

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.

**SAE AS81824/3**

## RATIONALE

FEDERAL SUPPLY CLASS  
5940

AS81824/3 HAS BEEN REAFFIRMED TO COMPLY WITH THE SAE FIVE-YEAR REVIEW POLICY.

## NOTICE

THIS DOCUMENT HAS BEEN TAKEN DIRECTLY FROM U.S. MILITARY SPECIFICATION MIL-S-81824/3 AND CONTAINS ONLY MINOR EDITORIAL AND FORMAT CHANGES REQUIRED TO BRING IT INTO CONFORMANCE WITH THE PUBLISHING REQUIREMENTS OF SAE TECHNICAL STANDARDS. THE INITIAL RELEASE OF THIS DOCUMENT IS INTENDED TO REPLACE MIL-S-81824/3. ANY PART NUMBERS ESTABLISHED BY THE ORIGINAL SPECIFICATION REMAIN UNCHANGED.

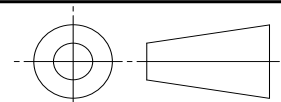
THE ORIGINAL MILITARY SPECIFICATION WAS ADOPTED AS AN SAE STANDARD UNDER THE PROVISIONS OF THE SAE TECHNICAL STANDARDS BOARD (TSB) RULES AND REGULATIONS (TSB 001) PERTAINING TO ACCELERATED ADOPTION OF GOVERNMENT SPECIFICATIONS AND STANDARDS. TSB RULES PROVIDE FOR (A) THE PUBLICATION OF PORTIONS OF UNREVISED GOVERNMENT SPECIFICATIONS AND STANDARDS WITHOUT CONSENSUS VOTING AT THE SAE COMMITTEE LEVEL, AND (B) THE USE OF THE EXISTING GOVERNMENT SPECIFICATION OR STANDARD FORMAT.

UNDER DEPARTMENT OF DEFENSE POLICIES AND PROCEDURES, ANY QUALIFICATION REQUIREMENTS AND ASSOCIATED QUALIFIED PRODUCTS LISTS ARE MANDATORY FOR DOD CONTRACTS. ANY MATERIAL RELATING TO QUALIFIED PRODUCTS LISTS (QPL'S) HAS NOT BEEN ADOPTED BY SAE AND IS NOT PART OF THIS TECHNICAL REPORT.

SAENORM.COM : Click to view the full PDF of as81824/3

**SAE values your input. To provide feedback on this Technical Report, please visit**  
<http://www.sae.org/technical/standards/AS81824/3>

