

**MIL-C-5756B(ASG)****8 OCTOBER 1954**

Superseding  
 MIL-C-5756A(USAF)  
 16 December 1952  
 AN-C-68  
 22 March 1944

**MILITARY SPECIFICATION****CABLE AND WIRE, POWER, ELECTRIC, PORTABLE**

This specification has been approved by the  
 Department of the Air Force and by the Navy  
 Bureau of Aeronautics.

**1. SCOPE**

1.1 This specification covers 600-volt heavy-duty, single-conductor wire and multiconductor electric cable for severe flexing service, having an outer jacket or cover of synthetic- or natural-rubber compounds.

**2. APPLICABLE DOCUMENTS**

2.1 The following specifications, standards, and publication, of the issue in effect on date of invitation for bids, form a part of this specification to the extent specified herein:

**SPECIFICATIONS****Federal**

J-C-98	Cable and Wire, Insulated, Methods of Sampling and Testing
O-C-141	Carbon-Tetrachloride; Technical-Grade
NN-B-621	Boxes; Wood, Nailed and Lock-Corner
NN-B-631	Boxes; Wood, Wirebound, (for Domestic Shipment)
NN-P-515	Plywood, Container Grade
VV-K-211	Kerosene
PPP-B-601	Boxes, Wood, Cleated-Plywood

**Military**

MIL-F-5566	Fluid; Anti-Icing (Isopropyl Alcohol)
MIL-H-3136	Hydrocarbon-Fluid, Standard Test
MIL-L-6082	Lubricating Oil; Aircraft-Engine
MIL-W-3861	Wire, Electrical (Bare Copper)
JAN-P-106	Packaging and Packing for Overseas Shipment - Boxes; Wood, Nailed

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U. S. Army

57-108

Steel, Tool; Carbon, Alloy, and High Speed

STANDARDS

MIL-STD-10	Surface Roughness, Waviness, and Lay
MIL-STD-104	Limits for Electrical Insulation Color
MIL-STD-129	Marking for Shipment and Storage

PUBLICATIONSAir Force-Navy Aeronautical Bulletin

No. 143

Specifications and Standards; Use of

(Copies of specifications, standards, drawings, and publications required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

## 3. REQUIREMENTS

3.1 Qualification.- The cable and wire furnished under this specification shall be a product which has been tested and has passed the Qualification tests specified herein.

3.2 Component parts.- Cable and wire shall consist of the following:

## (a) Single-conductor wire:

- (1) Stranded bare- or tin-coated copper conductor  
(See paragraph 3.4.1.)
- (2) Separator (when used)
- (3) Insulation
- (4) Tape or wrap or braid (optional)
- (5) Sheath
- (6) As an alternate the insulation and sheath may be combined

## (b) Multiconductor cable:

- (1) Stranded bare- or tin-coated copper conductor  
(See paragraph 3.4.1.)
- (2) Separator (when used)
- (3) Insulation
- (4) Filler
- (5) Tape or wrap or braid (optional)
- (6) Sheath

3.3 Materials.- Materials used in the manufacture of cable and wire shall be of high quality, suitable for the purpose, and shall conform to applicable Government specifications. Materials conforming to contractor's specifications may be used, provided the specifications are approved by the Government and contain provisions for adequate tests. The use of the contractor's specifications will not constitute waiver of Government inspection.

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**3.3.1 Protective treatment.-** When materials are used in the construction of the cable and wire that are subject to deterioration when exposed to climatic and environmental conditions likely to occur during service usage, they shall be protected against such deterioration in a manner that will in no way prevent compliance with the performance requirements of this specification. The use of any protective coating that will crack, chip, or scale with age or extremes of climatic and environmental conditions shall be avoided.

**3.3.2 Selection of materials.-** Specifications and standards for all materials, parts, and Government certification and approval of processes and equipment, which are not specifically designated herein and which are necessary for the execution of this specification, shall be selected in accordance with ANA Bulletin No. 143.

**3.4 Design and construction.-** Cable and wire shall be built to withstand the strains, jars, vibrations, and other conditions incident to shipping, storage, installation, and service.

**3.4.1 Conductors.-** Unless otherwise specified in table I, conductors shall be annealed copper wire in accordance with Specification MIL-W-3861, class M.

