

INCH-POUND

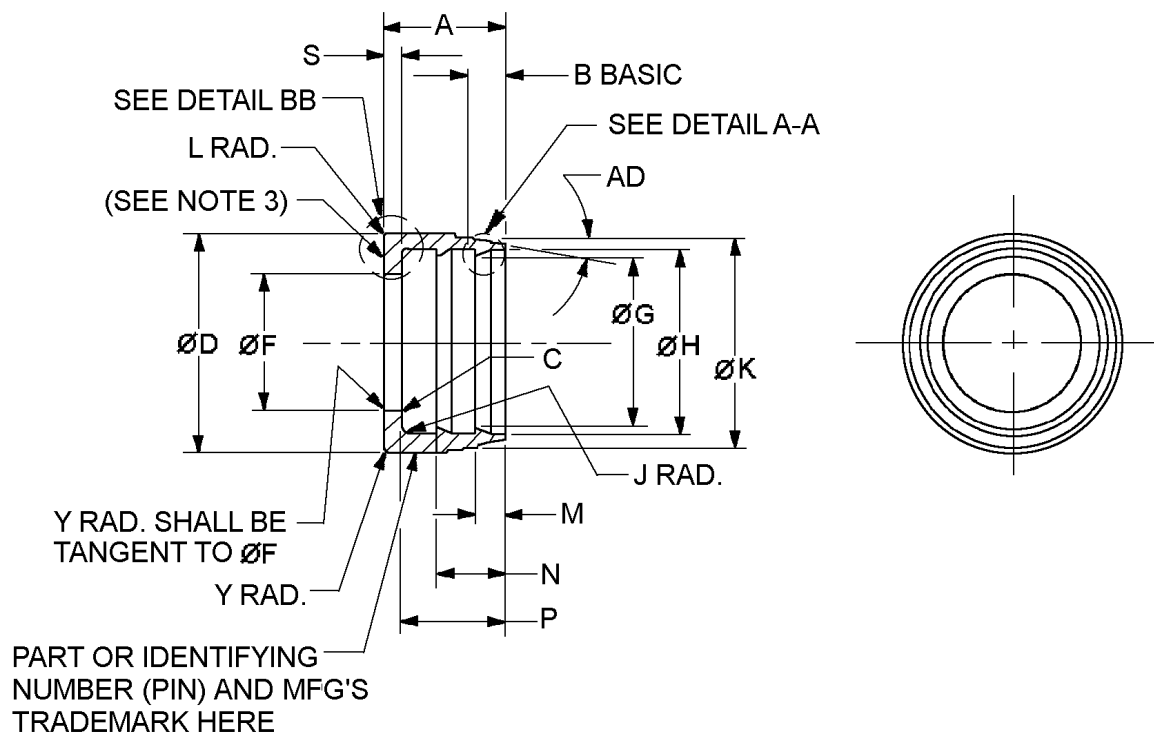
MS27070E
w/AMENDMENT 2
18 October 2018
SUPERSEDING
MS27070E
w/AMENDMENT 1
31 May 2017

DETAIL SPECIFICATION SHEET

SLEEVE, HOSE COUPLING

This specification sheet 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-27272.

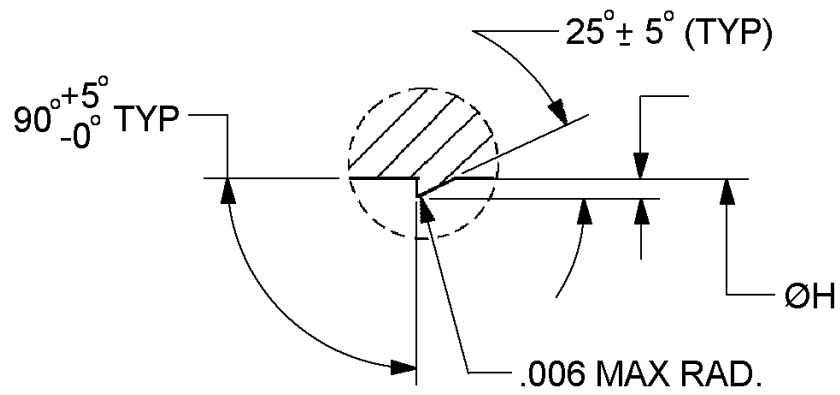


See notes at end of figure.

