

INCH-POUND

 MS8004E
 14 July 2016
 SUPERSEDING
 w/AMENDMENT 1
 MS8004D
 9 September 2005

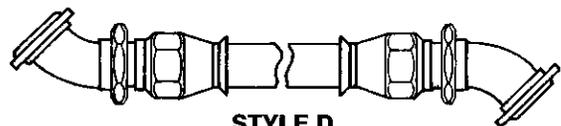
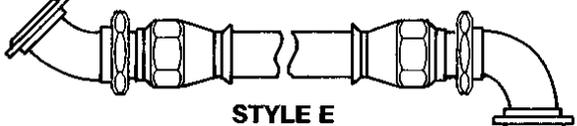
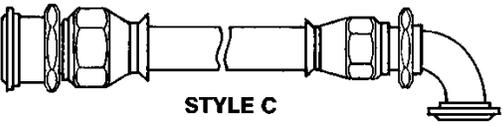
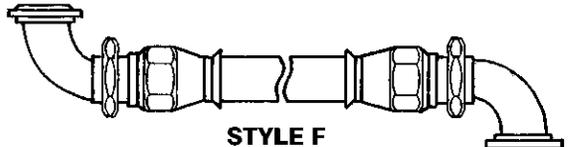
DETAIL SPECIFICATION SHEET

HOSE ASSEMBLY, POLYTETRAFLUOROETHYLENE, REUSABLE FITTINGS,
 HIGH TEMPERATURE, MEDIUM PRESSURE, FLANGE-TO-FLANGE

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-25579.

Class 1 hose assemblies. Corrosion resistant steel (CRES), see figure 1.

Class 1 fittings (450°F) Corrosion resistant steel		Class 1 fittings (450°F) Corrosion resistant steel	
End 1	End 2	End 1	End 2
ASSEMBLY LENGTH TYPICAL  STYLE A		 STYLE D	
 STYLE B		 STYLE E	
 STYLE C		 STYLE F	

See notes at end of figure.

FIGURE 1. Class 1 Corrosion resistant steel (CRES) fittings.



MS8004E

Style CRES	Fitting ends		Hose cut-off factor (HCOF) (size vs length) (see note 3) inch (mm)					
	1	2	8	10	12	16	20	24
A	MS27054	MS27054	2.46 (62.5)	2.84 (72.1)	2.76 (70.1)	3.22 (81.8)	3.38 (85.9)	3.62 (91.9)
B	MS27054	MS27056	2.48 (63.0)	2.84 (72.1)	3.28 (83.3)	3.59 (91.2)	3.91 (99.3)	4.31 (109.5)
C	MS27054	MS27058	2.44 (62.0)	2.83 (71.9)	3.30 (83.8)	3.66 (93.0)	4.03 (102.4)	4.49 (114.0)
D	MS27056	MS27056	2.50 (63.5)	2.84 (72.1)	3.80 (96.5)	3.96 (100.6)	4.44 (112.8)	5.00 (127.0)
E	MS27056	MS27058	2.46 (62.5)	2.83 (71.9)	3.82 (97.0)	4.03 (102.4)	4.56 (115.8)	5.18 (131.6)
F	MS27058	MS27058	2.42 (61.5)	2.82 (71.6)	3.84 (97.5)	4.10 (104.1)	4.58 (116.3)	5.36 (136.1)