TABLE I

Buildup of conductors

Cond Size AWG or MCM	No. of 0.0063 (in.) wires (min)	Suggested lay-up of stranding 1/	Length of lay (max)	Approx conductor dia (in.)	Nominal thickness of insulation (in.) (min thickness not less than 90 percent of nominal)
18	41	1 by 41	0.80	0.048	0.031
16	65	1 by 65	1.00	0.060	0.031
14	104	1 by 104	1.375	0.078	0.047
12	165	1 by 165	1.60	0.101	0.047
10	259	7 by 37		0.126	0.047
8	420	7 by 60		0.162	0.063
6	665	19 by 35		0.215	0.063
4	1,064	19 by 56		0.269	0.063
2	1,666	7 by 7 by 34		0.337	0.063
1	2,107	7 by 7 by 43		0.376	0.078
1/0	2,646	7 by 7 by 54		0.423	0.078
2/0	3,325	19 by 7 by 25		0.508	0.078
3/0	4,256	19 by 7 by 32		0.576	0.078
4/0	5,320	19 by 7 by 40		0.645	0.078
250	6,384	19 by 7 by 48		0.690	0.094

1/ Other stranding constructions may be used provided they contain the minimum number of strands, and are of equivalent flexibility.

**3.4.1.1 Bare copper.-** Bare copper strands may be used for conductors of AWG size No. 8, and larger.

**3.4.1.2 Coated copper.-** Individual copper strands shall be uniformly coated with commercially pure tin for conductors of AWG size No. 10, and smaller, in accordance with Specification MIL-W-3861.

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3.4.2 Separator.- Where coated conductors are not used, or to provide easy removal of the insulation with aircraft stripping procedures, a separator of suitable material shall be applied between the conductor and the insulation. The inner wrap of suitable threads or tapes shall form a close fit over the conductor in such manner that when stripped the conductor is clean and in condition for electrical contact.

3.4.3 Insulation.- Insulation thickness shall be as specified in table I.

3.4.3.1 The insulation thickness of AWG sizes No. 18 and No. 16 shall be not less than 80 percent of nominal thickness at point of contact in multiconductor cables.

3.4.4 Sheath thickness.- Sheath thickness shall be in accordance with table II. Where insulation and sheath are combined, the total thickness shall be the thickness specified for insulation in table I plus the sheath thickness specified in table II.

TABLE II

Sheath thickness, shock, and abrasion requirements

Dia under sheath (in.)	Nominal thickness of sheath (in.) (min thickness not less than 90 percent of nominal)	Weight abrasion-aging (pounds)	Shock test min shocks and Abrasion test (min oscillations)
0.325 and less	0.0625	2	600
0.326 to 0.430	0.078	2	800
0.431 to 0.540	0.094	2	900
0.541 to 0.640	0.109	3	1,000
0.641 to 0.740	0.125	3	1,200
0.741 to 0.850	0.141	3	1,400
0.851 to 1.100	0.156	6	1,550
1.101 to 1.320	0.172	6	1,700
1.321 to 1.550	0.187	6	1,850
1.551 to 1.820	0.203	6	2,000

3.4.4.1 Flat twin parallel cables.- Flat twin parallel twin construction shall be supplied for 2-conductor cable sizes, AWG size No. 4, and larger. Cable cores thus formed shall be covered with a sheath of the specified thickness. The minor diameter shall be used to determine the sheath thickness.

3.4.4.2 Multiple conductor round cables.- For cables consisting of more than one conductor (except flat twin), the separately insulated conductors shall be cabled together with a left-hand lay and, where necessary, the interstices filled to give the cable a substantially circular cross section. The length of lay of the conductors in any case shall not exceed 16 times the diameter under the sheath.

3.4.5 Color coding.- Cable consisting of two or more conductors shall have the insulation of individual conductors colored or color braided as specified herein. In lieu thereof a colored stripe having a width equal to approximately 1/4 the circumference of the outside diameter of the individual conductor, applied in a spiral making not less than 1 complete turn about the cable in a length of not more than 1 foot, may be used. Color stripes so applied shall be permanent. The color limits shall be in accordance with Standard MIL-STD-104.

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<u>No. of conductor</u>	<u>Color of conductor</u>
1	Black
2	White
3	Red
4	Green
5	Orange
6	Brown
7	Blue

Example: A 3-conductor cable will contain 1 black, 1 white, and 1 red insulated wire.