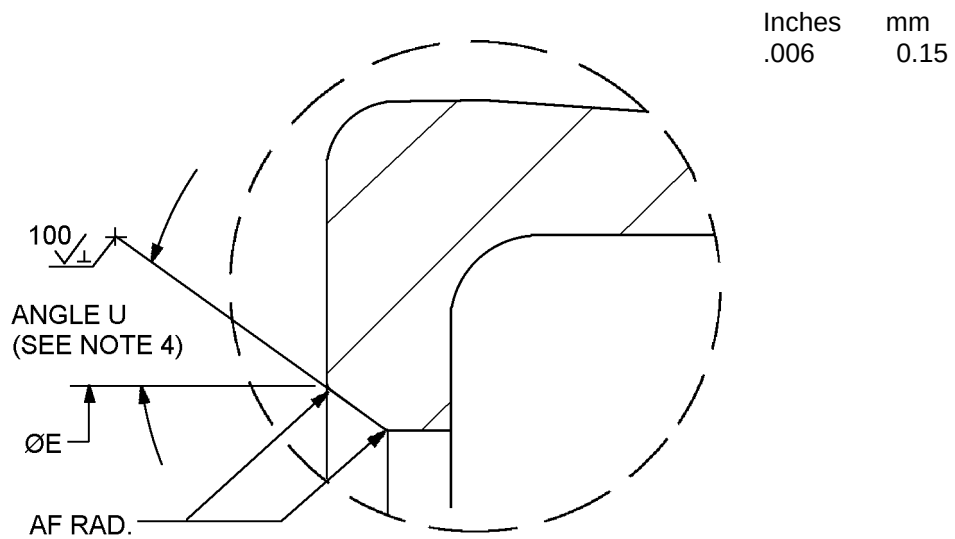
FIGURE 1. Sleeve illustration.



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DETAIL AA ENLARGED

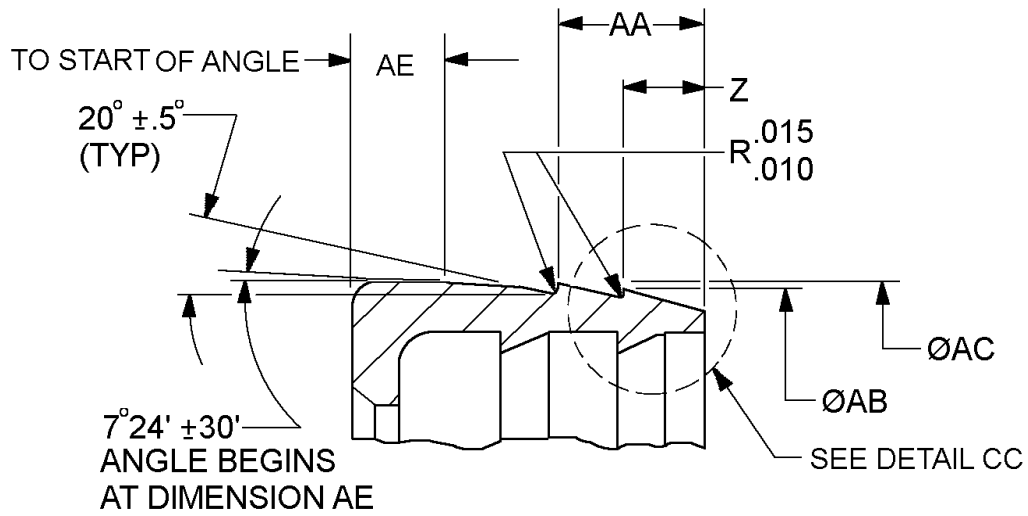


DETAIL BB ENLARGED
-10 THRU -24 SIZE ONLY

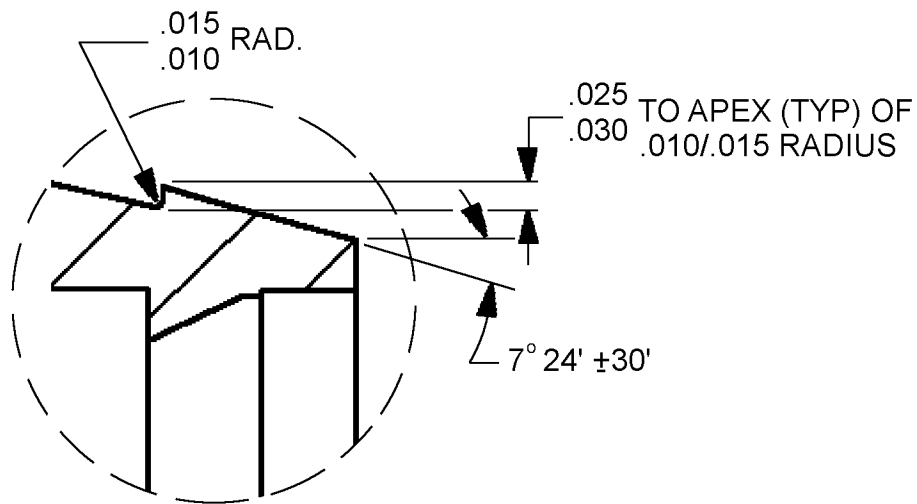
See notes at end of figure.

