

INCH-POUND

MIL-S-81824/4  
31 January 1990

## MILITARY SPECIFICATION SHEET

SPLICES, ELECTRIC, PERMANENT, CRIMP STYLE, COPPER, INSULATED,  
ENVIRONMENT RESISTANT, SPLICE, SHIELD, SOLDER TYPE, INSULATED, CLASS I

This specification is approved for use by all Departments and  
Agencies of the Department of Defense.

The complete requirements for acquiring the splice described herein shall  
consist of this specification sheet and the latest issue of MIL-S-81824.

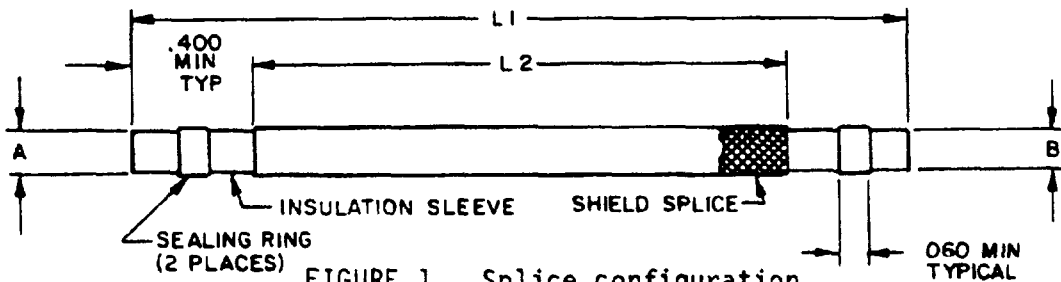


FIGURE 1. Splice configuration.

TABLE I. Dimensions.

Part Number	Sleeve Dimensions				Usable Cable Diameters	
	A Dia. Max	B Dia.	L1 Max	L2 Max Min	Shield <sup>3/</sup> Max Min	Jacket Max Min
	M81824/4-1	.275	.118 <sup>1/</sup> .055 <sup>2/</sup>	3.15	2.07 1.87	.108 .060
-2	.350	.157 <sup>1/</sup> .075 <sup>2/</sup>	3.15	2.07 1.87	.147 .080	.157 .075
-3	.450	.197 <sup>1/</sup> .080 <sup>2/</sup>	3.15	2.07 1.87	.187 .098	.197 .080
-4	.350	.157 <sup>1/</sup> .075 <sup>2/</sup>	4.15	3.05 2.85	.147 .080	.157 .075
-5	.450	.197 <sup>1/</sup> .080 <sup>2/</sup>	4.15	3.05 2.85	.187 .098	.197 .080
-6	.475	.236 <sup>1/</sup> .118 <sup>2/</sup>	4.15	3.05 2.85	.226 .137	.236 .118
-7	.500	.356 <sup>1/</sup> .177 <sup>3/</sup>	4.15	3.05 2.85	.346 .190	.356 .177

<sup>1/</sup> As supplied, minimum.

<sup>2/</sup> Maximum unrestricted recovery. Sealing rings will recover to at least this value.

<sup>3/</sup> Cable shield may be folded back over cable jacket to meet minimum specified diameter.

AMSC N/A

FSC 594U

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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INCH	mm	INCH	mm	INCH	mm	INCH	mm
.055	1.397	.147	3.734	.236	5.994	.500	12.7
.060	1.524	.157	3.988	.275	6.985	1.87	47.49
.075	1.905	.177	4.496	.346	8.788	2.07	52.57
.080	2.032	.187	4.750	.350	8.890	2.85	72.39
.098	2.489	.190	4.826	.356	9.042	3.05	77.47
.108	2.743	.197	5.004	.450	11.430	3.10	78.74
.118	2.997	.226	5.740	.475	12.065	4.10	104.39
.137	3.480						

TABLE II. Test cable for qualification.

M81824/4	Minimum	Maximum
-1	M2750022SB1T23	M2750016SB1T23
-2 and -4	M2750020SB1T23	M2750022SB2T23
-3 and -5	M2750024SB2T23	M2750018SB2T23
-6	M2750022SB4T23	M2750018SB4T23
-7	M2750016SB3T23	M2750012SB5T23

## QUALIFICATION:

Qualification of part numbers 2 and 3 shall qualify part numbers 4 and 5, respectively.

Qualification Tests: Splices and assemblies shall be subjected to the tests and examinations of Groups I, II, III, V, VI and VII.

Test Assemblies: For Test Group V, VI and VII, the assemblies shall be made by joining the minimum size cable to the maximum size cable listed in Table II.

Test assemblies shall be made by removing a one-inch length of the cable jacket from 12-inch long segments of the test cables, and then trimming the cable shield to .450 to .500 inch. The segments shall be fixtured so that the distance between the cable jackets is  $2.20 \pm .05$  (dash numbers 1, 2, 3) or  $3.20 \pm .050$  (dash numbers 4, 5, 6, 7).

The splice is to be heated in accordance with the manufacturer's instructions.

## MATERIAL:

Sleeve material: Transparent blue polyvinylidene fluoride.  
 Sealing material: See procurement document.  
 Shield splice: Copper wire braid, coated with solder and flux, type SN63 RAP per QQ-S-571 required.

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NOTES:

1. These splices are designed for use with M81824/1 splices as part of a splice kit (M81824/5) and are intended for use in making environmental resistant in-line splices in the shields of shielded cables meeting the dimensional requirements of Table I and of the following constructions:

Shield material: M27500 types T, S, M, N and P.

- Jacket types:
1. M27500 types 05, 06, 08, 09, 10, 11, 12, 14, 15, 16, 17, 18, 22, 23.
  2. M7078/8, /9, /10, /11, /12, /13, /14, /26, /28, /30, /32, /34, /35.
  3. MIL-C-17 types VII, VIIa, VIIb, IX, X, XI.

2. Dimensions are in inches. Metric equivalents are given for reference only and are based upon 1 inch = 25.4 millimeters.
3. No etching or solvent treatment of the associated cable jacket shall be required.
4. Assembly instructions shall be furnished by the vendor with each splice acquired under this specification. The instruction sheet shall be approved by the qualification activity.
5. These splices may be used on shielded, unjacketed cables.

APPLICATION: See Table I of M81824/5.

Custodians:  
Army - ER  
Navy - AS  
Air Force - 85

Preparing Activity:  
Navy - AS  
(Project No. 5940-1002)

Review Activities:  
Army - AV  
Air Force - 11, 99  
DSA - GS

User Activities:  
Army - MI  
Navy - EC, MC, SH, OS