3.5 Performance.- The cable and wire shall be capable of meeting the requirements specified in Section 4, when subjected to the applicable tests.

3.6 Identification of product.- Cable and wire manufactured in accordance with this specification shall be identified by a thin tape, approximately 1/8 inch wide, of cotton or cellulose laid under the sheath, or as specifically approved by the activity responsible for qualification. On single-conductor wire, AWG size No. 10, and smaller, underwriters' identification marker threads may be inserted between the conductor and insulation in lieu of tape. There shall appear on one side of the tape, at intervals of approximately 1 foot, the following information:

Name and address of manufacturer  
 Year of manufacture  
 Specification MIL-C-5756B

3.6.1 Use of AN or MIL designations.- AN or MIL designations shall not be applied to a product, except for Qualification test samples, nor referred to in correspondence until notice of approval has been received from the activity responsible for qualification, or from the Aeronautical Standards Group.

3.7 Workmanship.- All details of workmanship shall be in accordance with high-grade aircraft cable and wire manufacturing practice.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Classification of tests.- The inspection and testing of cable and wire shall be classified as follows:

- (a) Qualification tests: Qualification tests are those tests performed on samples submitted for approval as qualified products.
- (b) Acceptance tests: Acceptance tests are those tests performed on individual lots which have been submitted for acceptance.

#### 4.2 Qualification tests.-

4.2.1 Sampling instructions.- The Qualification test samples shall consist of 50-foot samples of sizes indicated below. The manufacturer shall furnish all samples and shall be responsible for accomplishing the required tests. Upon completion of the tests, the units tested, together with test reports and the following detail information shall be identified as required and forwarded to the activity responsible for qualification, designated in the letter of authorization from that activity. (See paragraph 6.3.)

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Manufacturer's identification (brand, code, etc)  
 Identifying Part Number for each construction  
 Description of base materials of primary insulation or sheath  
 Thickness of insulation or sheath materials  
 Filler, wrap, etc  
 Stranding  
 Weight  
 Additional information not covered by above

- (a) Single conductor round: Qualification of the following AWG sizes shall cover the sizes indicated:  
     No. 14 - shall qualify AWG sizes 18, 16, 14, 12, and 10.  
     No. 6 - shall qualify AWG sizes 8, 6, 4, and 2.  
     No. 1/0 - shall qualify AWG sizes 1, 1/0, 2/0, 3/0, 4/0, and 250.
- (b) Multiconductor round: Qualification of 3-conductor cable shall cover 2- through 7-conductor cable in the AWG sizes specified in (a) above.
- (c) Flat twin: Qualification of AWG size No. 1/0 flat twin cable shall cover AWG sizes No. 4 through No. 250.

4.2.2 Tests.- The Qualification tests shall consist of all the tests of this specification, as described under "Test methods."

4.2.2.1 Rejection and retest of qualification samples.- Units which have been rejected or returned to the manufacturer for any reason during Qualification tests, may be reworked or have parts replaced to correct defects. Before resubmitting the unit, full particulars concerning the rejection and the corrective action taken by the manufacturer must be submitted in writing by the manufacturer to the testing activity and to the procuring activity. Tests shall not be resumed until such a report is received. Where Qualification tests are conducted under the auspices of the manufacturer, the procuring activity shall be advised upon failure of qualification sample and of the action taken by the manufacturer with regard to failure.

4.3 Acceptance tests.- The Acceptance tests shall consist of Individual tests and Sampling tests.

4.3.1 Individual tests.- All cable and wire shall be subjected to the following tests as described under "Test methods":

- (a) Examination of product
- (b) Potential test

4.3.2 Sampling tests.- Three samples shall be selected at random from each lot of 50,000 feet and one sample for each additional 10,000 feet of finished cable or wire, not to exceed 1 sample for each continuous length of finished cable or wire. A lot shall consist of cable or wire manufactured under the same conditions and submitted for acceptance at substantially the same time. Sampling tests shall consist of the following:

- (a) Low temperature

In addition, samples shall be subjected, with the approval of the procuring activity, to any other tests specified herein which the Government Inspector considers necessary to determine compliance with the requirements of this specification.