FIGURE 1. Sleeve illustration - Continued.

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-24 SIZE ONLY



DETAIL CC ENLARGED

See notes at end of figure.

Inches	mm
.010	0.25
.015	0.38
.025	0.64
.030	0.76

FIGURE 1. Sleeve illustration - Continued.

Size and material code	A ±.005	B	C	D +.000 -.005	E ±.005	F		G		H		J max
-4C	.285	.0850	.005 max break	.375	---	.211	+.006 -.000	.266	+.005 -.000	.290	±.005	.015
-5C		.0757		.437	---	.274		.329	+.006 -.000	.354		
-6C		.0815		.500	---	.336		.390		.415		
-8C		.355		.0955	.625	---		.432		.491		
-10C	.380	.1134		.745	.585	.532	+.004 -.000	.596	+.006 -.000	.631		
-12C	.400	.1099	---	.875	.715	.658		.728		.765	---	
-16C	.500		---	1.155	.985	.908		.978		1.013	---	
-20C	.740	.1381	---	1.470	1.225	1.160	+.005 -.000	1.233		1.268		---
-24C	.760	---	---	1.740	1.490	1.410			1.520	+.005	1.555	±.002

Size and material code	K ±.003	L		M ±.005	N ±.005	P ±.005	Q ±.002	S		U ±.5° see note 4	Y +.005 -.000
-4C	.344	---	---	.060	.160	---	.012	.050	+.005 -.000	---	.040
-5C	.408	---	---			---				---	
-6C	.468	---	---			---				---	
-8C	.589	-	---	.100	.225	---	.016	.055	±.005	45°	---
-10C	.703	---	---			---		.080			---
-12C	.834	---	---			---		.100			---
-16C	1.084	.005	+.015 -.000			.190		.340	.590		---
-20C	1.359			---	---						---
-24C	---			.010	max						---

See notes at end of figure

FIGURE 1. Sleeve illustration - Continued.

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Size and material code	Z ±.005	AA ±.005	AB ±.005	AC ±.005	AD ±.25°	AE ±.005	AF +.005 -.000
-4C	---	---	---	---	10°	---	---
-5C	---	---	---	---		---	---
-6C	---	---	---	---		---	---
-8C	---	---	---	---		---	---
-10C	---	---	---	---		---	.005
-12C	---	---	---	---		---	
-16C	---	---	---	---		---	
-20C	---	---	---	---		---	
-24C	.174	.298	1.658	1.690	---	.260	

Inch	mm	Inch	mm	Inch	mm
.002	0.05	.285	7.24	.658	16.71
.003	0.08	.290	7.37	.703	17.86
.004	0.10	.298	7.57	.715	18.16
.005	0.13	.329	8.36	.728	18.49
.006	0.15	.336	8.53	.740	18.80
.012	0.30	.340	8.64	.745	18.92
.015	0.25	.344	8.74	.760	19.30
.016	0.41	.354	8.99	.765	19.43
.040	1.02	.355	9.02	.834	21.18
.050	1.27	.370	9.40	.875	22.23
.055	1.40	.375	9.53	.908	23.06
.060	1.52	.380	9.65	.978	24.84
.0757	1.923	.390	9.91	.985	25.02
.080	2.03	.400	10.16	1.013	25.73
.0815	2.070	.408	10.36	1.084	27.53
.0850	2.159	.415	10.54	1.155	29.34
.0955	2.426	.432	10.97	1.160	29.46
.100	2.54	.437	11.10	1.225	31.12
.1099	2.791	.468	11.89	1.233	31.32
.1134	2.880	.491	12.47	1.268	32.21
.1381	3.508	.500	12.70	1.359	34.52
.160	4.06	.525	13.34	1.410	35.81
.174	4.42	.532	13.51	1.470	37.34
.190	4.55	.585	14.86	1.490	37.85
.211	5.36	.589	14.96	1.520	38.61
.225	5.72	.590	14.99	1.555	39.50
.260	6.60	.596	15.14	1.658	42.11
.266	6.76	.625	15.88	1.690	42.93
.274	6.96	.631	16.03	1.740	44.20

See notes at end of figure.

FIGURE 1. Sleeve illustration - Continued.

