

INCH-POUND

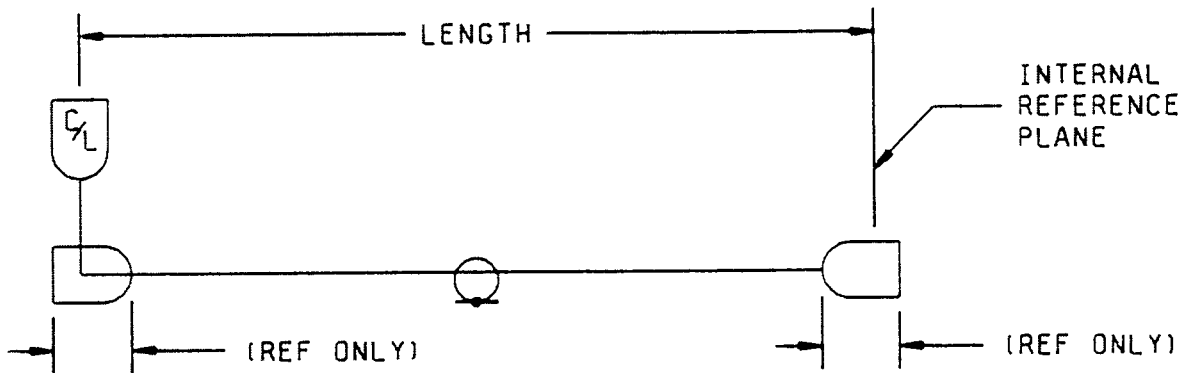
MIL-PRF-55427/1A  
 1 February 1996  
 SUPERSEDING  
 MIL-C-55427/1  
 14 April 1978

## PERFORMANCE SPECIFICATION SHEET

## CABLE ASSEMBLIES, RADIO FREQUENCY

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

The requirements for acquiring the product described herein shall consist of this  
 specification sheet and the issue of the following specification listed in that  
 issue of the Department of Defense Index of Specifications and Standards (DODISS)  
 specified in the solicitation: MIL-PRF-55427.

FIGURE 1. General configuration.

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PERFORMANCE REQUIREMENT:

Configuration: See figure 1.

Connector end termination: See table I.

Cable: See table II.

Length of assembly: As specified in PIN.

Tolerance: +4%, -0%.

Dielectric withstanding voltage:

SMA series connectors: 1,000 volts rms at sea level.

BNC and TNC series connectors: 1,500 volts at sea level.

Thermal shock: MIL-STD-202, method 107, test condition A.

Flexure: 20 pounds minimum.

Cable retention:

Longitudinal pull: See table III.

Torque: 2 inch-pounds.

VSWR: See table III.

Insertion loss: .5 dB maximum at 1 GHz (cable loss  $\frac{1}{2}$ ) + (connector loss per table III).

Part or Identifying Number (PIN): M55427/1, two-letter code denoting end terminations (see table I), cable length (expressed in centimeters by four digits), and a letter to denote cable accommodation (See table II).

Sample units for group B inspection: Minimum of 3 sample units per qualification group of table III (total of 18 sample units).

Group qualification: See table IV.

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1/ In accordance with MIL-C-17 specification sheet at designated frequency.

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Table I. Connector termination.

Termination code	Connector MIL-PRF-39012/	Connector series	Connector body material
A	16	BNC	Brass
B	17		
C	20		
D	26	TNC	
E	27		
F	30		
G	55	SMA	Corrosion resistant steel
H	56		
J	57		
K	55		Beryllium copper
L	56		
M	57		

Table II. Cable accommodation.

Cable accommodation MIL-C-17/	Cable code	Cable jacket material	Cable impedance
29 <u>1/</u>	A	PVC	75
30 <u>1/</u>	B		93
90	C	PE	93
97	D	Fiberglass	93
110	E	FEP	75
184 <u>2/</u>	F	XLPE	75
185 <u>3/</u>	G		93
195 <u>4/</u>	H		93

- 1/ Not for use in new designs. Use in existing designs requires special approval from the procuring activity.
- 2/ Recommended low smoke replacement for MIL-C-17/29.
- 3/ Recommended low smoke replacement for MIL-C-17/30.
- 4/ Recommended low smoke replacement for MIL-C-17/90.

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TABLE III. Cable assembly characteristics.

MIL-PRF-39012/ terminations	Cable retention (pounds minimum)	VSWR <sup>1/</sup> maximum	Insertion loss (dB maximum)
16 16 16 16 17 17 17 17	40	1.30	.2 at 3 GHz
20 20 20 20		1.35	.3 at 3 GHz
26 26 26 26 27 27 27 27		1.30	.18 at 9 GHz
30 30 30 30		1.30	.21 at 9 GHz
55 55 55 55		1.15 + 0.01 (F) GHz	.06 $\sqrt{\text{Freq GHz}}$
56 56 56 56		1.15 + 0.02 (F) GHz	.15 $\sqrt{\text{Freq GHz}}$
57 57 57 57		1.15 + 0.01 (F) GHz	.06 $\sqrt{\text{Freq GHz}}$

<sup>1/</sup> At frequency of connector or 80% of the cable cutoff frequency which ever is lower.

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TABLE IV. Group qualification.

Qualification group	Qualification of any one of the following terminations:		Qualifies all of the following connector terminations:	
	MIL-PRF-39012/	Category	MIL-PRF-39012/	Category
1	16 17 20 26 27 30	A	16 17 20 26 27 30	A
2	16 17 20 26 27 30	B	16 17 20 26 27 30	B
3	16 17 20 26 27 30	C or D	16 17 20 26 27 30	C or D
4	55 56 57	A	55 56 57	A
5	55 56 57	B	55 56 57	B
6	55 56 57	C or D	55 56 57	C or D

Revision letters are not used to denote changes due to the extensiveness of the changes.

## CONCLUDING MATERIAL

## Custodians:

Army - CR  
Navy - EC  
Air Force - 85

## Preparing activity:

DLA - ES  
(Project 5995-0122-01)

## Review activities:

Army - AR, AT, AV, ME, MI  
Navy - AS, MC, OS, SH  
Air Force - 14, 17, 19, 99