

FSC 6145 GE 00

NOTE: Interpret per MIL-D-1000,  
Category F, Form 1

REVISIONS

| LTR | DESCRIPTION  | DATE         | APPROVED                               |
|-----|--|--------------|--|
| A   | Added P5 for SPALT 3745<br><i>M. Adams</i><br>5 DEC 73   | 12 DEC 1973  | <i>M. Adams</i><br>SPG332<br>6 DEC 73  |
| B   | Added P6, 7, 8 for SPALT 3745<br><i>M. Adams</i><br>2/2/74   | 26 Feb 1974  | <i>M. Adams</i><br>SPG332<br>22 FEB 74 |
| C   | Added P9 and P10 for SPALT 3747 and SPALT 3748. Sheets 4, 5, 6, and 7 were Sheets 3, 4, 5 and 6. Added new Sheet 3.<br><i>M. Adams</i><br>4/4/74 | 9 April 1974 | <i>M. Adams</i><br>SPG332<br>2 APR 74  |
| D   | Added P11 for SPALT 3745<br>98 1-24-75   | 5 Feb 1975   | <i>M. Adams</i><br>SPG332<br>27 JAN 75 |
| E   | RD 2827731-E, Added P12 thru P16<br><i>M. Adams</i>  | 15 JUL 75    | <i>M. Adams</i><br>SPG332<br>15 JUL 75 |
| F   | RD 2827731-F<br><i>M. Adams</i>  | 23 FEB 77    | <i>M. Adams</i><br>SPG332<br>23 FEB 77 |

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| REV |   |   |   |   |   |   |   |  |
| SHT |   |   |   |   |   |   |   |  |
| REV |   |   |   |   |   |   |   |  |
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| REV |   |   |   |   |   |   |   |  |
| SHT |   |   |   |   |   |   |   |  |
| REV | F | F | F | F | E | E | C |  |
| SHT | 1 | 2 | 3 | 4 | 5 | 6 | 7 |  |

THIS PRINT IS CURRENT  
AS OF  
**May 18, 2017**  
MICROFILM CENTER

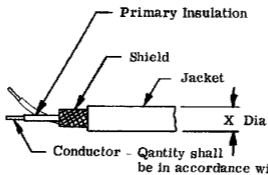
REVISION STATUS OF SHEETS

|                   |  |   |                            |  |                            |  |                      |  |  |
|-------------------|--|---|----------------------------|--|----------------------------|--|----------------------|--|--|
|                   |  | UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES. TOLERANCES ON:<br>DECIMALS ANGLES<br>± - ± -<br>ALL SURFACES ✓<br>MATL - | SIGNATURES                 |  | DATE                       | DEPARTMENT OF THE NAVY<br>SPECIAL PROJECTS OFFICE<br>WASHINGTON, D. C. 20360<br><br>CABLE, GENERAL PURPOSE,<br>ELECTRICAL<br><br>SPECIFICATION CONTROL DRAWING |                      |  |  |
|                   |  |   | <i>P. Hamming</i>          |  | 28 FEB 69                  |  |                      |  |  |
|                   |  | 2828749 Interface<br>2648600 Assy   | <i>M. Adams</i>            |  | 10 MAR 69                  | SIZE CODE IDENT NO.<br>A 10001 2827731   |                      |  |  |
|                   |  |   | <i>E. L. McColl</i>        |  | 10 MAR 69                  |  |                      |  |  |
| NEXT ASSY USED ON |  | GENERAL ELECTRIC<br>Ordnance Pittsfield<br>DEPT LOC   | ISS <i>M. Adams</i> 1979   |  | CONTRACT NO. N0003066C0166 |  | SCALE - SHEET 1 of 7 |  |  |
| APPLICATION       |  |   | BY <i>M. Adams</i> 1/19/79 |  | FOR SPECIAL PROJECTS       |  |                      |  |  |

PO 4928 (1-67)

