

INCH-POUND

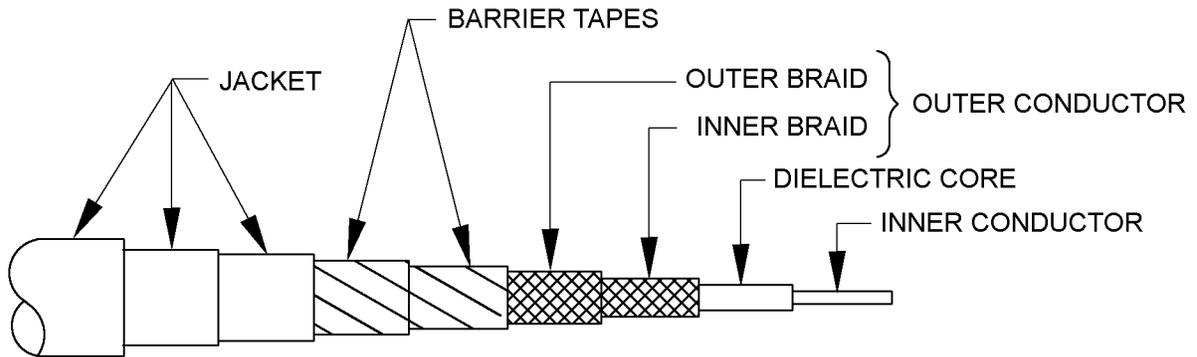
MIL-DTL-17/92E
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SUPERSEDING
MIL-C-17/92D
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MILITARY SPECIFICATION SHEET

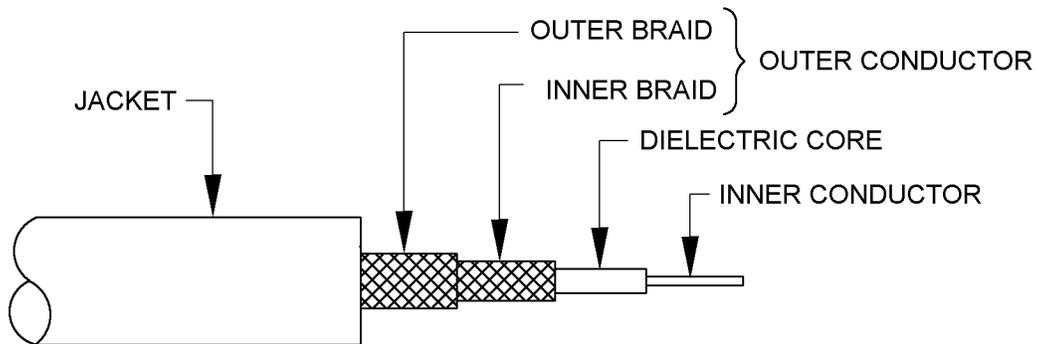
CABLE, RADIO FREQUENCY, FLEXIBLE COAXIAL, 50 OHMS, M17/92-RG115, M17/92-00001

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 MIL-DTL-17.



M17/92-RG115



M17/92-00001

FIGURE 1. Configurations.



TABLE I. Description.

Components	Construction details
Inner conductor	Seven strands of silver-coated, copper wire .028 inch each. Overall diameter: .084 inch \pm .001
Dielectric core	Type F-2: Diameter: .255 inch \pm .005.
Outer conductor	Double braid of AWG 34, silver-coated, copper wire. Diameter: .325 inch maximum
Inner braid	Coverage: 91.8% nominal Carriers: 24 Ends: 6 Picks/inch: 14.0% \pm 10
Outer braid	Coverage: 91.9% nominal Carriers: 24 Ends: 6 Picks/inch: 15.5% \pm 10
Barrier tapes	Type FF-2: Two wraps of PTFE tape, .005 inch thick each, by 1-inch wide. Each wrap of PTFE tape is to be applied with a 50% minimum overlap.
Jacket	M17/92-RG115 type V. Three braids. Diameter: .415 inch \pm .015. M17/92-00001 type FEP. Diameter: .344 \pm .010 applied directly over outer braid, barrier tapes not required.

