

MIL-STD-845A
30 June 1972

SUPERSEDING
MIL-STD-845
2 MAY 1966

MILITARY STANDARD

**FITTINGS, TETRAFLUOROETHYLENE HOSE,
HIGH TEMPERATURE, MEDIUM PRESSURE,
CLASSIFICATION OF DEFECTS**



FSC 4730

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DEPARTMENT OF DEFENSE
WASHINGTON, D. C. 20301

Fittings, Tetrafluoroethylene Hose
High Temperature, Medium Pressure
Classification of Defects

MIL-STD-845A

1. This Military Standard has been approved by the Department of Defense and is mandatory for use by all Departments and Agencies of the Department of Defense.
2. Recommended corrections, additions, or deletions should be addressed to the Commander, Aeronautical Systems Division, ATTN: ENJPF, Wright-Patterson Air Force Base, Ohio 45433.

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MILITARY STANDARD

FITTINGS, TETRAFLUOROETHYLENE HOSE, HIGH TEMPERATURE, MEDIUM PRESSURE
CLASSIFICATION OF DEFECTS

1. SCOPE. This standard covers the classification of defects for fittings covered by MIL-F-27272.

2. REFERENCED DOCUMENTS

2.1 The following documents, of the issue in effect on date of invitation for bids or request for proposal, form a part of this standard to the extent specified herein:

STANDARDS

Military

MS27053	Adapter, Straight, Tube to Hose, Swivel Nut
MS27054	Adapter, Straight, Pipe to Hose, Swivel Flange
MS27055	Elbow, Swivel Nut, Hose 45 Degrees
MS27056	Elbow, Swivel Flange, Hose, 45 Degrees
MS27057	Elbow, Swivel Nut, Hose, 90 Degrees
MS27058	Elbow, Swivel Flange, Hose, 90 Degrees
MS27059	Elbow, Swivel Nut, Hose, 45 Degrees
MS27060	Elbow, Swivel Nut, Hose, 90 Degrees
MS27061	Nipple, Straight, Tube to Hose, Swivel Nut
MS27062	Nipple, Straight, Pipe to Hose, Swivel Flange
MS27063	Elbow, Swivel Nut, Hose, 45 Degrees, Brazed
MS27064	Elbow, Swivel Flange, Hose, 45 Degrees, Brazed
MS27065	Elbow, Swivel Nut, Hose, 90 Degrees, Brazed
MS27066	Elbow, Swivel Flange, Hose, 90 Degrees, Brazed
MS27067	Elbow, Swivel Nut, Hose, 45 Degrees, Forged
MS27068	Elbow, Swivel Nut, Hose, 90 Degrees, Forged
MS27069	Socket, Hose Coupling
MS27070	Sleeve, Hose Coupling
MS27071	Union, Nipple
MS27072	Wire, Steel, Corrosion Resisting, Union, Nipple
MS27075	Nipple, Tube to Hose, Swivel Nut
MS27076	Nipple, Pipe to Hose, Swivel Nut
MS27077	Flange, Swivel, Retaining
MS27082	Elbow, Nipple End, Swivel Flange to Hose - 90°
MS27084	Elbow, Nipple End, Swivel Flange to Hose - 45°
MS27086	Elbow, Nipple End, Flared, Tube to Hose - 90° Swivel Nut
MS27087	Elbow, Nipple End, Flared, Tube to Hose - 45° Swivel Nut
MS27381	Adapter Assembly, Flareless, Straight, Tube to Hose, Swivel Nut
MS27382	Adapter Assembly, Flareless, 45 Degree Elbow, Tube to Hose, Swivel Nut
MS27383	Adapter Assembly, Flareless, 90 Degree Elbow, Tube to Hose, Swivel Nut
MS27384	Adapter Assembly, Flareless, 45 Degree Elbow, Tube to Hose, Swivel Nut
MS27385	Adapter Assembly, Flareless, 90 Degree Elbow, Tube to Hose, Swivel Nut
MS27386	Nipple Subassembly, Flareless, Straight, Swivel Nut
MS27387	Elbow Subassembly, Flareless, 45 Degrees, Swivel Nut
MS27388	Elbow Subassembly, Flareless, 90 Degrees, Swivel Nut
MS27389	Elbow Subassembly, Flareless, 45 Degrees, Forged, Swivel Nut
MS27390	Elbow Subassembly, Flareless, 90 Degrees, Forged, Swivel Nut
MS27391	Nipple, Flareless, Tube to Hose, Swivel Nut
MS27394	Elbow, Nipple End, Flareless, Tube to Hose - 90° Swivel Nut
MS27395	Elbow, Nipple End, Flareless, Tube to Hose - 45° Swivel Nut