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4.3.3 Rejection and retest.- When Sampling tests are specified on a number of samples that are selected as representative of a certain lot, and one or more of this number fails to meet the specified test(s), acceptance of all items shall be withheld until the extent and cause of failure is determined. Individual tests may be continued pending investigation of a Sampling test failure, but the final acceptance of the product is contingent upon the Inspector's decision regarding the over-all performance of the product to specification requirements. If investigation indicates that the defects may exist on items previously accepted, full particulars concerning the defect(s) found, including recommendations for correction shall be furnished to the procuring activity.

#### 4.4 Test methods.-

4.4.1 Examination of product.- Cable and wire shall be examined to ascertain compliance with this specification with respect to material, workmanship, construction, dimensions, stranding, identification, and color coding.

#### 4.4.2 Potential test.-

4.4.2.1 Spot test.- The insulation of wire prior to final assembly shall be passed through a suitable chain electrode spark test device that will subject the insulation to an impressed a-c voltage of 3,000 volts. Any flaw detected in the insulation shall be cause for rejection of that portion of the wire.

4.4.2.2 High-potential test.- Each reel or spool of finished wire and cable shall be immersed in tap water for a minimum period of 15 minutes after which 3,000 volts ac shall be impressed in the following manner for a period of 1 minute:

- Wire - Between the conductor and water.
- Cable - Between each conductor and all other conductors connected together and to the water.

Rupture or puncture of the insulation or sheath shall constitute failure.

4.4.3 High-temperature tests.- A 2-foot sample stripped to the bare conductor or conductors, 1 inch from each end, shall be suspended around a mandrel 5 times the outside diameter of the cable or wire. A weight, as shown in table II for the applicable size of cable or wire, shall be attached to the exposed conductor at each end. The specimen on the mandrel with the weights freely suspended shall be placed in a circulating air oven maintained at a temperature of 100°C for a period of 120 hours. The weight shall be removed from the specimen when the specimen has been allowed to cool to room temperature. The bent portion of the specimen shall then be bent not less than 180 degrees around the mandrel in the opposite direction with the opposite side of the cable in contact with the mandrel at a uniform rate for a complete 180-degree-bend in 30 seconds. The specimen shall then be subjected to the Dielectric test. Following the Dielectric test, and within 24 hours, the specimen shall be subjected to the Abrasion test, and shall equal not less than 70 percent of the values specified in table II.

4.4.4 Shock.- Three 18-inch specimens of the completed cable or wire shall be used for this test.

4.4.4.1 Heat conditioning.- The specimens shall be freely suspended in an air oven at a temperature of  $+71^{\circ} \pm 1^{\circ}\text{C}$  for a period of 72 hours. At the expiration of the 72-hour period, the specimens shall be removed from the oven and allowed to remain at room temperature for 24 hours, after which they shall be subjected to the following test.



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4.4.4.1.1 Procedure.- The shock shall consist of dropping a 23-pound weight a distance of  $6.5 \pm 1/2$  inch, minus the outside diameter of the test sample, on the center portion of the sample while it is clamped flat on a smooth metal plate as shown on figure 1. The drops shall be made at the rate of  $25 \pm 2$  per minute. There shall be a continuous current of 3 amp through No. 18, and smaller conductors, 5 amp through No. 16, 15 amp through No. 14, and larger, while undergoing this test. To detect interior short circuit or failure,  $1/3$  or  $1/2$  of the conductors of a multiconductor cable shall be permanently connected in series with adjacent conductors connected into the load circuit. The minimum number of shocks shall be not less than specified in table II based on the average for three samples. Failure of a sample will be considered as the time when current ceases to flow or when the specimen shorts out, or grounds.

4.4.5 Abrasion test.- Two untested samples 2.5 feet in length shall be mounted securely at 1 end and weights as specified in table II freely suspended to the other end with the cable or wire placed over a squirrel cage abrasion tester as shown on figure 2. A suitable tripping circuit shall be arranged to denote failure by stopping the machine when any bar of the squirrel cage comes in contact with the bare conductor of the cable or wire. The specimen shall be subjected to  $20 \pm 2$  oscillations per minute. The minimum number of oscillations to failure shall be as specified in table II. An oscillation shall consist of 5 bars travel forward and backward from a given point.