THIRD ANGLE PROJECTION



CUSTODIAN: AE-8C2

**SAE Aerospace**  
An SAE International Group

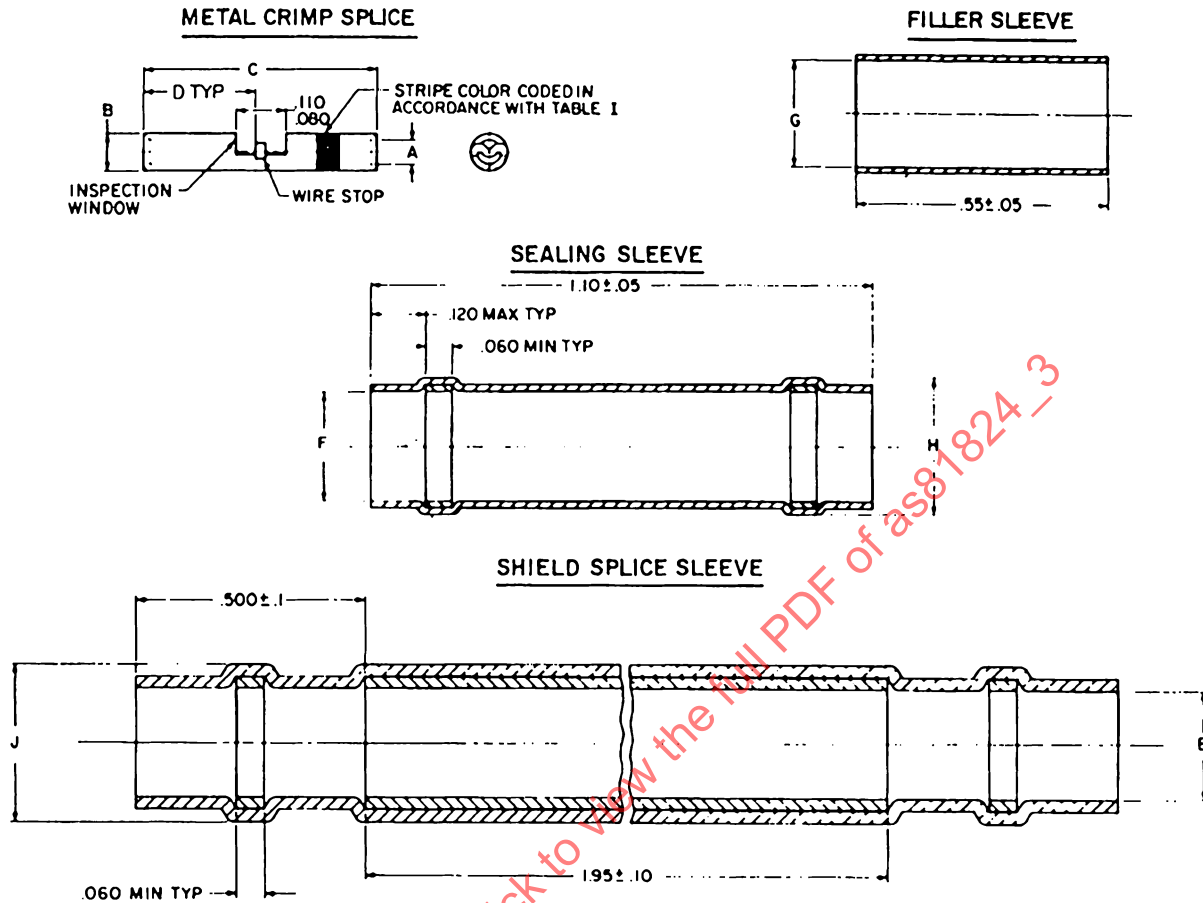
## AEROSPACE STANDARD

SPLICE, COAXIAL CABLE, ELECTRIC, PERMANENT, CRIMP STYLE COPPER, INSULATED, ENVIRONMENT RESISTANT, CLASS 1

**SAE AS81824/3**  
SHEET 1 OF 5

ISSUED 1998-04 REAFFIRMED 2012-01

THE COMPLETE REQUIREMENTS FOR ACQUIRING THE SPLICE DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE LATEST ISSUE OF MIL-S-81824.



NOTES:

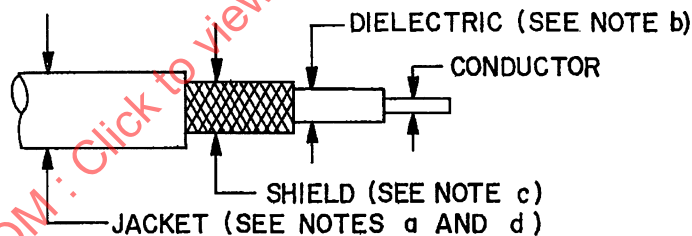
1. DIMENSIONS ARE IN INCHES.
2. "B" DIAMETER SHALL NOT INCLUDE COLOR STRIPE.
3. METRIC EQUIVALENTS (TO THE NEAREST .01 MM) ARE GIVEN FOR GENERAL INFORMATION ONLY AND ARE BASED UPON 1 INCH = 25.4 MM.

FIGURE 1. SPLICE ASSEMBLY.

TABLE I. CONSTRUCTION DETAILS

Military Part Number	Center Conductor Diameter Range	Color Code	A	B	C	D	Shield Splice E			Sealing Sleeve F		Filler Sleeve G			H	J	MIL-C-17 Applicable Cables
							(a) min.	(d) min.	(c) max.	(a) min.	(b) max.	(a) min.	(e) max.	(f) nom.			
H81824/3-1	.020 .010	Yellow	.032 .022	.080 .075	.510 .490	.245 .225	.118	.060	.070	.118	.025		NONE		.200	.270	/94 RG-179 /113 RG-316 /172
H81824/3-2	.020 .010	Yellow	.032 .022	.080 .075	.510 .490	.245 .225	.157	.075	.080	.157	.050	.157	.070	.105	.250	.315	/95 RG-180
H81824/3-3	.040 .020	Red	.053 .045	.080 .075	.510 .490	.245 .225	.236	.118	.137	.236	.075	.236	.070	.118	.300	.350	/110 RG-302 /111 RG-303 /170