PRINTS TO T12

EC 021900



| P No. | Conductors |        |           | Primary Insulation                                 |              | Max Capacitance/Ft |             | "X" Dia Max | Lay Lg Max | Rev Status Ltr |
|-------|------------|--------|-----------|--|--------------|--------------------|-------------|-------------|------------|----------------|
|       | Size (AWG) | No. of | Stranding | Color  | Dia          | Grounded (PF)      | Mutual (PF) |             |            |                |
| 1     | 26         | 1      | 7/34      | White  | .043<br>.035 | 51                 | -           | .077        | -          | F              |
| 2     | 26         | 2      | 7/34      | 1-White<br>1-Black                                 | .043<br>.035 | 38                 | 22          | .116        | 1.25       | F              |
| 3     | 26         | 3      | 7/34      | 1-White<br>1-Black<br>1-Red                        | .043<br>.035 | 38                 | 22          | .124        | 1.25       | F              |
| 4     | 26         | 4      | 7/34      | 1-White<br>1-Black<br>1-Red<br>1-Green             | .043<br>.035 | 38                 | 22          | .136        | 1.50       | F              |
| 5     | 22         | 2      | 19/34     | 1-White<br>1-Black                                 | .051<br>.046 | 49                 | 27          | .144        | 1.35       | F              |
| 6     | 22         | 3      | 19/34     | 1-White<br>1-Black<br>1-Red                        | .051<br>.046 | 49                 | 27          | .154        | 1.35       | F              |
| 7     | 22         | 4      | 19/34     | 1-White<br>1-Black<br>1-Red<br>1-Green             | .051<br>.046 | 49                 | 27          | .170        | 1.65       | F              |
| 8     | 22         | 5      | 19/34     | 1-White<br>1-Black<br>1-Red<br>1-Green<br>1-Yellow | .051<br>.046 | 49                 | 27          | .190        | 1.80       | F              |

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REV F

SHEET 2

| P No. | Conductors |        |           | Primary Insulation                                 |              | Max Capacitance Ft |             | "X" Dia Max | Lay Lg Max | Rev Status Ltr |
|-------|------------|--------|-----------|--|--------------|--------------------|-------------|-------------|------------|----------------|
|       | Size (AWG) | No. of | Stranding | Color  | Dia          | Grounded (PF)      | Mutual (PF) |             |            |                |
| 9     | 22         | 1      | 19/34     | White  | .051<br>.046 | 63                 | -           | .093        | -          | F              |
| 10    | 22         | 2      | 19/34     | 1-White<br>1-Black                                 | .051<br>.046 | 49                 | 27          | .144        | -          | F              |
| 11    | 22         | 5      | 19/34     | 1-White<br>1-Black<br>1-Red<br>1-Green<br>1-Blue   | .051<br>.046 | 49                 | 27          | .190        | 1.80       | F              |
| 12    | 24         | 1      | 19/36     | White  | .041<br>.037 | 75                 | -           | .077        | -          | F              |
| 13    | 24         | 2      | 19/36     | 1-White<br>1-Black                                 | .041<br>.037 | 58                 | 32          | .126        | 1.30       | F              |
| 14    | 24         | 3      | 19/36     | 1-White<br>1-Black<br>1-Red                        | .041<br>.037 | 58                 | 32          | .132        | 1.30       | F              |
| 15    | 24         | 4      | 19/36     | 1-White<br>1-Black<br>1-Red<br>1-Green             | .041<br>.037 | 58                 | 32          | .144        | 1.60       | F              |
| 16    | 24         | 5      | 19/36     | 1-White<br>1-Black<br>1-Red<br>1-Green<br>1-Yellow | .041<br>.037 | 58                 | 32          | .166        | 1.70       | F              |

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REV F

SHEET 3

## 1. SCOPE

1.1 This document establishes the requirements for the procurement of a general purpose high frequency, jacketed and shielded electrical cable for use at temperatures up to +200°C, and at working voltages up to 600 volts (see 6.1).

## 2. APPLICABLE DOCUMENTS

2.1 The following documents form a part of this document to the extent specified herein:

|             |   |
|-------------|---|
| MIL-C-17    | Cables, Radiofrequency, Coaxial, Dual Coaxial, Twin Conductor and Twin Lead |
| MIL-C-12000 | Cable, Cord, and Wire, Electric, Packaging of                               |
| MIL-W-16878 | Wire, Electrical, Insulated, High Temperature                               |
| MIL-STD-130 | Identification Marking of U.S. Military Property                            |
| MIL-STD-202 | Test Methods for Electronic and Electrical Component Parts                  |

All Military Standards (MIL-STD-), Military Specifications (MIL-), Ordnance Pamphlets (OP-), Federal Standards (FED-STD-), and Federal Specifications shall be ordered from the Naval Publications and Forms Center, 5801 Tabor Avenue, Philadelphia, Pennsylvania 19120.

## 3. REQUIREMENTS

3.1 Except as specified herein, all insulated conductors shall be in accordance with MIL-W-16878/4, 200°C, Type E, stranding and diameter as specified in the parts tabulation.

3.2 The conductors primary insulation shall be extruded polytetrafluoroethylene (TFE) in accordance with MIL-W-16878, Type E, color as specified in the parts tabulation.

3.3 The shield shall be a woven braid of silver plated copper strands in accordance with MIL-W-16878.

3.4 The jacket shall be an extruded wall of white color fluorinated ethylene propylene (FEP) in accordance with MIL-W-16878.

