

SAE Technical Standards Board Rules provide that: "This report is published by SAE to advance the state of technical and engineering sciences. The use of this report is entirely voluntary, and its applicability and suitability for any particular use, including any patent infringement arising therefrom, is the sole responsibility of the user."

SAE reviews each technical report at least every five years at which time it may be revised, reaffirmed, stabilized, or cancelled. SAE invites your written comments and suggestions.

REV.  
A

AS6070™/8

FEDERAL SUPPLY CLASS  
6145

#### RATIONALE

THIS REVISION CORRECTS TABLE 3 PART NUMBERS.

#### NOTICE

THE COMPLETE REQUIREMENTS FOR PROCURING THE PRODUCT DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF AS6070.

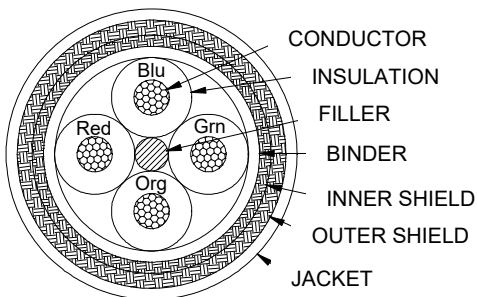
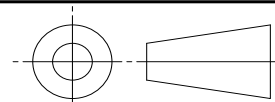


FIGURE 1 - QUAD CONFIGURATION

SAE values your input. To provide feedback  
on this Technical Report, please visit  
<http://standards.sae.org/AS6070/8A>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8D

PROCUREMENT SPECIFICATION: AS6070



### AEROSPACE STANDARD

CABLE, LIGHTWEIGHT OPTIMIZED HIGH SPEED  
DATA QUAD, 110 OHM, 200 °C

AS6070™/8  
SHEET 1 OF 5

REV.  
A

Copyright © 2019 SAE International

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of SAE.

TO PLACE A DOCUMENT ORDER: Tel: 877-606-7323 (inside USA and Canada)  
Fax: 724-776-0790

Tel: +1 724-776-4970 (outside USA)  
Email: CustomerService@sae.org

SAE WEB ADDRESS: <http://www.sae.org>

## 1.0 CONSTRUCTION DETAILS

**TABLE 1**

| COMPONENT/<br>CHARACTERISTIC              | MATERIAL                                                                                                                                        | REQUIREMENT                                                                         |
|-------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| CONDUCTOR                                 | 22 AWG-19X34 SILVER PLATED COPPER <u>1/</u><br>24 AWG-19X36 SILVER PLATED COPPER <u>2/</u><br>26 AWG-19X38 SILVER PLATED COPPER ALLOY <u>3/</u> | .0320 INCHES MAXIMUM<br>.0255 INCHES MAXIMUM<br>.0205 INCHES MAXIMUM                |
| CONDUCTOR<br>INSULATION (SEE<br>NOTE 6.2) | FLUOROPOLYMER <u>4/</u><br>22 AWG<br>24 AWG<br>26 AWG                                                                                           | .070 INCHES MAXIMUM<br>.056 INCHES MAXIMUM<br>.044 INCHES MAXIMUM                   |
| INSULATED<br>CONDUCTOR<br>COLORS          | PAIR 1: RED & GREEN OR WHITE/GREEN & WHITE/RED<br>PAIR 2: BLUE AND ORANGE OR WHITE/BLUE &<br>WHITE/ORANGE                                       |                                                                                     |
| BINDER                                    | NORMAL OR LOW DENSITY PTFE<br>(POLYTETRAFLUOROETHYLENE) <u>5/</u>                                                                               |                                                                                     |
| INNER SHIELD                              | 40 AWG ROUND SILVER PLATED COPPER <u>6/</u>                                                                                                     | 92% MIN COVERAGE                                                                    |
| OUTER SHIELD                              | 38 AWG ROUND SILVER PLATED COPPER <u>6/</u>                                                                                                     | 92% MIN COVERAGE                                                                    |
| JACKET WALL<br>THICKNESS                  | FLUOROPOLYMER TAPE <u>7/</u><br>FLUOROPOLYMER EXTRUDED <u>7/</u>                                                                                | .003 INCHES MINIMUM WALL<br>.006 INCHES MINIMUM WALL                                |
| COLOR, JACKET                             | WHITE PER MIL-STD-104, CLASS 2                                                                                                                  |                                                                                     |
| FILLER                                    | PTFE PER ASTM D4894/D4895 OR FLUORINATED<br>ETHYLENEPROPYLENE PER ASTM D2116 OR EQUIVALENT                                                      |                                                                                     |
| JACKET DIAMETER                           | 22 AWG<br>24 AWG<br>26 AWG                                                                                                                      | .222 INCHES MAXIMUM<br>.192 INCHES MAXIMUM<br>.157 INCHES MAXIMUM                   |
| CABLE WEIGHT                              | 22 AWG<br>24 AWG<br>26 AWG                                                                                                                      | 43.1 POUNDS/1000 FEET MAX<br>32.6 POUNDS/1000 FEET MAX<br>24.7 POUNDS/1000 FEET MAX |

