

# TROMPETER GENERAL MATERIAL/FINISH SPECIFICATIONS

## TFS-1: Finish Specifications

<b>TFS-1A</b> <b>.0001- .0003 max thk Bright Nickel</b> per QQ-N-290, Class 1, Form SB (over) <b>.00080-.000150 thk Bright Copper</b> per MIL-C-14550 (over) <b>.0005 max Electroless Nickel</b> per AMS-2404C, Class 1 (On Aluminum Only)	<b>TFS-1T<sup>5</sup></b> <b>.000050-.000100 Bright Tin</b> per MIL-T-10727, Type I (Electro Deposited) (over) <b>.000150-.00020 Sulfamate Nickel</b> per MIL-P-27418 (over) <b>.00010-.000150 Copper</b> per MIL-C-14550, Class 4
<b>TFS-1B</b> <b>.000020 - .000030 thk Bright Gold<sup>2</sup></b> per MIL-G-45204, Type II, Grade C, Class <sup>3</sup> (over) <b>.000050-.000180 thk Bright Nickel<sup>3</sup></b> per QQ-N-290, Class 1 (over) <b>.000080-.000150 thk Bright Copper<sup>3</sup></b> per MIL-C-14550	<b>TFS-1U<sup>5</sup></b> <b>.00020-.00030 thk Sulfamate Nickel</b> per MIL-P-27418 (over) <b>.000080-.000150 max thk Copper</b> per MIL-C-14550
<b>TFS-1C<sup>3</sup></b> <b>.0003 Watts Nickel</b> per QQ-N-290, Form SB, Class 1 (over) <b>.000010 Nickel</b> per QQ-N-290, Class 1	<b>TFS-1V<sup>3</sup></b> <b>.000200-.000300 max thk Silver</b> per QQ-S-365, Type I (Matte), Grade A (over) <b>.000050-.000180 max thk Sulfamate Nickel</b> per MIL-P-27418, (over) <b>.000080 min-.000150 max thk Bright Copper</b> per MIL-C-14550
<b>TFS-1D</b> <b>.0001min - .000120 max thk Electroless Nickel</b> per AMS 2404C (over) <b>.000080 min - .000150 max thk Bright Copper</b> per MIL-C-14550	<b>TFS-1W</b> <b>.00020 min-.00030 max thk Cadmium Plate</b> per QQ-P-416, Type II Olive Drab, Class (over) <b>.00020 min-.00030 max thk Sulfamate Nickel</b> per MIL-P-27418 (over) <b>.000080 min-.000150 max thk Copper</b> per MIL-C-14550
<b>TFS-1E</b> <b>.0002 min-.0003 max thk Bright Electro Tin</b> per MIL-T-10727, Type 1 and solder test per Para. 4.6.3.1	<b>TFS-1X</b> <b>.0002-.0003 thk Nickel</b> per QQ-N-290, Class 1, Form SB Grade G (over) <b>.000080 min-.000150 max Bright Cooper</b> per MIL-C-14550
<b>TFS-1E2</b> <b>.0002 min - .0003 max thk Bright Electro Tin</b> per MIL-T-10727, Type 1, and Solder Test per Para.4.6.3.1 (over) <b>.000080 min - .000150 max thk Bright copper</b> per MIL-C-14550	
<b>TFS-1F<sup>3</sup></b> <b>.000020 min - .000030 max thk Bright Gold</b> per MIL-G-45204, Type II, Grade C, Class 00 (over) <b>.000080 min- .000150 max thk Bright Copper</b> per MIL-C-14550 (over) <b>.000050 Nickel Strike</b> per QQ-N-290, Class 1	
<b>TFS-1G</b> <b>.000020 min - .000030 max thk Bright Gold</b> per MIL-G-45024, Type II, Grade C, Class 00	
<b>TFS-1H</b> <b>.0002 min - .0003 max thk Cadmium plate</b> per QQ-P-416, Type II, (supplementary chromate treatment, golden iridescent), Class 3	
<b>TFS-1M<sup>4</sup></b> <b>.000200 min - .000300 max thk Silver</b> per QQ-S-365, Type II (Semi-bright) Grade A (Chromate post treatment) (over) <b>.000080 min - .000150 max thk Bright Copper</b> per MIL-C-14550	
<b>TFS-1N<sup>5</sup></b> <b>.0003 - .0005 thk Cadmium plate</b> per QQ-P-416, Class 2, Type II, Olive Drab (over) <b>.0005-.000550 thk Electroless Nickel plate</b> per AMS 2404C	
<b>TFS-1P<sup>3</sup></b> <b>1 .00010 min - .00012 max. thk Bright Gold</b> per Mil-G-45204, Type II, Grade C, Class 2 <b>2 .000050 min - .000070 max. thk Bright Gold</b> per Mil-G-45204, Type II, Grade C, Class 1 <b>3 .000020 min - .000030 max. thk Bright Gold</b> per Mil-G-45204, Type II, Grade C, Class 00 (over) <b>.00010 min - .000150 max. thk Bright Copper</b> per Mil-C-14550	
<b>TFS-1R1</b> <b>.00010 min-.00012 max thk Bright Gold</b> per MIL-G-45204, Type II, Grade C, Class 2 (over) <b>.000010 min-.000015 max thk Bright Gold Strike</b> per MIL-G-45204, Type 1, Grade A, (over) <b>.00010 min-.00015 max thk Bright Copper</b> per MIL-C-14550, Class 4	