INCHES	mm	INCHES	mm	INCHES	mm
.010	0.25	.075	1.91	.225	5.72
.020	0.51	.080	2.03	.230	5.84
.022	0.56	.105	2.67	.236	5.99
.025	0.64	.110	2.79	.245	6.22
.026	0.66	.118	3.00	.250	6.35
.032	0.81	.135	3.43	.270	6.86
.040	1.02	.137	3.48	.300	7.62
.045	1.14	.155	3.94	.315	8.00
.050	1.27	.157	3.99	.350	8.89
.053	1.35	.200	5.08	.490	12.45
.060	1.52	.210	5.33	.510	12.95
.070	1.78				

SELECTION GUIDE

- (a) AS SUPPLIED. CABLE JACKET DIAMETER MUST BE LESS THAN THIS VALUE.
- (b) RECOVERED I.D., THROUGH MELTABLE INSERTS OF SEALING SLEEVE. CABLE DIELECTRIC DIAMETER MUST BE GREATER THAN THIS VALUE.
- (c) RECOVERED I.D., THROUGH SHRINKABLE SHIELD OF SHIELD SPLICE SLEEVE. CABLE SHIELD DIAMETER MUST BE GREATER THAN THIS VALUE. SHIELD MAY BE FOLDED BACK OVER CABLE JACKET TO INCREASE ITS DIAMETER.
- (d) RECOVERED I.D., THROUGH MELTABLE INSERTS OF SHIELD SPLICE SLEEVE. CABLE JACKET DIAMETER MUST BE GREATER THAN THIS VALUE.
- (e) RECOVERED I.D.
- (f) RECOVERED O.D. MEASURED WHEN INSTALLED ON METAL CRIMP SPLICE.

TABLE II. CRIMP TOOLS

Splice Part No.	Basic Crimp Tool No.	Die No.
M81824/3-1 /3-2 /3-3	M22520/5-01 or M22520/10-01	M22520/5-103 USE RED DIE or M22520/10-104 AWG 26-20

## MATERIAL:

METAL CRIMP SPLICE: COPPER PER ASTM B75-81a, TIN-PLATED.

## SEALING SLEEVE:

SLEEVE MATERIAL: TRANSPARENT BLUE POLY(VINYLIDENE FLUORIDE) OR EQUIVALENT. SEE 3.3.3.

SEALING MATERIAL: FLUOROCARBON-BASED THERMOPLASTIC, OR EQUIVALENT.

FILLER SLEEVE: HEAT-SHRINKABLE POLYOLEFIN BASED THERMOPLASTIC.

## SHIELD SPLICE SLEEVE:

SLEEVE MATERIAL: TRANSPARENT BLUE POLY(VINYLIDENE FLUORIDE) OR EQUIVALENT. SEE 3.3.3.

SEALING MATERIAL: FLUOROCARBON-BASED THERMOPLASTIC, OR EQUIVALENT.

SHIELD SPLICE: COPPER-WIRE BRAID, COATED WITH SOLDER AND FLUX. TYPE Sn63 RA (QQ-S-571) PREFERRED.

## QUALIFICATION:

TEST SPECIMENS: SPLICE SHALL BE INSTALLED IN THE CENTER OF A FOUR FOOT LENGTH OF THE CABLES LISTED IN TABLE I. THE CABLE SHALL BE THE SMALLEST DIAMETER APPLICABLE FOR THE SPLICE TESTED. THE INNER CONDUCTOR SPLICE SHALL BE INSTALLED USING THE CRIMP TOOL LISTED IN TABLE II. THE SEALING SLEEVE, FILLER SLEEVE, AND SHIELD SPLICE SLEEVE SHALL BE INSTALLED USING A STANDARD FORCED AIR HEAT GUN.

REQUIREMENTS: ALL REQUIREMENTS SHALL BE AS SPECIFIED EXCEPT THE FOLLOWING:

- (1) THE TENSILE STRENGTH OF THE TEST SPECIMEN SHALL BE NOT LESS THAN 75% OF THE UNSPLICED CABLE. THE UNSPLICED CABLE SHALL BE TESTED THE SAME AS THE SPLICED CABLE.
- (2) GROUP IV: NOT APPLICABLE.
- (3) VOLTAGE DROP: NOT APPLICABLE. SUBSTITUTE ATTENUATION AND STRUCTURAL RETURN LOSS. THESE TESTS SHALL BE RUN PER THE APPLICABLE PARAGRAPHS OF MIL-C-17. THESE TESTS SHALL BE RUN INITIALLY ON FOUR FOOT LENGTHS OF CABLE AND THEN THE SAME PIECES OF CABLE SHALL BE CUT IN HALF, SPLICED, AND RETESTED PRIOR TO CONDITIONING.