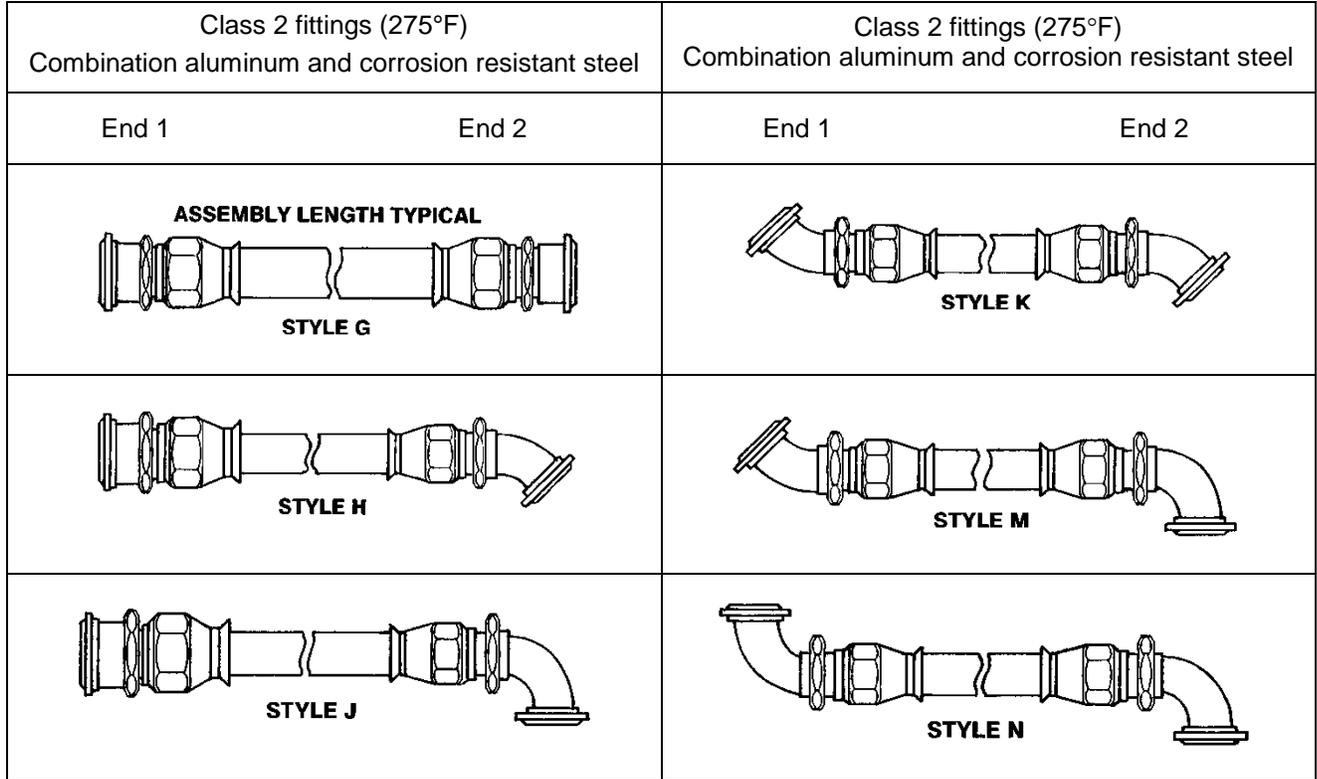
NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. The HCOF is used in the following calculation to determine the hose length required to produce an assembly of a specific size, style and length: $\text{Assembly length} - \text{HCOF} = \text{Hose length}$. For example, the hose length required to produce a 23.50 inch length assembly of size 10, style F is calculated as follows: $23.50 - 2.82 = 20.68$.

FIGURE 1. Class 1 Corrosion resistant steel (CRES) fittings - Continued.

MS8004E

Class 2 hose assemblies. Combination aluminum and CRES see figure 2.



Styles/ Al and CRES	Fitting ends		HCOF (size vs length) (see note 3) inch (mm)					
	1	2	8	10	12	16	20	24
G	MS27054	MS27054	2.46 (62.5)	2.84 (72.1)	2.76 (70.1)	3.22 (81.8)	3.38 (97.3)	3.62 (91.9)
H	MS27054	MS27056	2.48 (63.0)	2.84 (72.1)	3.28 (83.3)	3.59 (81.2)	3.91 (99.3)	4.31 (109.5)
J	MS27054	MS27058	2.44 (62.0)	2.83 (71.9)	3.30 (83.8)	3.66 (93.0)	4.03 (102.4)	4.49 (114.0)
K	MS27056	MS27056	2.50 (63.5)	2.84 (72.1)	3.80 (96.5)	3.95 (100.3)	4.44 (112.8)	5.00 (127.0)
M	MS27056	MS27058	2.46 (62.5)	2.83 (71.9)	3.82 (97.0)	4.03 (102.4)	4.56 (115.8)	5.18 (131.6)
N	MS27058	MS27058	2.42 (61.5)	2.82 (71.6)	3.84 (97.5)	4.10 (104.1)	4.68 (118.9)	5.36 (136.1)

See notes at end of figure.

