

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.

AS81824™/6

RATIONALE

AS81824/6 HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

NOTICE

THE COMPLETE REQUIREMENT FOR PROCURING SPLICE, DESCRIBED HEREIN SHALL CONSIST OF THIS DOCUMENT AND THE LATEST ISSUE OF: SAE AS81824.

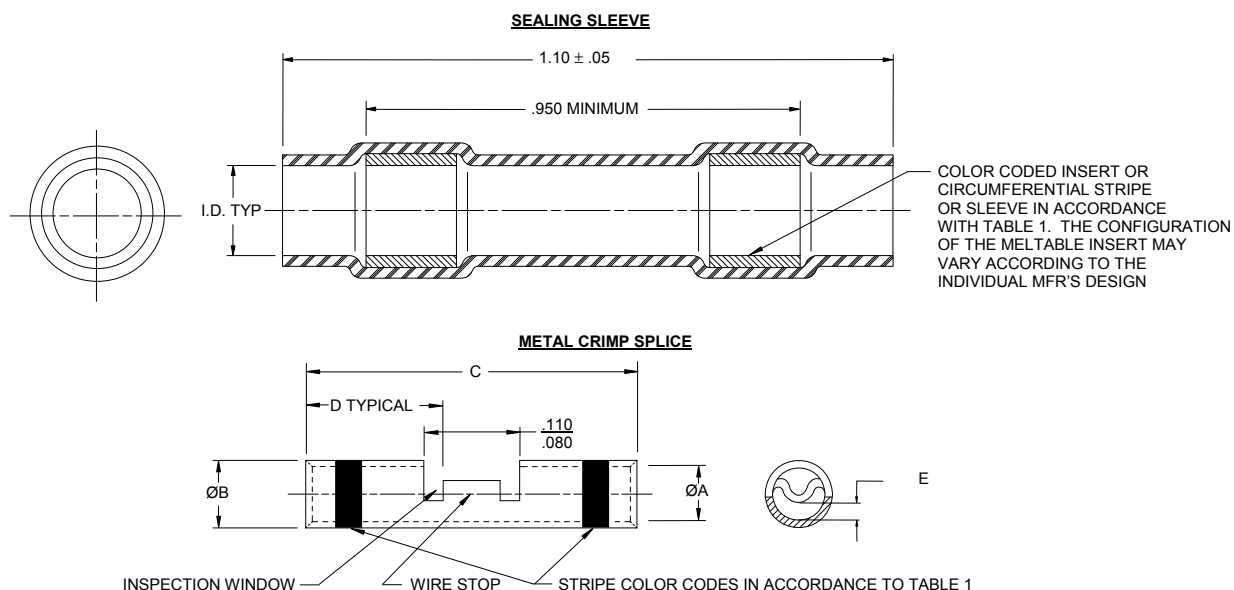


FIGURE 1 – SPLICE SEALING SLEEVE AND METAL CRIMP SPLICE

TABLE 1 – CONSTRUCTION DETAILS

PART NUMBER	WIRE RANGE	I.D. /1 A (MIN) B (MAX)	ØA	ØB	C	D	E MAX	COLOR CODE	WEIGHT LBS (KG) PER 1000 PCS – MAX REF
M81824/6-1	SEE TABLE 4	.085 (2.18) .025 (0.64)	.053 (1.35) .045 (1.14)	.080 (2.03) .075 (1.91)	.510 (12.95) .490 (12.45)	.245 (6.22) .225 (5.72)	.015 (0.38)	RED	1.10 (0.5)
M81824/6-2	SEE TABLE 4	.110 (2.79) .025 (0.64)	.070 (1.78) .063 (1.60)	.107 (2.72) .100 (2.54)	.585 (14.86) .565 (14.35)	.280 (7.11) .260 (6.60)	.020 (0.51)	BLUE	1.75 (0.8)
M81824/6-3	SEE TABLE 4	.170 (4.32) .025 (0.64)	.103 (2.62) .095 (2.41)	.155 (3.94) .146 (3.71)	.585 (14.86) .565 (14.35)	.280 (7.11) .260 (6.60)	.050 (1.27)	YELLOW	3.15 (1.4)

/1 I.D. A – AS RECEIVED

B – AFTER UNRESTRICTED RECOVERY THROUGH MELTABLE MATERIAL

DIMENSIONS ARE IN INCHES

METRIC EQUIVALENTS (TO THE NEAREST .01 MM) ARE GIVEN FOR GENERAL INFORMATION ONLY AND ARE BASED UPON 1 INCH = 25.4 MM

UNLESS OTHERWISE SPECIFIED, TOLERANCES ARE

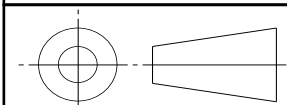
± .005 (0.13 MM) FOR THREE PLACE DECIMALS

