INCH-POUND

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### **DETAIL SPECIFICATION SHEET**

FERRULE, BRAZING, TUBE FITTING - CRES SAE-AMS5646, STRAIGHT

Inactive for new design after 20 September 2000.

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 SAE-AS4841.

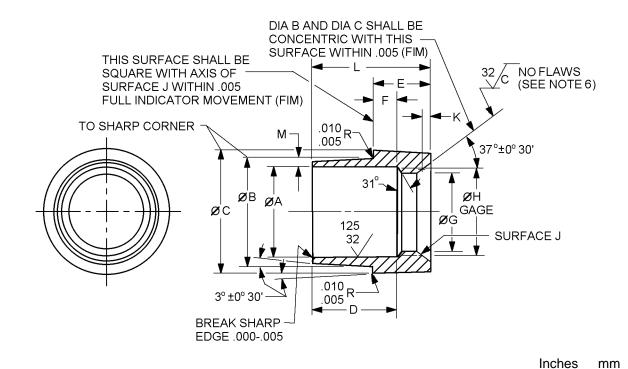


FIGURE 1. Ferrule, brazing, tube fitting straight.

AMSC N/A FSC 4730

Dash number	Tube OD (reference) inches (mm)	A diameter +.002 (0.05) 000 inches (mm)	B diameter +.000 003 (0.08) inches (mm)	C diameter +.000 003 (0.08) inches (mm)	D inches (mm)
-02	.125 (3.18)	.115 (2.92)	.172 (4.37)	.267 (6.78)	.346 (8.79)
-03	.188 (4.78)	.178 (4.52)	.234 (5.94)	.329 (8.36)	.358 (9.09)
-04	.250 (6.35)	.240 (6.10)	.297 (7.54)	.383 (9.73)	.376 (9.55)
-05	.313 (7.95)	.302 (7.67)	.366 (9.30)	.445 (11.30)	.376 (9.55)
-06	.375 (9.53)	.365 (9.27)	.432 (10.97)	.502 (12.75)	.376 (9.55)
-07	.438 (11.13)	.428 (10.87)	.494 (12.55)	.564 (14.33)	.403 (10.24)
-08	.500 (12.70)	.489 (12.42)	.562 (14.27)	.682 (17.32)	.432 (10.97)
-09	.562 (14.27)	.551 (14.00)	.626 (15.90)	.743 (18.87)	.451 (11.46)
-10	.625 (15.88)	.614 (15.60)	.690 (17.53)	.797 (20.24)	.479 (12.17)
-11	.688 (17.48)	.677 (17.20)	.762 (19.35)	.908 (23.06)	.510 (12.95)
-12	.750 (19.05)	.739 (18.77)	.826 (20.98)	.972 (24.69)	.510 (12.95)
-14	.875 (22.23)	.864 (21.95)	.953 (24.21)	1.097 (27.86)	.510 (12.95)
-16	1.000 (25.40)	.989 (25.12)	1.081 (27.46)	1.222 (31.04)	.510 (12.95)
-18	1.125 (28.58)	1.114 (28.30)	1.209 (30.71)	1.409 (35.79)	.510 (12.95)
-20	1.250 (31.75)	1.239 (31.47)	1.339 (34.01)	1.534 (38.96)	.510 (12.95)
-24	1.500 (38.10)	1.484 (37.69)	1.609 (40.87)	1.784 (45.31)	.510 (12.95)
-28	1.750 (44.45)	1.734 (44.04)	1.882 (47.80)	2.159 (54.84)	.510 (12.95)
-32	2.000 (50.80)	1.984 (50.39)	2.159 (54.84)	2.409 (61.19)	.510 (12.95)
-40	2.500 (63.50)	2.484 (63.09)	2.659 (67.54)	2.911 (73.94)	.510 (12.95)
-48	3.000 (76.20)	2.984 (75.79)	3.172 (80.57)	3.411 (86.64)	.510 (12.95)

FIGURE 1. Ferrule, brazing, tube fitting straight - Continued.

Dash number	E inches (mm)	F inches (mm)	G diameter inches (mm)	H diameter gage inches (mm)	K inches (mm)
-02	.235 (5.97)	.100 (2.54)	.090 (2.29)	.124 (3.15)	.041 (1.04)
-03	.235 (5.97)	.100 (2.54)	.150 (3.81)	.185 (4.70)	.040 (1.02)
-04	.235 (5.97)	.100 (2.54)	.200 (5.08)	.242 (6.15)	.036 (0.91)
-05	.235 (5.97)	.100 (2.54)	.260 (6.60)	.302 (7.67)	.035 (0.89)
-06	.228 (5.79)	.100 (2.54)	.320 (8.13)	.358 (9.09)	.031 (0.79)
-07	.255 (6.48)	.120 (3.05)	.385 (9.78)	.430 (10.92)	.036 (0.91)
-08	.285 (7.24)	.120 (3.05)	.438 (11.13)	.504 (12.80)	.044 (1.12)
-09	.295 (7.49)	.150 (3.81)	.500 (12.70)	.555 (14.10)	.036 (0.91)
-10	.302 (7.67)	.150 (3.81)	.562 (14.27)	.621 (15.77)	.039 (0.99)
-11	.305 (7.75)	.120 (3.05)	.625 (15.88)	.698 (17.73)	.048 (1.22)
-12	.306 (7.77)	.120 (3.05)	.688 (17.48)	.769 (19.53)	.054 (1.37)
-14	.325 (8.26)	.130 (3.30)	.812 (20.62)	.894 (22.71)	.054 (1.37)
-16	.342 (8.69)	.140 (3.56)	.938 (23.83)	1.021 (25.93)	.055 (1.40)
-18	.370 (9.40)	.140 (3.56)	1.062 (26.97)	1.174 (29.82)	.074 (1.88)
-20	.397 (10.08)	.160 (4.06)	1.188 (30.18)	1.299 (32.99)	.074 (1.88)
-24	.405 (10.29)	.180 (4.57)	1.438 (36.53)	1.532 (38.91)	.062 (1.57)
-28	.405 (10.29)	.100 (2.54)	1.688 (42.88)	1.839 (46.71)	.100 (2.54)
-32	.405 (10.29)	.100 (2.54)	1.938 (49.23)	2.099 (53.31)	.107 (2.72)
-40	.405 (10.29)	.100 (2.54)	2.438 (61.93)	2.594 (65.89)	.117 (2.97)
-48	.405 (10.29)	.100 (2.54)	2.938 (74.63)	3.099 (78.71)	.107 (2.72)