ENGINEERING INFORMATION:

Continuous working voltage: 3,700 V rms, maximum.
 Operating frequency: 12.4 GHz, maximum.
 Velocity of propagation: 70 percent, nominal.
 Operating temperature range: -55° to 200°C.
 Inner conductor properties:
 DC resistance (maximum at 20°C): .199 ohm per 100 feet.
 Elongation: 25 percent, minimum.
 Tensile strength: Not applicable.
 Engineering notes: This cable useful in high temperature applications.

REQUIREMENTS:

Dimensions, configuration, and descriptions: See figure 1 and table I.
 Environmental and mechanical:
 Visual and mechanical examination: Applicable.
 Out-of-roundness: Not applicable.
 Eccentricity: 10 percent, maximum.
 Adhesion of conductors:
 Inner conductor to core: Not applicable.
 Aging stability:
 M17/92-RG115: +230°C \pm 5°C.
 M17/92-00001: Not applicable.
 Stress crack resistance:
 M17/92-RG115: Not applicable.
 M17/92-00001: +230°C \pm 5°C for 96 hours, mandrel size 7-1/2 times the jacket diameter.

Outer conductor integrity: Not applicable.
Cold bend: $-35^{\circ}\text{C} \pm 2^{\circ}\text{C}$.

Dimensional stability: $+200^{\circ}\text{C} \pm 5^{\circ}\text{C}$.

Inner conductor from core:

M17/92-RG115: Not applicable.

M17/92-00001: Not applicable.

Inner conductor from jacket:

M17/92-RG115: Not applicable.

M17/92-00001: 0.312 inch, maximum.

Contamination: Not applicable.

Bendability: Not applicable.

Flammability: Applicable.

Weight: 18.5 pounds per 100 feet, maximum.

Electrical:

Continuity: Applicable.

Spark test:

M17/92-RG115: Not applicable.

M17/92-00001: 2,000 V rms +25 percent, -0 percent.

Voltage withstanding: 10,000 V rms, minimum.

Insulation resistance: Not applicable.

Corona extinction voltage: 5,000 V rms, minimum.

Characteristic impedance: 50 ohms, ± 2 ohms.

Attenuation: See figure 2.

Structural return loss: See figure 3.

Capacitance: 32 pF per foot, maximum.

Capacitance stability: Not applicable.