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

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3. TABULATION OF CLASSIFICATION OF DEFECTS FOR FITTINGS

MS Standard	Inspection for defects		
	Major	Minor	Spotcheck
MS27053 thru MS27062 MS27067 MS27068 MS27381 thru MS27386 MS27389 MS27390	All component parts inspected and accepted to applicable defect classification Thread "T" Correct components	Swivel action of wired-on components Wire not properly assembled into wire hole Mutilations and general workmanship Threads may be class 2B after proof pressure test	
MS27063 thru MS27066 MS27387 MS27388	All component parts inspected and accepted to applicable defect classification Thread "T" 1/ Correct components Dry film applied to appropriate areas	Length "A" Length "B" Swivel action of wired-on components Wires not properly assembled into wire hole General workmanship	
MS27069	Identification Thread finish Gage point "Z" Thread size "T" 1/ Minimum thread depth "Pg" Socket OD, "H" Angle "AL" Proper application of dry film on threads, as applicable	Overall length "A" External diameter "J" External diameter "L" External diameter "K" Minor thread diameter "R" Internal diameter "S" Internal skirt diameter "V" Diameter across wrench flats "AA" Width of wrench flats "AB" Internal length "Y" Burr, corner breaks, and general workmanship	Maximum thread depth "P" External length "B" External length "C" Angle "G" Angle "AE" Angle "P" Radius "M" Location "AD" Radius "D" Radius "N" Chamfer "E" Location "AH"
MS27070	Finish radius "Y" or angle "U" Shoulder radius or chamfer diameter "U" Serration diameter "G" Gage point "K" Proper application of dry film or radius "Y" or angle "U"	Overall length "A" External diameter "D" Serration depth "R" Internal diameter "F" Internal diameter "H" Internal depth "P" Width of shoulder "S" Radius "C" Burrs, corner breaks, and general workmanship Discoloration due to heat treatment shall not be cause for rejection	Rockwell hardness 10° ± 0° external angle Serration location "M" Serration location "N" Radius "J" Diameter "E"
MS27071	Thread finish Internal diameter "V" Wire groove location "M" Proper application of dry film in area "Y" and area "Z"	Overall length "A" External length "C" Hex size "R" External diameter "E" Thread relief diameter "L" Wire groove diameter "U" Wire hole location "S" Wire hole size "P" Thread size "T" Minimum length of thread Major thread diameter "G" Burrs, corner breaks, and general workmanship	Wire groove radius 30° ± 0° wire hold location angle Width of thread relief "D" External diameters "F" and "Y" Wire groove width "W"

1/ To be checked prior to application of dry film lubricant.

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MS Standard	Inspection for defects		
	Major	Minor	Spotcheck
MS27075	Cone seat finish 37° angle Finish on 45° sealing surface Thread finish Radius "AE" 37° angle (cone seat) External diameter "M" Location of wire groove "E" Thread size "T" ^{1/} Proper dry film application in areas "AA", "AG" and "AH"	Hex size "W" External length "B" External length "C" Width of hex "D" Width of thread relief "H" Width of wire groove "G" Major thread diameter "V" Wire groove diameter "P" Cone seat diameter "Z" External diameter "J" External diameter "R" External diameter "L" Internal diameter "AA" Internal diameter "AB" C' drill depth "X" External length "AD" Burrs, corner breaks, and general workmanship	45° angles External diameter "S" Angle "N" Radius "K" Width "O" External diameter "Y" Radius "AF"
MS27076	Finish sealing surface Shoulder thickness .154 External diameter "F" Finish on 45° ±1/2° angle Nose radius "L" 45° ±1/2° angle Nose OD "H" Wire groove location "D" External diameter "K" proper dry film application in area "Z"	Internal diameter "R" Flatness and parallelism of shoulder faces Burrs, corner breaks, and general workmanship Overall length "A" External length "B" Wire groove diameter "C" External diameter "J" Internal diameter "F"	Radius "N" Wire groove radius Wire groove width "M" Internal length "C"
MS27077	Counterbore depth .136 -.000 +.005 Bolt hole location "B" Reduction by forging draft angle of 7° max permissible	Length "A" Flange thickness +.015 .234 -.005 Bolt hole diameter "E" Internal diameter "G" Counterbore diameter "F" Flatness and parallelism of counterbore and flange face Burrs, corner breaks, and general workmanship	

^{1/} To be checked prior to application of dry film lubricant.

