



GCS

MATERIAL SPECIFICATION: MIL-STD WIRE SUBSTITUTION

1.0 SCOPE:

This specification details the range of acceptable wires for a vendor of L-3 Global Communications to substitute in cable assemblies. Each lot of cable assemblies for L-3 GCS must meet the specified values listed.

2.0 ORDER OF PRECEDENCE:

In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3.0 MATERIAL PROPERTIES:

Every L-3 GCS cable requesting the use of hook up wire, vendors must follow the Mil-Spec below when cross referencing to the correct wire. The vendor is allowed to use a wire that falls in line with this Mil-Specification (MIL-W-16878).

Below table is the route to take to find the wire cross reference.

Cable Description Example :	MIL-W-16878	/4	-	B	F	E	-	9
	[1]	[2]		[3]	[4]	[5]		[6]
Actual Mil-Spec Form:	MIL-W-16878/4-BFE-9							
Description:	PTFE, Type E – Coated Copper, 22awg, 19 Strands – White Color							

Prefix [1]	All L-3 GCS hook up wire must carry this prefix
Specification Number [2] (See note 4.0)	Type, voltage rating, insulation, nominal wall thickness, conductor coating, and maximum temperature rating of the cable
Conductor Material [3] (See note 5.0)	A letter code that identifies the material the conductor is made of
Conductor Size [4] (See note 6.0)	A letter code that identifies the wire size
Conductor Stranding[5] (See note 7.0)	A letter code that identifies the conductor stranding
Color Code [6] (See note 8.0)	Designates color of the insulation material



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4.0 SPECIFICATION NUMBER [2]:

[2] Specification Number	Type	Voltage Rating	Insulation	Nominal Wall Thickness		Conductor Coating	Temp. Rating Max (°C)
				(in)	(mm)		
/1	B	600	PVC	0.01	0.254	Tin	105
/2	C	1000	PVC	0.02	0.381	Tin	105
/3	D	3000	PVC	0.03	0.762	Tin	105
/4	E	600	PTFE	0.01	0.254	Silver	200
/5	EE	1000	PTFE	0.02	0.381	Silver	200
/6	ET	250	PTFE	0.01	0.152	Silver	200

5.0 CONDUCTER MATERIAL [3]:

[3] Conductor Material	
B	Coated Copper
C	Coated Copper Covered Steel
D	Coated High Strength Copper Alloy
E	Coated Copper with Overall Metallic Coating

6.0 CONDUCTOR SIZE [4]:

[4] Conductor Size			
Letter	AWG	Letter	AWG
A	32	M	10
B	30	N	8
C	28	P	6
D	26	R	4
E	24	S	2
F	22	T	1
G	20	U	0
H	18	W	00
J	16	Y	000
K	14	Z	0000
L	12		



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7.0 CONDUCTOR STRANDING [5]:

[5] Conductor Stranding	
Letter	Number of Strands
A	1 (Solid)
B	7
C	10
D	16
E	19
F	26
G	37
H	41
J	65

8.0 COLOR CODE [6]:

[6] Color Code per MIL-STD-681	
Number designation	Color
0	black
1	brown
2	red
3	orange
4	yellow
5	green
6	blue
7	violet
8	gray
9	white

Multicolor example: Base Color White with Brown Stripe - 91

9.0 ALTERNATE VENDOR REQUEST:

All unlisted wire equivalent vendors require the approval of L-3 GCS prior to the use. Please submit the requests to the L-3 GCS.