4.4.6 Fluid immersion.- Four individual samples approximately 24 inches in length shall be stripped to the bare conductor on either end for 1 inch and formed in a loop not less than 5 times the diameter of the cable or wire. A minimum of 18 inches of the cable or wire shall then be placed in each of the fluids specified in table III for the time specified. Upon completion of the soaking and air drying, the increase in diameter shall be less than 15 percent. Samples shall satisfactorily pass the Dielectric and Abrasion tests. The Abrasion test shall be conducted with the minimum number of oscillations being 70 percent of the values specified in table II.

TABLE III

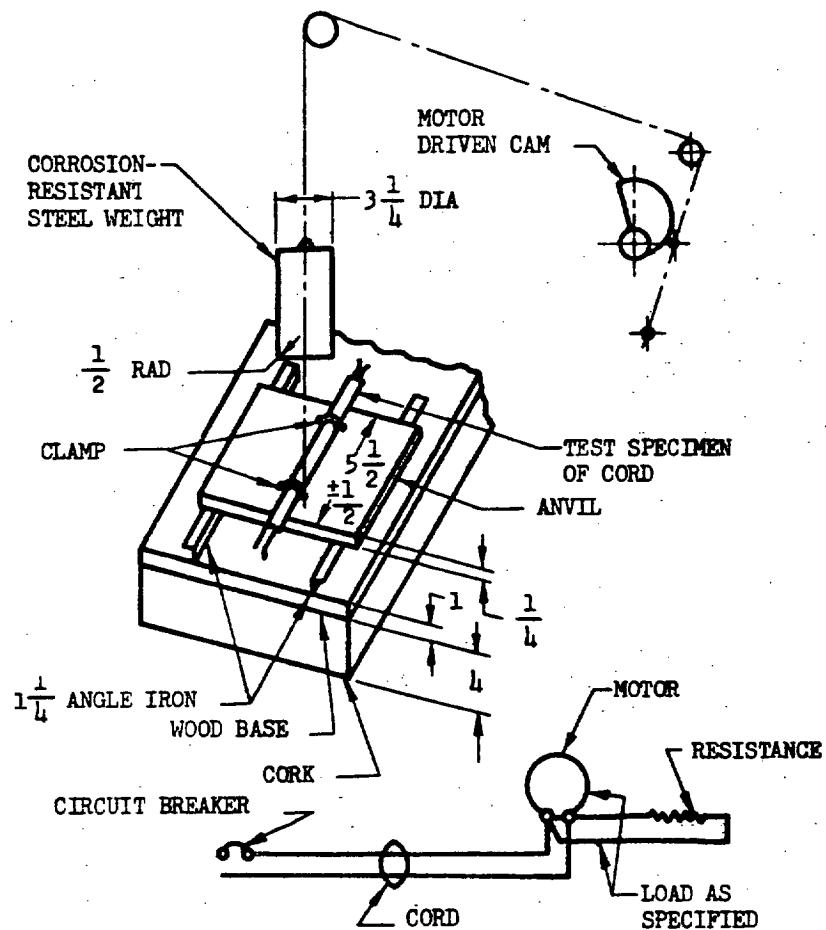
## Fluids

Fluid	Soak time (hours)	Air-drying time (hours)
Hydrocarbon fluid (Specification MIL-H-3136, type III)	4	2
Isopropyl alcohol (Specification MIL-F-5566)	4	2
Carbon tetrachloride (Specification O-C-141)	4	2
Kerosene, 50-percent aircraft lubricating oil, 50-percent at $48^\circ$ to $50^\circ\text{C}$ (Specifications VV-K-211 and MIL-L-6082, grade 1100, respectively)	16	3

4.4.7 Dielectric test.- Specimens for this test shall be an untested sample and specimens which have been tested as specified herein and for which the Dielectric test is applicable. Unless otherwise required, the test sample shall consist of 2-foot lengths of cable or wire with the insulation, filler and outer protective cover, or sheath, as applicable, removed for a distance of 1 inch from the ends of each specimen or each conductor in multiconductor cable. Filler and outer sheath shall be removed from the stripped conductors of multiconductor cable a minimum of 3 inches on each end.