FIGURE 2. Class 2 aluminum and CRES fittings.

MS8004E

NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. The HCOF is used in the following calculation to determine the hose length required to produce an assembly of a specific size, style and length: Assembly length - HCOF = Hose length. For example, the hose length required to produce a 23.50 inch length assembly of size 10, style G is calculated as follows:

$$23.50 - 2.84 = 20.66$$

FIGURE 2. Class 2 aluminum and CRES fittings - Continued.

REQUIREMENTS

Hose assemblies described herein shall be manufactured with fittings in accordance with MIL-DTL-27272 and hose in accordance with MIL-DTL-27267.

Hose assembly configurations shall be as specified on figures 1 and 2.

Fittings shall mate with the mounting pad as shown in MS33786

Tube size OD to size code shall be as specified in table I.

TABLE I. Tube size to size code. ^{1/} _{2/}

Size code	Size	Reference tube OD inch (mm)
H	8	.500 (12.70)
J	10	.625 (15.88)
K	12	.750 (19.05)
M	16Z	1.000 (25.40)
N	20Z	1.250 (31.75)
P	24Z	1.500 (38.10)

^{1/} Dimensions are in inches.

_{2/} Metric equivalents are given for information only.

_{3/} Size -3/-4 hose assembly consists of a size 4 tube OD hose assembled with size 3 tube OD fittings.

Assembly classification: Class 1 and class 2 hose assemblies, as specified in MIL-DTL-25579, have been incorporated into the Part or Identifying Number (PIN) as a part of styles (see figures 1 and 2).

Assembly length: Hose assembly shall be furnished in lengths as specified in the contract or purchase order (see MIL-DTL-25579); however, tolerances on the length of each hose assembly shall be as follows:

- a. ± 1/8 inch for lengths under 18 inches.
- b. ± 1/4 inch for lengths from 18 inches to 36 inches.
- c. ± 1/2 inch for lengths from 36 inches to 50 inches.
- d. ± 1% for lengths over 50 inches.

MS8004E

Protective sleeve (fire, abrasion, or chafe guard) or lock wire holes: If required, the hose assembly shall include a protective sleeve or lock wire holes (see table II) and its code shall be included in the PIN. Fire protective sleeves shall be subjected to testing in accordance with MIL-DTL-25579. Fire protective sleeve attachment, see figure 3.

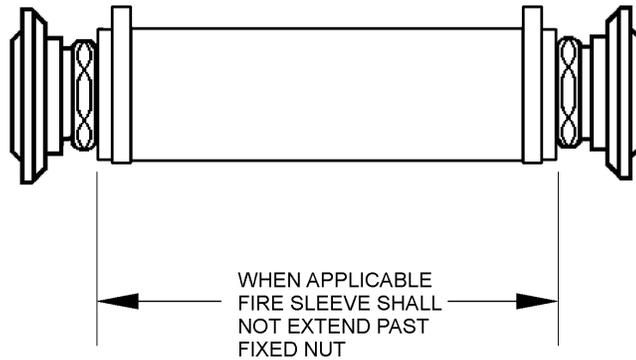


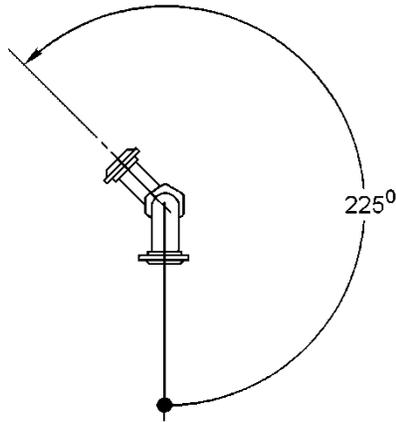
FIGURE 3. Fire protection sleeve attachment.

TABLE II. Protective sleeve and lock wire hole codes.