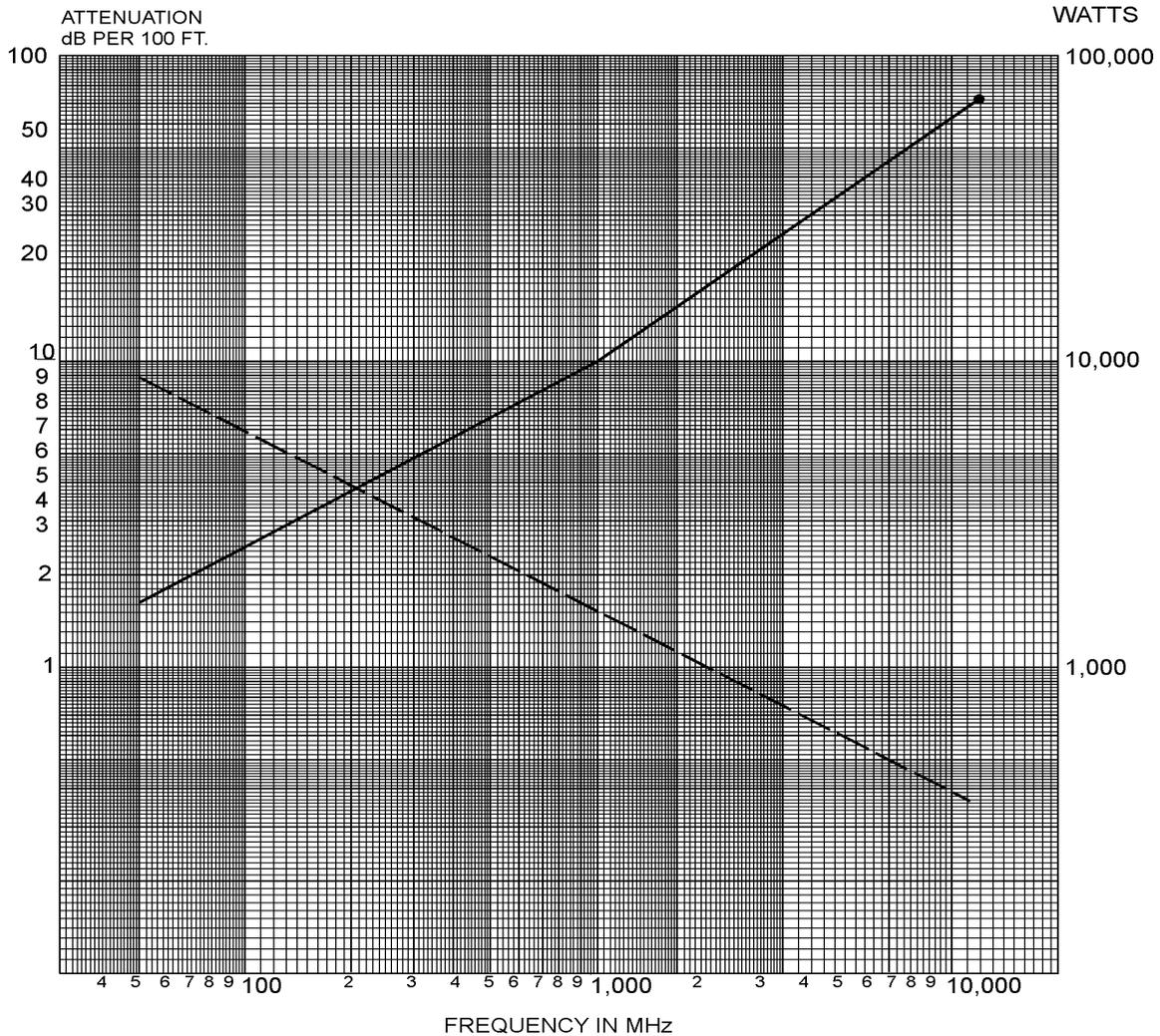
Capacitance unbalance: Not applicable.

Transmission unbalance: Not applicable.

Phase stability: Not applicable.

Mechanically induced noise voltage: Not applicable.

Time delay: Not applicable.