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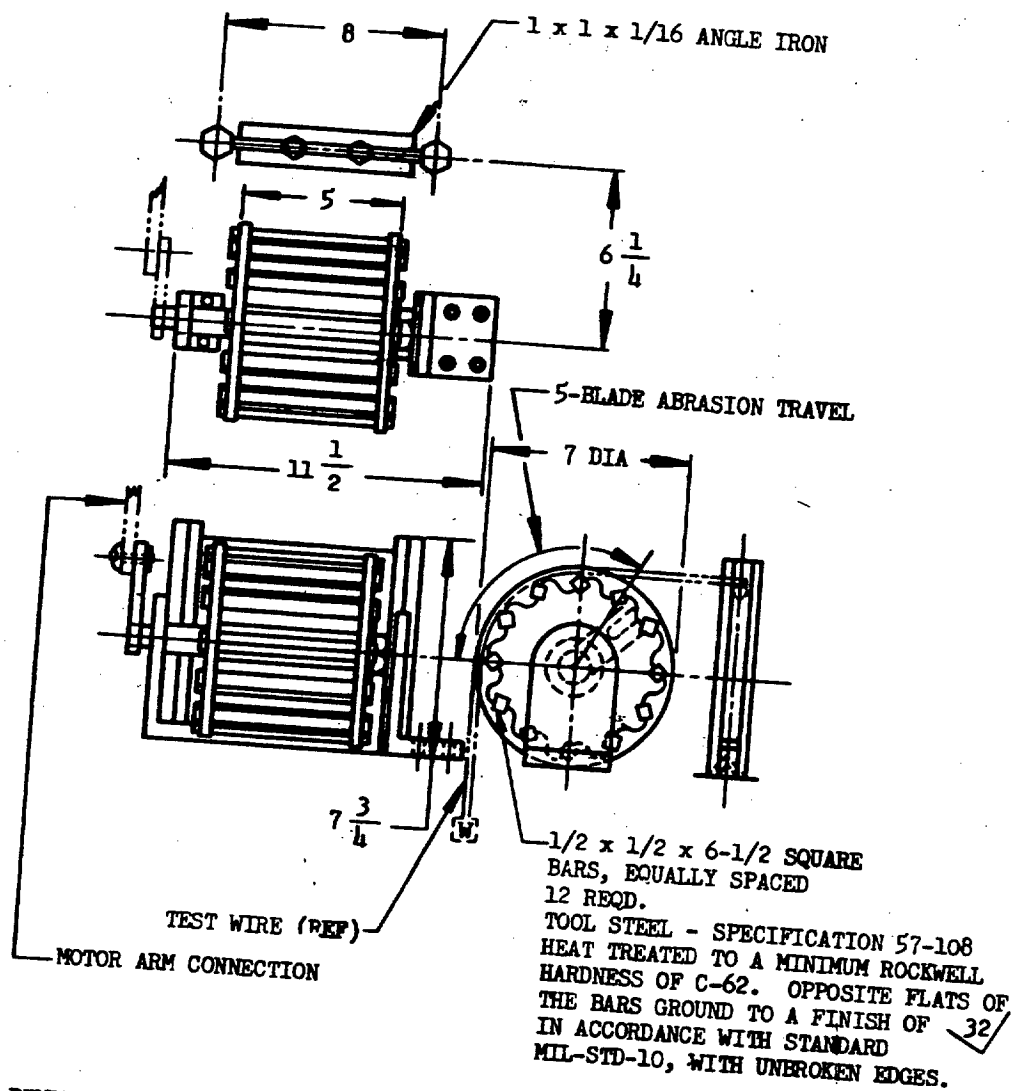


WIRING DIAGRAM

DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES: FRACTIONS  $\pm 1/64$

FIGURE 1. Shock test apparatus

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DIMENSIONS IN INCHES. UNLESS OTHERWISE SPECIFIED, TOLERANCES:  
FRACTIONS  $\pm 1/64$ .

FIGURE 2. Abrasion test apparatus

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4.4.7.1 Procedure.-- The specimen shall be formed into a loop, and the ends of the conductor or conductors shall be twisted together. The loop thus formed shall be immersed in tap water in order that not more than 1-1/2 inches of each end of the insulation will protrude above the surface of the water, for a period of 4 hours. At the conclusion of the 4-hour period of immersion and while the specimen is still immersed, 3,000V at a frequency of 60 cps shall be applied between each conductor, and all other conductors and the water for a period of 1 minute. There shall be no rupture or puncture of the insulation.