Code	Sleeve type	Type
A	Fire	In accordance with SAE-AS1072, silicone covered, temperature ranging from -65°F to 450°F (-54°C to 232°C) and intermittently to 500°F (260°C), secured with CRES bands as required. ^{1/}
B	Abrasion protection	In accordance with SAE-AS1073, heat shrinkable, black polyolefin, temperature ranging from -65°F to 250°F (-54°C to 121°C).
C	Chafe guard (white)	In accordance with SAE-AS1291 extruded seamless white PTFE, temperature ranging from -65°F to 450°F (-54°C to 232°C), secured with CRES bands as required.
D	Chafe guard (transparent)	In accordance with SAE-AS1291, extruded seamless transparent FEP, temperature ranging from -65°F to 350°F (-54°C to 177°C), secured with CRES bands as required.
E	Heavy wall chafe guard	In accordance with SAE-AS1298, extruded seamless black PTFE, temperature ranging from -65°F to 450°F (-54°C to 232°C), secured with CRES bands as required.
L	Not applicable	Lock-wire holes
F	Fire	Code A + L ^{1/}
G	Abrasion protection	Code B + L
H	Chafe guard (white)	Code C + L
J	Chafe guard (transparent)	Code D + L
K	heavy wall chafe guard	Code E + L

^{1/} To prevent wicking of fluids, the cut end of the fire protective sleeve (codes A and F) shall be coated with Room Temperature Vulcanized (RTV) silicone rubber prior to installation. After installation, cracks and voids in the fire protective sleeve shall be coated with RTV rubber to prevent exposure of fiberglass.

Angular alignment: Hose assemblies with elbow fittings on each end shall have the angular orientation between the elbows measured counter-clockwise from the centerline of the nearest fitting, positioned at six-o'clock, to the centerline of the other fitting (see figure 4). When applicable, the angular alignment shall be expressed in three digits and specified in the PIN.

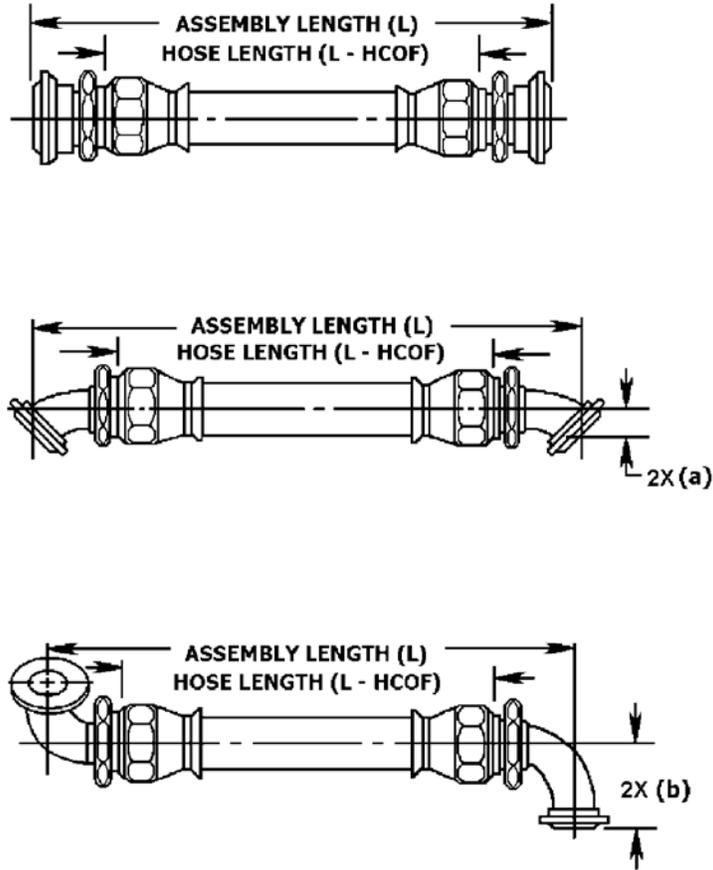


NOTE: Angular alignment shall be measured in degrees with a tolerance of $\pm 2^\circ$.

FIGURE 4. Measurement of angular alignment between elbow fittings.

The elbow fitting drop height shall be as shown on figure 5.

