



CABLE, PRIMARY LOW TENSION, 150 °C

WSS-M1L137-A

1. SCOPE

The material defined by this specification is a low tension stranded cable rated for 60 volts rms. The cable is similar to SAE J1128 Type HTS (heavy duty thermoset). The insulation will have a 150 °C classification rating.

2. APPLICATION

The material specified is to be used primarily for fusible links in 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 RESTRICTED MATERIAL REQUIREMENTS

Substance restrictions imposed by law, regulations or Ford, apply to the materials addressed by this document. The regulations are defined in Engineering Materials Specification WSS-M99P9999-A1.

3.3 CONDUCTOR

3.3.1 Unless otherwise specified on the component drawing, the individual strands of the conductor shall be bare or tin-coated copper (soft or annealed) conforming to, respectively, ASTM B 3 or ASTM B 33, except strand dimensions. These dimensions shall be controlled to yield the cross-sectional area listed for the conductor of the finished cable per Table 1. Conductor area shall be determined by measuring individual strand diameters and calculating the sum of the individual strand areas. As an alternate method, conductor area may also be determined in accordance with ASTM B 263.

3.3.2 The strands shall be bunched per ASTM B 174. The maximum lay length shall be as specified in ASTM B 174 Table 2, Column A. Conductor strand count shall comply with Table 1. Missing strands are not allowed.

3.4 SEPARATOR

A suitable barrier (optional) between the insulation and the copper conductor shall be used that will prevent any adverse or detrimental interaction from taking place between those two components. In either case, the insulation (and inner sheath, if used) shall strip readily from the conductors, leaving them reasonably clean and in suitable condition for terminating.

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3.5 INSULATION

3.5.1 The insulation material shall be as specified by the customer. The color of the insulation shall be specified on the engineering drawing of the component utilizing this material. Base color codes shall correspond to SAE J1128.

3.5.2 Insulation thickness shall comply with the requirements of Table 2.

3.6 CABLE QUALITY (TESTS)

The following tests: Dielectric Test, Cold Bend Test, Oil Absorption Test, and Pinch Test correspond to SAE J1128. Results of these tests shall comply with the requirements of SAE J1128, type HTS.

The tests listed below shall be conducted in addition to the tests listed above.

3.6.1 Insulation Physical Properties Test

The physical property test shall be run according to SAE J1128 Type HTS except the temp for aging shall be 180°C for 168 hours.

3.6.2 Short Circuit Test

The short circuit test shall meet the requirements specified in SAE J156.

3.6.3 Flame Test

Flame Test shall be conducted per SAE J1128, Section 6.6, except that the specimen shall be suspended vertically.

TABLE 1 - CONDUCTOR CONSTRUCTION

<u>SAE Wire Size</u>	<u>Number of Wires</u>	<u>Table Avg. Strand Size</u> mm	<u>Approx. Dia. Of Stranded Conductor</u> mm	<u>Area of Conductor Minimum</u> mm
20	19	0.151	0.96	0.508
18	16	0.248	1.15	0.760
16	19	0.275	1.38	1.120
14	19	0.353	1.78	1.850
12	19	0.443	2.23	2.910
10	19	0.570	2.88	4.650
8	37	0.500	3.38	7.230