3.5 Lay Length. - Multiconductor cables shall have a lay length not exceeding that specified in the parts tabulation.

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## 3.6 Construction:

First. - Select the number of conductors, in accordance with 3.2 as specified.

Second. - If more than one conductor, twist together the number of conductors specified, using a uniform lay in accordance with 3.5.

Third. - Evenly apply a woven braid shield, in accordance with 3.3.

Fourth. - Apply a jacket, in accordance with 3.4 over the shield.

3.7 Dielectric Strength. - The cable shall withstand a  $1500 \pm 15$  volt, rms, 60 Hz test potential, applied between any two conductors, between any conductor and shield, and between the shield and ground without breakdown, disruptive discharge, or damage of any kind.

3.8 Grounded Capacitance. - The grounded capacitance shall not be greater than that specified in the parts tabulation.

3.9 Mutual Capacitance. - The mutual capacitance shall not exceed that specified in the parts tabulation.

3.10 Capacitive Unbalance. - The capacitive unbalance for each twisted pair conductor cable shall not exceed 8 percent.

3.11 Workmanship. - The cable shall show consistency in workmanship. Such defects as discolored, patched or cracked insulation; inconsistent conductor coating, large variations in cross section shape and diameter shall be cause for rejection.

3.12 Minimum Cable Length. - Unless otherwise specified by the procuring activity, cables having a length less than 50 continuous feet shall not be accepted.

3.13 Marking. - Marking shall be in accordance with MIL-STD-130 and shall include this document number, P number, revision letter to which the cable is manufactured, manufacturer's symbol and the date of manufacture. This information shall appear only upon the reel ends or upon a tag firmly secured to a coil of cable. DO NOT MARK THE CABLE. (For P number and revision letter, see revision status tabulation.)

## 4. QUALITY ASSURANCE PROVISIONS

4.1 Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the document where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

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## 4.2 Classification of Inspections

- a. Qualification Inspection (unless otherwise specified, the supplier shall furnish written certification that the cable is constructed to comply with the full requirements of this document in lieu of qualification inspection. This certification will be required prior to the acceptance of any lot).
- b. Quality conformance inspection.

4.3 Qualification Inspection. The supplier shall submit a specimen cable of suitable length which has been made using the same materials and processes proposed for the production cable. The specimen cable shall be subjected to all the qualification inspections tabulated by Table I. Failure to pass any inspection shall be cause for rejection.

## 4.4 Quality Conformance Inspection

4.4.1 Inspection Lot. - All completed cable, of the same "P" number, produced in a continuous production run, without process or material change, and offered for acceptance at the same time, shall be considered a lot.

4.4.2 Material Certification. - The supplier shall submit, with each lot offered for acceptance, certification verifying conformance with the material and finish requirements of this document.

4.4.3 Sampling. - Specimen cable shall be selected, at random, from reels of finished cable and subjected to all the quality conformance inspections tabulated by Table I. Failure to pass any test shall be cause for rejecting the lot.

TABLE I  
QUALITY ASSURANCE INSPECTIONS

| Inspection or Test                    | Requirement           | Test Method             | Qualification Inspection | Quality Conformance Inspection |
|---------------------------------------|-----------------------|-------------------------|--------------------------|--------------------------------|
| Visual and Dimensional                | 3.6, 3.11, 3.12, 3.13 | 4.5.1                   | Yes                      | Yes                            |
| Dielectric Strength                   | 3.7                   | MIL-STD-202 Method, 301 | Yes                      | Yes                            |
| Grounded Capacitance                  | 3.8                   | MIL-C-17                | Yes                      | Yes                            |
| Mutual Capacitance                    | 3.9                   | MIL-C-17                | Yes                      | Yes                            |
| Capacitive Unbalance                  | 3.10                  | MIL-C-17                | Yes                      | Yes                            |
| CABLE, GENERAL PURPOSE,<br>ELECTRICAL |                       | SIZE<br>A               | CODE IDENT NO.<br>10001  | 2827731                        |
|                                       |                       | SCALE                   | REV E                    | SHEET 6                        |

## 4.5 Test Methods

4.5.1 Visual and Dimensional. - The specimen cable shall be inspected to verify conformance with the construction, dimensional and workmanship requirements of this document.

## 5. PREPARATION FOR DELIVERY

5.1 Packaging and packing shall be in accordance with MIL-C-12000, Level C.

## 6. NOTES

6.1 The cables primary and jacket insulation has high resistance to damage by hot soldering irons.

## SUGGESTED SOURCES OF SUPPLY:

Wirecraft Products Inc.  
West Brookfield, Mass.  
Code Ident 24868

Harbour Industries Inc.  
Shelburne, Vermont  
Code Ident 27478

Hitemp Wires Co.  
Westbury, N.Y.  
Code Ident 99114

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