MAXIMUM POWER _ _ _ _ AT 25°C SEA LEVEL

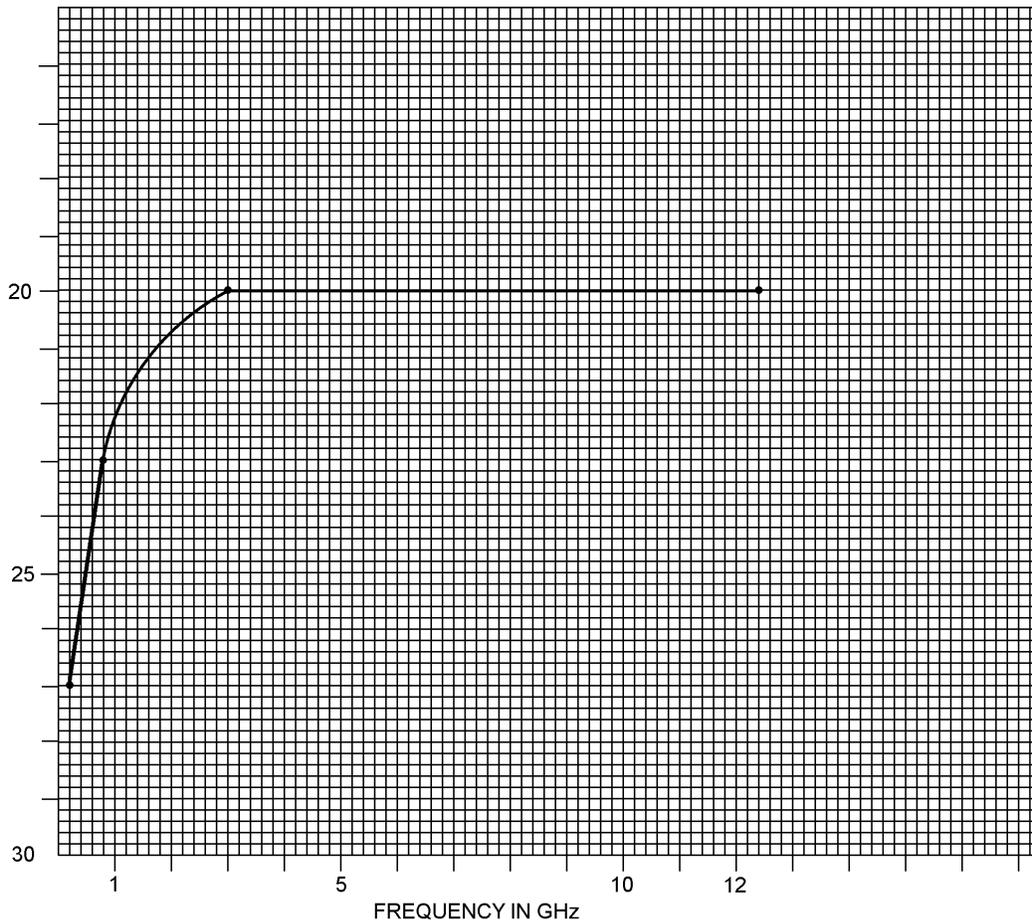
MAXIMUM ATTENUATION _____

Tabulated values are for reference only. The values on the graph represent the requirements for attenuation. The data regarding power rating are for information only.

FREQUENCY MHz	ATTENUATION dB	POWER WATTS
50	1.6	9000
100	2.5	6000
1000	9.8	1600
10000	58	450
12400	70	400

FIGURE 2. Power rating and attenuation.

RETURN LOSS dB



SWR	Reflection coefficient	Return loss dB	SWR	Reflection coefficient	Return loss dB
17.3910	.8913	1	1.3767	.1585	16
8.7242	.7943	2	1.3290	.1413	17
5.8480	.7079	3	1.2880	.1259	18
4.4194	.6310	4	1.2528	.1122	19
3.5698	.5623	5	1.2222	.1000	20
3.0095	.5012	6	1.1957	.0891	21
2.6146	.4467	7	1.1726	.0794	22
2.3229	.3981	8	1.1524	.0708	23
2.0999	.3548	9	1.1347	.0631	24
1.9250	.3162	10	1.1192	.0562	25
1.7849	.2818	11	1.1055	.0501	26
1.6709	.2512	12	1.0935	.0447	27
1.5769	.2239	13	1.0829	.0398	28
1.4985	.1995	14	1.0736	.0355	29
1.4326	.1778	15	1.0653	.0316	30

Frequency MHz	Min SRL dB
50	26.9
400	25.8
1000	23.0
3000	20
10000	20
12400	20

Tabulated values are for reference only. The values on the graph represent the requirements.

FIGURE 3. Structural return loss.

Part or Identifying Number (PIN):

M17/92-RG115,
M17/92-00001.

Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Referenced documents. This document references MIL-DTL-17.

CONCLUDING MATERIAL

Custodians:

Army – CR
Navy – EC
Air Force – 85
DLA - CC

Preparing activity:

DLA - CC

(Project 6145-2015-011)

Review activities:

Army – AT, CR4, MI
Navy – AS, MC, OS, SH
Air Force – 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <https://assist.dla.mil>.