± .01 (0.25 MM) FOR TWO PLACE DECIMALS

For more information on this standard, visit

<https://www.sae.org/standards/content/AS81824/6/>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8/AE-8C2

PROCUREMENT SPECIFICATION: AS81824



AEROSPACE STANDARD

SPLICE, ELECTRIC, PERMANENT, CRIMP, NICKEL
PLATED INSULATED WIRES, ENVIRONMENTAL
CLASS 1, 175 °C

AS81824™/6
SHEET 1 OF 4



Documents

Document Sharing Hub

Copyright © 2022 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>

REQUIREMENTS:

MATERIAL:

METAL CRIMP SPLICE: COPPER PER ASTM B280, ASTM B75-68 ASTM B187 OR ASTM B152

INSULATION SLEEVE: HEAT SHRINKABLE, TRANSPARENT POLYVINYLIDENE FLUORIDE PER THE PERFORMANCE REQUIREMENTS OF SAE AS23053/8.

SEALING MATERIAL: MODIFIED THERMOPLASTIC, SEE PROCUREMENT SPECIFICATION.

FINISH: METAL, NICKEL PLATED PER SAE AMS-QQ-N-290.

1. CONTOUR: CONTOUR MAY VARY FROM THAT SHOWN.
2. AVERAGES OF DIAMETERS "A" AND "B" OF THE INSPECTION SAMPLES MUST BE WITHIN SPECIFIED LIMITS.
3. "B" DIAMETER SHALL NOT INCLUDE COLOR STRIPE.
4. NO ETCHING OR SOLVENT TREATING OF THE ASSOCIATED WIRE INSULATION SHALL BE PERMITTED.
5. RESERVED
6. RESERVED
7. RESERVED
8. QUALIFICATION: QUALIFICATION SHALL BE TESTED IN ACCORDANCE WITH SAE-AS81824. SEE PARAGRAPH 8.3 FOR EXCEPTIONS.
- 8.1 TERMINATION TOOL: FOR QUALIFICATION TESTING, ONLY SPLICE ASSEMBLIES MADE WITH WIRE CONFORMING TO M22759/12 SHALL BE TESTED WITH THE METAL SPLICE. THE SEALING AND INSULATING SLEEVE SHALL BE INSTALLED WITH THE APPLICABLE HEATING TOOL. FOR CRIMPING TOOLS, SEE TABLE 2.

TABLE 2 – CRIMP TOOLS

SPLICE PART NO.	BASIC CRIMP TOOL NO.	DIE NO.
M81824/6-1 M81824/6-2	M22520/5-01 M22520/10-01 M22520/37-01	M22520/5-103 M22520/10-104 N/A
M81824/6-3	M22520/5-01 M22520/10-01 M22520/37-01	M22520/5-102 M22520/10-103 N/A

- 8.2 WIRE RANGE: TABLE 3 LISTS TYPICAL WIRE RANGES FOR EACH SPLICE SIZES. FOR MULTIPLE CONDUCTOR SPLICING, DETERMINE THE PROPER CRIMP BARREL SIZE BASED ON TOTAL CONDUCTOR MIL AREA (CMA) OR CONDUCTOR AREA IN MM2 FOR EACH SIDE

TABLE 3 – QUALIFICATION TEST SAMPLE WIRE SIZE FOR SINGLE AND DOUBLE TERMINATION

PART NUMBER	SINGLE WIRE (SIZE)		MULTIPLE WIRE – SIZE (QTY) ON BOTH ENDS	
	MIN	MAX	MIN SAMPLE COMBINATION	MAX SAMPLE COMBINATION
M81824/6-1	26	20	26(2)	26(1) + 24(1)
M81824/6-2	20	16	26(1) + 22(1)	22(1) + 20(1)
M81824/6-3	16	12	24(1) + 18(1)	22(1) + 12(1)

- 8.3 FOLLOWING EXCEPTIONS OR VARIATIONS TO SAE-AS81824 QUALIFICATIONS APPLY FOR MULTIPLE WIRE TERMINATION TESTING:
 - 8.3.1. VOLTAGE DROP (REFERENCE: SAE-AS81824 PARAGRAPH 4.8.1): REFERENCE VOLTAGE DROP SHALL BE DETERMINED BY AVERAGING 4 SAMPLES OF APPLICABLE COMBINATION WIRES WITH SOLDERED CRIMP SPLICES. THE REFERENCE MILLIVOLT SHALL BE MADE BY PUNCTURING THE LARGEST WIRE INSULATION ON BOTH SIDES OF THE CRIMP 1/16 INCH BACK FROM THE ENDS OF THE SEALING SLEEVE.

	AEROSPACE STANDARD	AS81824™/6 SHEET 2 OF 4	
	SPLICE, ELECTRIC, PERMANENT, CRIMP, NICKEL PLATED INSULATED WIRES, ENVIRONMENTAL CLASS 1, 175 °C		