FIGURE 1. Ferrule, brazing, tube fitting straight - Continued.

Dash number	L reference inches (mm)	M minimum inches (mm)	Approx weight lb/100 (kg/100)
-02	.481 (12.22)	.023 (.58)	.356 (0.16)
-03	.493 (12.52)	.023 (.58)	.488 (0.22)
-04	.511 (12.98)	.023 (.58)	.615 (0.28)
-05	.511 (12.98)	.027 (.69)	.783 (0.36)
-06	.504 (12.80)	.028 (.71)	.894 (0.41)
-07	.538 (13.67)	.028 (.71)	1.090 (0.49)
-08	.597 (15.16)	.031 (.79)	1.910 (0.87)
-09	.596 (15.14)	.032 (.81)	2.140 (0.97)
-10	.631 (16.03)	.033 (.84)	2.340 (1.06)
-11	.695 (17.65)	.037 (.94)	3.350 (1.52)
-12	.696 (17.68)	.038 (.97)	3.670 (1.66)
-14	.705 (17.91)	.039 (.99)	4.430 (2.01)
-16	.712 (18.08)	.041 (1.04)	5.220 (2.37)
-18	.740 (18.80)	.042 (1.07)	7.410 (3.36)
-20	.747 (18.97)	.045 (1.14)	6.670 (3.03)
-24	.735 (18.67)	.057 (1.45)	11.020 (5.00)
-28	.815 (20.70)	.069 (1.75)	18.360 (8.33)
-32	.815 (20.70)	.082 (2.08)	21.840 (9.91)
-40	.815 (20.70)	.082 (2.08)	29.900 (13.56)
-48	.815 (20.70)	.089 (2.26)	32.920 (14.93

#### NOTES:

- 1. Dimensions are in inches.
- 2. Metric equivalents are given for information only.
- 3. Unless otherwise specified tolerances for linear dimensions are ±.010 inch (0.25 mm) and angular dimensions are ±5°, all diameters concentric within .010 inch (0.25 mm) FIM.
- 4. Unless otherwise specified machined surfaces to be 125 $\mu$  inches (3.18 $\mu$ m) in accordance with ASME B46.1
- 5. Unless otherwise specified break sharp edges .003 .015 inches (0.08 0.38 mm).
- 6. Surface J shall be free of nicks, chatter marks, or low spots. Unbroken line of contact to show all around at other than extremities of surface J when rotated in contact with 74°0′ ±0°1′ included angle gage lightly coated by rubbing with carbon paper.

FIGURE 1. Ferrule, brazing, tube fitting straight - Continued.

## **REQUIREMENTS:**

Dimensions and configurations: See figure 1.

Material: Steel, corrosion and heat-resistant in accordance with SAE-AMS5646.

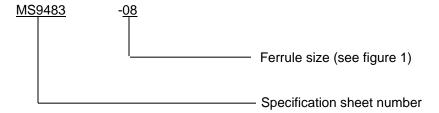
Max operating temperature: Oxidation resistance up to 1500°F (816°C).

Max operating pressure: 1500 psi (10 MPa).

Finishing: Optional or abrasive finishing by silicon carbide only.

All parts shall be fluorescent penetrant inspected in accordance with ASTM E1417.

Part or Identifying Number (PIN):



#### PIN Example:

MS9483-08 identifies a ferrule, brazing straight, tube .500 inch (tube), CRES.

Mark PIN and manufacturer's identification on package.

Do not use unassigned PINs.

Intended usage: Jet engine, miscellaneous parts, oil, fuel, and de-icing kits.

Not to be used on hydraulic, oxygen or applications requiring pressures of 3000 psi (21 MPa).

Amendment notations. The margins of this specification are marked with vertical lines to indicate modifications generated by this amendment. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations.

Referenced documents. In addition to SAE-AS4841, this document references the following:

ASME B46.1 ASTM E1417 SAE-AMS5646

# **CONCLUDING MATERIAL**

Custodians: Navy - AS DLA - CC Preparing activity: DLA - CC

(Project 4730-2011-103)

Review activity: Navy - SA

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 <a href="https://assist.daps.dla.mil">https://assist.daps.dla.mil</a>.