MS8004E



Size code	Size	Reference tube OD inch (mm)	Maximum drop height of elbow fitting	
			(a) inch (mm)	(b) inch (mm)
H	8	.500 (12.70)	.458 (11.63)	.927 (23.55)
J	10	.625 (15.88)	.410 (10.41)	.931 (23.65)
K	12	.750 (19.05)	.503 (12.78)	1.191 (30.25)
M	16Z	1.000 (25.40)	.540 (13.72)	1.317 (33.54)
N	20Z	1.250 (31.75)	.605 (15.37)	1.535 (38.99)
P	24Z	1.500 (38.10)	.659 (16.74)	1.723 (43.76)

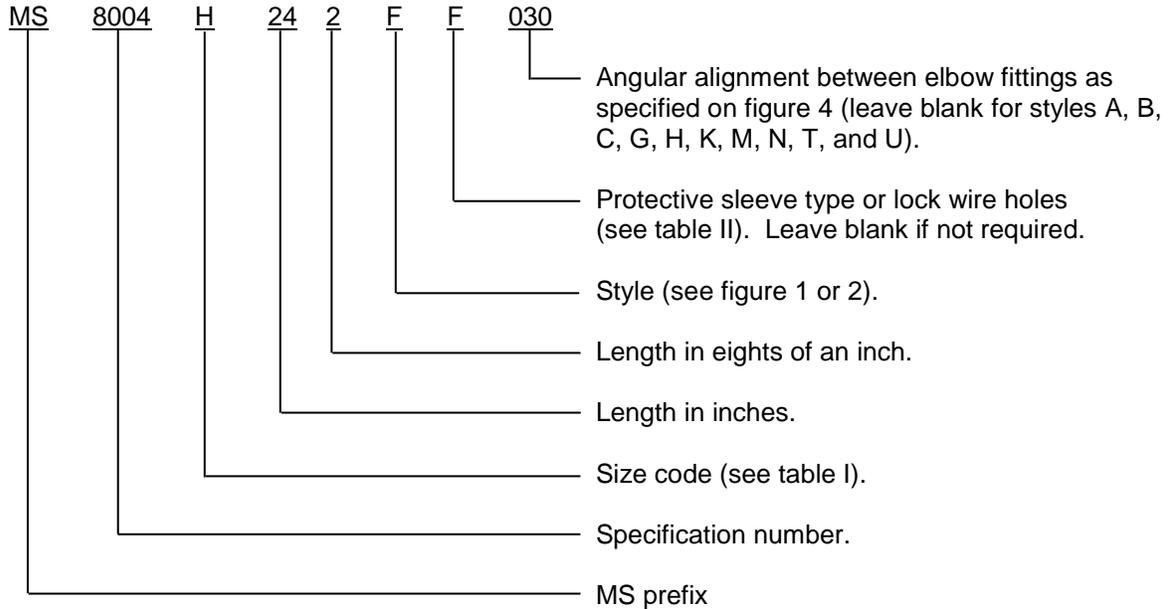
NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Hose assembly length "L" shall be measured, with the hose laid out horizontally and straight between the centers of the flange sealing surfaces, along a straight line parallel to the hose length.

FIGURE 5. Elbow fitting drop height, dimensions (a) and (b).

MS8004E

PIN: The PIN for each hose assembly shall include the prefix MS, specification number, size code letter, 2 digits for length in inches (0 - 99), 1 digit for eighths of an inch (0 - 8), style letter, protective sleeve type, lock wire holes, letter or blank, and the angular alignment between the elbow fittings blank or three digits.



PIN examples:

MS8004H242FF030 specifies a 8.250 inch (209.55 mm) length, style F hose assembly with a .500 inch (12.70 mm) tube OD, lock wire holes, fire protective sleeve in accordance with SAE AS1072, and 30° between the elbow fittings.

MS8004H242FL030 specifies a 8.250 inch (209.55 mm) length, style F hose assembly with a .500 inch (12.70 mm) tube OD, lock wire holes, and 30° between the elbow fittings.

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

Referenced documents. In addition to MIL-DTL-25579, this document references the following:

MIL-DTL-27267	MS33786
MIL-DTL-27272	SAE-AS1072
MS27054	SAE-AS1073
MS27056	SAE-AS1291
MS27058	SAE-AS1298

MS8004E

CONCLUDING MATERIAL

Custodians:

Army - MI
Navy - AS
Air Force - 99
DLA - CC

Preparing activity:
DLA - CC

(Project 4720-2016-008)

Review activities:

Army - AR, AT, EA
Navy - MC, SA, SH
Air Force – 70

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>