wire size numbers appearing in Table 1.

Example: #16 gage ESF-M1L58-A.

3.3 COLOR

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

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

Date	Action	Revisions
2002 08 16	Revised	Updated & Renumbered
1986 08 22	CF4Q RD 888002-430	Added 26 AWG
1963 07 17	F6-1082	Released

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Example: #16 gage ESF-M1L58-A1 shall designate a stranded 16 gage, brown vinyl covered, soft or annealed bare copper conductor, corresponding to the requirements of this specification.

The first color coding numerical suffix shall be the base or body color of the finished cable and the second number shall designate the tracer or other auxiliary marking.

3.4 CABLE QUALITY

Shall meet all of the requirements listed herein and must be equal to the original approved purchase sample.

ESF-M1L58-A similar to M-1L17-C

ESF-M1L59-A similar to M-1L17-D

3.5 WIRE QUALITY

The strands of the conductors prior to stranding shall consist of the following grades of wire:

ESF-M1L58-A: ESF-M2L1-A, soft or annealed bare copper wire

ESF-M1L59-A: ESF-M2L3-A, soft or annealed tinned copper wire

3.6 CABLE CONSTRUCTION

See Tables I & II

The cross sectional area of stranded conductors shall not be less than 98% of the values specified in Table I.

3.7 INSULATION QUALITY

The insulating material shall be a good grade vinyl chloride copolymer which will pass the following test requirements:

The material shall adhere closely to, but strip readily from the conductors, leaving them reasonably clean and in suitable condition for soldering.

Insulation thickness shall be in accordance with Table II for the various wire sizes and shall be determined by measuring the diameter over the insulation, then removing the insulation and measuring the diameter of the conductor. Half of the difference of the two measurements shall be considered as the wall thickness.