1/ SIZE 22 CONDUCTOR SHALL BE ANNEALED COPPER TYPE SCC OF AS29606 (SEE TABLES 3 AND 4) EXCEPT AS INDICATED IN TABLE ABOVE.

2/ SIZE 24 CONDUCTOR SHALL BE ANNEALED COPPER (SEE NOTE 6.4) TYPE SCC; COPPER ALLOY SCA OF AS29606 (SEE TABLES 3 AND 4) EXCEPT AS INDICATED IN TABLE ABOVE.

3/ SIZE 26 CONDUCTOR SHALL BE COPPER ALLOY TYPE SCA OF AS29606 (SEE TABLES 3 AND 4) EXCEPT AS INDICATED IN TABLE ABOVE.

4/ SINGLE LAYER FEP PER ASTM D2116 WITH NO SECOND LAYER OR TWO LAYER PTFE WITH PRIMARY LAYER OF EXTRUDE OR WRAPPED LOW DENSITY PTFE PER ASTM D4895 OR EQUIVALENT AND SECOND LAYER OF EXTRUDED OR TAPE WRAPPED AND SEALED FULL DENSITY PTFE SO THAT IT FORMS A HOMOGENOUS BOND WITH THE PRIMARY INSULATION PER ASTM D6585 OR EQUIVALENT.

5/ IN ACCORDANCE WITH ASTM D4895.

6/ IN ACCORDANCE WITH ASTM B298, COATING THICKNESS, CLASS D OR 40 MICRO-INCH MINIMUM.

7/ JACKET SHALL BE IN ACCORDANCE WITH NEMA WC 27500 MATERIAL TYPE 9 AS DEFINED IN 3.8.2.6; MATERIAL TYPE 12, OR 22 AS DEFINED IN 3.8.2.10; MODIFIED MATERIAL TYPE 24 AS DEFINED IN 3.8.2.15. ALL JACKETS SHALL MEET THE PERFORMANCE REQUIREMENTS OF NEMA WC 27500 PARAGRAPH 3.8.1 FOR THE APPLICABLE MATERIALS.

2.0 CABLE CONFIGURATION: CABLE CONSTRUCTION SHALL BE IN ACCORDANCE WITH TABLE 1. THE CABLE SHALL HAVE THE FOLLOWING OPERATING CHARACTERISTICS AND DESIGN REQUIREMENTS:

2.1 OPERATING TEMPERATURE RATING: -55 °C MINIMUM TO +200 °C MAXIMUM

2.2 CONDUCTOR DCR (AS RECEIVED) AT 20 °C:

|                                     |                             |
|-------------------------------------|-----------------------------|
| 22 AWG ANNEALED COPPER              | 15.1 OHMS/1000 FEET MAXIMUM |
| 24 AWG ANNEALED COPPER              | 24.3 OHMS/1000 FEET MAXIMUM |
| 24 AWG COPPER ALLOY (HIGH STRENGTH) | 28.4 OHMS/1000 FEET MAXIMUM |
| 26 AWG COPPER ALLOY (HIGH STRENGTH) | 44.8 OHMS/1000 FEET MAXIMUM |

NOTE: THE ABOVE CONDUCTOR DCR LIMITS ARE WITHIN THE LIMITS OF AS29606, BUT THE MAXIMUM LIMITS HAVE BEEN REDUCED AS STATED ABOVE TO MEET CABLE PERFORMANCE REQUIREMENTS.

|                                                                                     |                                                                       |  |                                  |                         |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------|--|----------------------------------|-------------------------|
|  | <b>AEROSPACE STANDARD</b>                                             |  | <b>AS6070™/8</b><br>SHEET 2 OF 5 | <b>REV.</b><br><b>A</b> |
|                                                                                     | CABLE, LIGHTWEIGHT OPTIMIZED HIGH SPEED<br>DATA QUAD, 110 OHM, 200 °C |  |                                  |                         |