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MS Standard	Inspection for defects		
	Major	Minor	Spotcheck
MS27082	Draw marks, cracks, pits, et cetera $90^\circ \pm 1^\circ$ angle Wrinkles due to bending operation shall not be deeper than 1 percent of nominal tubing OD	Length "A" Length "B" External diameter "C" for length "E" Burrs, corner breaks, and general workmanship Quality Thin out	Radius "D" Wall thickness
MS27084	Draw marks, cracks, pits, et cetera $45^\circ \pm 1^\circ$ angle Wrinkles due to bending operation shall not be deeper than 1 percent of nominal tubing OD	Length "A" Drop dimension "E" Length "B" External diameter "D" for length "C" Burrs, corner breaks, and general workmanship Quality Thin out	Radius "F" Wall thickness
MS27086	Finish 37° cone angle Finish 45° sealing surface Radius "G" 37° cone angle 45° sealing angle External diameter "U" External diameter "L" External diameter "H" Wire groove location "S" Wire groove location "E" Dry film application in area "X"	$90^\circ \pm 2^\circ$ angle Drop dimension "N" External length "B" External length "C" External length "D" External length "Q" Cone seat diameter "AE" Wrench flat width "AF" Wire groove diameter "T" Wire groove diameter "J" Wire groove width "R" Wire groove width "P" Internal diameter "AD" Internal diameter "AB" Drill depth "W" Drill depth "Z" Burrs, corner breaks, and general workmanship	External diameter "K" Radius "AC" Radius "AA" Angle "V" External diameter "M"
MS27087	Finish 37° cone angle Finish 45° sealing surface Radius "Z" 37° cone angle 45° sealing surface External diameter "W" External diameter "L" External diameter "J" Wire groove location "S" Wire groove location "H" Dry film application in area "AK"	$45^\circ \pm 2^\circ$ elbow angle Drop dimension "T" External length "B" External length "C" External length "P" Cone seat diameter "D" Wrench flat width "Y" Wire groove diameter "U" Wire groove diameter "X" Wire groove width "R" Wire groove width "G" Internal diameter "N" Internal diameter "AA" Drill depth "AB" Drill depth "AE" External length "E" External length "F" Burrs, corner breaks, and general workmanship	External diameter "K" Angle "AC" Angle "V" External diameter "M" Radius "AF" Radius "AD"

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MS Standard	Inspection for defects		
	Major	Minor	Spotcheck
MS27391	<p>Radius finish Finish on 45° sealing surface Thread finish Radius "AK" External diameter "M" Location of wire groove "E" Thread size "T" Proper dry film application in areas "AM", "AL", and "AK" Spherical radius "W" Diameter "AA" Spherical radius location "AC"</p>	<p>Hex size "W" External length "B" External length "C" Width of Hex "D" Width of thread relief "E" Width of wire groove "G" Major thread diameter "X" Wire groove diameter "P" Length "AF" External diameter "J" External diameter "K" External diameter "L" Internal diameter "AB" Counterdrill depth "AJ"</p>	<p>45° Angles External diameter "S" Radius "K" Width "U" External diameter "Z" Radius "V"</p>
MS27394	<p>Radius finish 45° Sealing surface finish Radius "W" Spherical radius "AF" External diameter "AJ" External diameter "K" Wire groove location "D" Wire groove diameter "G" Dry film application in area "K", "AM", and "AF" Diameter "T" Spherical radius location "AC" Wire location "R" 45° Sealing angle</p>	<p>90° ±2° Angle Drop dimension "M" External length "B" External length "C" External length "E" External length "H" Wrench flat width "AV" Wire groove diameter "S" Wire groove diameter "U" Wire groove width "F" Wire groove width "F" Internal diameter "AC" Internal diameter "AA" Drill depth "Y" Drill depth "Y" Length "U" Burrs, corner breaks, and general workmanship</p>	<p>External diameter "J" Radius "AD" Radius "AM" External diameter "L"</p>
MS27395	<p>Radius finish 45° Sealing surface finish Radius "W" Spherical radius "AF" External diameter "AJ" External diameter "K" External diameter "H" Wire groove location "P" Wire groove location "G" Diameter "T" Spherical radius location "AC" Dry film application in area "AL", "AK", and "A" 45° Sealing angle</p>	<p>45° ±2° Angle Drop dimension "M" External length "B" External length "C" External length "E" Wrench flat width "V" Wire groove diameter "S" Wire groove diameter "U" Wire groove width "F", two places Internal diameter "M" Internal diameter "X" External length "E" Drill depth "Y" Drill depth "AA" Length "D" Burrs, corner breaks, and general workmanship</p>	<p>External diameter "J" External diameter "L" Radius "Z" Radius "AD"</p>

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Custodians:

Army - AV
Navy - AS
Air Force - 11

Reviewer activities:

Air Force - 82

User activities:

Army - MI, MC, ME
Navy - SB

Preparing activity:
Air Force - 11

Project No. 4730-1416

SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No. 119-R004INSTRUCTIONS

This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity (as indicated on reverse hereof).

SPECIFICATION

ORGANIZATION (of submitter)

CITY AND STATE

CONTRACT NO.

QUANTITY OF ITEMS PROCURED

DOLLAR AMOUNT

\$

MATERIAL PROCURED UNDER A

DIRECT GOVERNMENT CONTRACT

SUBCONTRACT

1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A. GIVE PARAGRAPH NUMBER AND WORDING.

B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES.

2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3. IS THE SPECIFICATION RESTRICTIVE?

YES

NO IF "YES", IN WHAT WAY?

4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)

SUBMITTED BY (Printed or typed name and activity)

DATE

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