TFS = Trompeter Finish Specifications

## Trompeter Finish Specification -1 (TFS-1) Notes:

- (2) Bright Gold plate on all connector center contacts, pins, sockets, shall be .000050 min - .000070 max thk, Class 1
- (3) Thickness is in accordance with MIL-G-45204B, Para 6.3 "Strikes and Underplating"
- (4) Copper Alloy articles on which a nickel undercoat is not used shall not be used for continuous service at temperatures above 149°C (300°F) QQ-S-365, Para. 3.3.5.
- (5) For use on Brass and Beryllium Copper body (shell) and accessory components when 500 hour salt spray test is specified. (For test conditions, refer to MIL-C-38999, Para. 3.16 and 4.7.12.2, [Method 1001.1 of MIL-STD-1344])
- (6) Plating thickness variations, critical and noncritical areas must be plated to within specified lower limits, except where surfaces cannot be contacted by A .75 inch dia ball, noncritical areas total plating thickness may exceed the specified upper limits by .000150 maximum.

Materials	Alloy or Type	FED/MIL Spec.	Usage
ABS	Moldings Type 2	MIL-STD-1803 L-P-1883B	Looping plug handles, lock pins
Acetal	Dupont Delrin	L-P-392	Insulators, cases, bushings
Aluminum	2024-T351	QQ-A255/6	Backbars, cases
	6061-T6	QQ-A200/8	Stiffener bars
	6061-T6	QQ-A250/11	Patch panels
	6061-T6511	QQ-A200/8	Backbars, cases
Beryllium Copper	17200 (Bar)	ASTM-B-194	Contact & crescent springs
	17300 (Flat)	ASTM-B-196 & 197	Contact sockets, fingersprings, washers
Brass	C26000	ASTM-B-36	Ground lugs, washers
	C36000	ASTM-B-16	Connector bodies, coupling sleeves, clamp nuts, hex mtg. nuts, ctr. contact pins, cases
Dupont Acetal Resin #500TL	Homopolymer General Purpose w/ 1.5% Teflon Micropowder (FEP)		Moldings
Fluorinated Ethylene Propylene		ASTM-D-2116	Insulators
Hylfon	MFA Grade 640		Alternate material dielectric
Loctite	495 (Zinc Iridite per ASTM-B633)	QQ-2-325 Type 2 Class 2 Finish	
Nylon	6/6 or 6/12	L-P-410A	Insulating bushings
Perfluoroalkoxy (PFA)		ASTM-D-3307	Cable jackets
Phenolic	XXX	L-P-513 PBE	Patch panels, backbars
Phosphor Bronze	Alloy 544	ASTM-B-139	Contact springs, lockwashers
Polytetrafluoroethylene	(PTFE)	ASTM-D-1710	Dielectrics, insulators
Polyvinylidene Fluoride		MIL-I-23053/8	Sealing Sleeves
Rubber	Silicone	ZZ-R-765	Gaskets, O-rings, sealing members
Solder	Sn60, 62, 63, or 96	QQ-S-571	
Steel	C1010-1018	QQ-S-636	MPN cases
	Music Wire	ASTM-A228 SAE J178	Tension springs
Steel CRS	Type 17-4PH	AMS-5643 Tubing	
Corrosion Resistant Steel	303	QQ-S-763	Connector bodies, coupling sleeves, hex mtg. nuts
	302	QQ-S-766	Designation strips
	301	ASTM-484, A582	
Thermo-plastic Polyester	Glass Filled	MIL-M-24519	Heat resistant molded insulators
Vinyl	Clear Rigid-Self ext.	ASTM-D-635	Designation strip window
	Opaque Rigid-Self ext.	ASTM-D-635	Designation strip marking strip
Zinc	Alloy #3	ASTM-B-240/B-86	Selected non-functional parts

Frequency Range	Connectors					Patching		
	BNC	TNC	70 Series	150 Series	450 Series	WE Standard	WE Miniature	RCA Standard
	0-4 GHz	0-11 GHz	0-500 MHz	0-500 MHz	0-2 MHz	0-1 GHz	0-1 GHz	0-200 MHz
VSWR	1.30 Max.		Not Rated			1.04 @ 75 MHz 1.12 @ 100 MHz 1.18 @ 500 MHz	1.06 Max. - -	1.05 @ 50 MHz 1.09 @ 100 MHz 1.33 @ 500 MHz
Voltage Rating	500 VRMS @ Sea Level	500 VRMS @ Sea Level	400 VRMS @ Sea Level	250 VRMS @ Sea Level	150 VRMS @ Sea Level	500 VRMS @ Sea Level	250 VRMS @ Sea Level	500 VRMS @ Sea Level
	125 VRMS @ 70,000 ft.	125 VRMS @ 70,000 ft.	100 VRMS @ 70,000 ft.	62.5 VRMS @ 70,000 ft.	Not Rated	Not Rated		
Temperature Range	-65°C to 165°C			-65°C to 200°C	-65°C to 165°C	-65°C to 165°C		