4.4.8 Insulation resistance.-- The insulation resistance shall be determined on a sufficient length of cable conditioned 4 hours in water. The insulation of sheath or conductor insulation or end leakage shall be not less than specified, when read on a megohm bridge, or by other methods, after a 1-minute electrification with a constant direct-current potential of not less than 100 volts or more than 500 volts applied. The insulation resistance in megohms per 1,000 feet at 60°F shall be not less than the value of R in the following formula. The temperature correction factor shall be furnished by the manufacturer.

$$R = K \log D/d$$

R = Resistance in megohms per 1,000 feet corrected to 60°F

K = 2,000

D = Diameter over insulation

d = Diameter under insulation

#### 4.4.9 Low temperature.--

4.4.9.1 Cold bend.-- A specimen of sufficient length of cable or wire shall be placed in a cold chamber and conditioned at  $-54^{\circ} \pm 2^{\circ}\text{C}$  for 48 hours. Upon the completion of the conditioning period and while still at  $-54^{\circ}\text{C}$ , the specimen shall be bent around a mandrel equal to 5 times the outer diameter of the specimen at a uniform rate of 5 turns per minute for 2 complete turns. Fracture shall constitute failure. Upon completion of this test, samples shall satisfactorily pass the Dielectric test.

4.4.9.2 Cold impact test.-- A specimen of sufficient length of cable or wire whose outer jacket has been removed for 1 foot on 1 end shall be placed in a cold chamber and conditioned at  $-54^{\circ} \pm 2^{\circ}\text{C}$  for 48 hours. Upon completion of the conditioning period and while still at  $-54^{\circ}\text{C}$ , single-conductor wires and multiconductor cables shall be placed on an anvil consisting of 3/8-inch steel plate and subjected to a 3 foot-pound impact by dropping a weight having a ball-shaped end with a 1/2-inch radius through a tube at right angles to the specimen. Individual insulated conductor shall be subject to a 0.25 foot-pound impact. Three drops shall be made at the same spot on the specimen. Fracture shall constitute failure. Upon completion of this test, samples shall satisfactorily pass the Dielectric test.

4.4.10 Insulation thickness. Measurement of thickness shall be made in accordance with method 1011 or 1014, of Specification J-C-98.

4.4.11 Sheath thickness.-- Measurement of thickness shall be made in accordance with method 1011 or 1014 of Specification J-C-98.

## 5. PREPARATION FOR DELIVERY

5.1 Application.-- The requirements of Section 5 apply only to direct purchases by or direct shipments to the Government.

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## 5.2 Packaging.--

5.2.1 Cable and wire shall be delivered wound in coils or reels, or on spools, each having an appropriate diameter for the respective size. Unless otherwise specified in the order, the cable and wire lengths shall conform to table IV.

TABLE IV

Cable lengths

Over-all diameter of cable or wire	Nominal length in coil, reel, or on spool	Acceptable length (min)
	Feet	Feet
Up to 0.625 inch	500	50
0.625 to 1.10 inch	250	50
1.10 and larger	100	25

5.2.2 Not less than 85 percent of the total quantity of each size of cable or wire ordered shall be in lengths equal to or greater than the nominal length specified in table IV. No cable or wire shall be accepted in lengths shorter than the given minimum acceptable length. The maximum quantity in a single length shall be limited only by manufacturing and handling facilities. Special lengths, when required, shall be as specified in the contract or order.

5.2.3 All coiled cable or wire shall be protected for shipment by spirally wound wrapped paper or burlap tape lapped to give not less than two thicknesses of protecting material, or shall be packed in barrels or boxes suitable for shipment and storage.

5.3 Packing.-- Unless otherwise specified, all items shall be packed for overseas shipment. Shipping containers, insofar as possible, shall contain identical number of articles, shall be of a uniform size, and shall be designed to enclose the contents in a snug, tight-fitting manner. The gross weight of the exterior shipping container when packed for shipment shall not exceed approximately 250 pounds, unless the weight of the individual coil exceeds this amount.

5.3.1 Domestic shipment.-- When boxing is specified by the procuring activity for domestic shipment, the coils shall be packed in substantial commercial exterior shipping containers so constructed as to insure acceptance by common or other carrier for safe transportation at the lowest rate, to the point of delivery. Containers shall conform to Specifications NN-B-621, NN-B-631, and PPP-B-601. The use of corrugated or solid fiber-board is prohibited. Containers shall be able to withstand storage, rehandling, and reshipment without the necessity of repacking.

5.3.2 Overseas shipment.-- When boxing is specified by the procuring activity, the coils shall be packed for overseas shipment in exterior shipping containers in accordance with Specification JAN-P-106 or PPP-B-601. Plywood, if used, shall conform to Specification NN-P-515, types I or II, class 2.

5.4 Marking of shipments.-- Interior packages and exterior shipping containers shall be marked in accordance with Standard MIL-STD-129. The nomenclature shall be as follows:

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**Cable, Power, Electrical**

Number of conductors \* Size of conductors \*  
 Conductor and over-all insulation \*  
 Working or test voltage \*  
 Specification MIL-C-5756B  
 Manufacturer's Part No. \*  
 Federal Stock No. \* (if no FSN available, leave space therefor)

"or"

**Wire, Electrical**

Size \*  
 Insulation \* test or working voltage  
 Specification MIL-C-5756B  
 Manufacturer's Part No. \*  
 Federal Stock No. \* (if no FSN available, leave space therefor)

\*Applicable data to be entered by the contractor.

**6. NOTES**

6.1 Intended use.- The cable and wire covered by this specification are intended for use in aircraft or with ground equipment wherever a 600-volt jacketed, single-conductor wire or multiconductor cable is required. Typical uses are: power cables for portable tools, lighting equipment, portable generating equipment, and temporary power distribution systems.

6.2 Ordering data.- Procurement documents should specify whether domestic or overseas shipment is required.

6.3 Provisions for Qualification tests.- In the procurement of products requiring qualification, the right is reserved to reject bids on products that have not been subjected to the required tests and found satisfactory for inclusion on a Qualified Products List. The attention of suppliers is called to this requirement, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. Requests for information pertaining to qualification of products covered by this specification should be addressed to the Bureau of Aeronautics, Navy Department, Washington 25, D. C., the activity responsible for qualification, with a copy to the Commander, Wright Air Development Center, Wright-Patterson Air Force Base, Ohio.

6.4 Definitions.- For the purpose of this specification, the following definitions will apply.

6.4.1 Strand.- A strand is one of the filaments of a stranded conductor.

6.4.2 Conductor.- A conductor is a slender rod or filament of drawn metal of circular cross section, or a group of such rods or filaments, not insulated from one another, suitable for transmitting an electric current.

6.4.3 Insulation.- Insulation is a layer of synthetic or natural rubber compound applied directly over a conductor for the purpose of insulating the conductor.

6.4.4 Sheath.- A sheath is an outer layer of synthetic or natural rubber compound applied over a wire or assembled core of wires for the purpose of protection from physical abuse.

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6.4.5 Wire.-- A wire is a single-insulated, stranded copper conductor without metallic covering or shielding. This includes finished wire consisting of conductor, insulation, and sheath, or conductor, and insulation and sheath combined.

6.4.6 Cable.-- A cable consists of two or more individually insulated conductors contained in a common sheath.

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Custodians:

Navy - Bureau of Aeronautics  
Air Force

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**NOTE:** This form may not be used to request copies of documents, nor to request waivers, deviations, or clarification of specification requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

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# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

(See Instructions - Reverse Side)

1. DOCUMENT NUMBER

2. DOCUMENT TITLE

3a. NAME OF SUBMITTING ORGANIZATION

4. TYPE OF ORGANIZATION (Mark one)

☐ VENDOR☐ USER☐ MANUFACTURER☐ OTHER (Specify): \_\_\_\_\_

b. ADDRESS (Street, City, State, ZIP Code)

## 5. PROBLEM AREAS

a. Paragraph Number and Wording:

b. Recommended Wording:

c. Reason/Rationale for Recommendation:

## 6. REMARKS

7a. NAME OF SUBMITTER (Last, First, MI) - Optional

b. WORK TELEPHONE NUMBER (Include Code) - Optional

c. MAILING ADDRESS (Street, City, State, ZIP Code) - Optional

8. DATE OF SUBMISSION (YYMMDD)

(TO DETACH THIS FORM, CUT ALONG THIS LINE.)