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NOTES:

1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. Hardness shall be tested anywhere on the face that the arrow for "see note 3" is pointing to.
4. Surface must be free from longitudinal scratches, nicks, or tool marks.
5. Dimensions and tolerances. Dimensions are in inches. Unless otherwise specified, break or radius all corners .005, +.005, -.000. All diameters shall be concentric within .005 full indicator movement.
6. Remove all burrs and slivers.
7. Surface roughness. Unless otherwise specified, maximum surface roughness shall not exceed 125 μ inch Ra in accordance with ASME B46.1.

FIGURE 1. Sleeve illustration - Continued.

REQUIREMENTS

Dimensions and configuration see figure 1.

Intended use. This part is a component of MS27053 through MS27060 and MS27381 through MS27385.

In house qualification: Qualified sources for MS27053 through MS27060 and MS27381 through MS27385 that meet the qualification testing requirements in MIL-DTL-27272 require no further testing for the hose coupling socket.

Subcontracted manufacturers qualification of hose coupling socket only: The hose coupling sleeve shall be installed on a qualified connector and shall be subjected to the tests below in accordance with MIL-DTL-27272, reference periodic P1 and P2 testing in MIL-DTL-27272. Sample size, if qualifying all connector configurations, shall be performed on six fittings (three assemblies) for each size.

Examination of product
Proof pressure
Leakage pressure
Room-temperature burst pressure

Material. Corrosion-resistant steel, 17-4PH in accordance with SAE-AMS5643. Heat treat to condition H-1150 with hardness of Rockwell C-28 to C-37 or condition H-1075 with hardness of Rockwell C-31 to C-38. Hardness to be tested on surface indicated when sleeve is heat treated in the final machined configuration, see figure 1.

Finish. Passivate in accordance with SAE-AMS2700 method 1, type 1 or 2. Do not dry-film lubricant sizes 4, -5, and -6. On other sizes, dry-film lubricate radius Y and angle U; dry-film lubrication on D diameter and F diameter is acceptable; dry-film lubrication on taper AD not acceptable; and dry film lubrication beyond AE dimension on size -24 is not acceptable. Dry-film lubricate, see table I.

NOTE: Avoid using graphite dry film lubes with aluminum sleeves because in a wet environment, graphite becomes corrosive to the aluminum.

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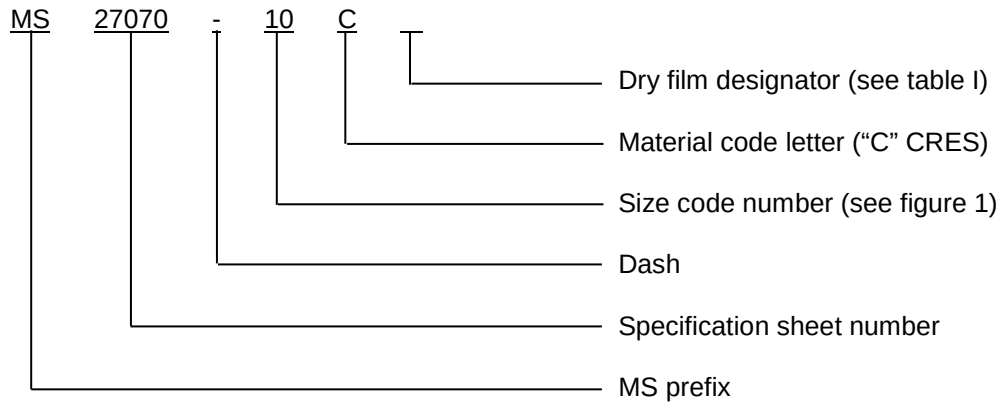
TABLE I. Solid film designator.

Dry film designator	SAE class or type designator	Dry film characteristics
Blank	Any SAE class or type below	N/A
SAE-AS1701	SAE-AS1701 class	SAE-AS1701 temperature ranges °F (°C)
4	4	-65° to +1400°F (-54° to 760°C)
5	5	-65° to +850°F (-54° to 454°C)
6	6	-375° to +850°F (-226° to 454°C)
SAE-AS5272	SAE-AS5272 type	SAE-AS5272 temperature ranges. °F (°C)
7	Type I	-90° to 400°F (-68 to 204°C) endurance life of 250 min minimum
8	Type II	-90° to 400°F (-68° to 204°C) endurance life of 450 min minimum
9	Type III	Color 1 - Natural product color -90° to 400°F (-68 to 204°C) low Volatile organic compound with an endurance life of 450 min minimum
10	Type III	Color 2 - Black color -90° to 400°F (-68 to 204°C) low Volatile organic compound with an endurance life of 450 min minimum
Dry film designator	MIL classification	Dry film characteristics
MIL-PRF-46010 <u>1/</u>	---	MIL-PRF-46010 temperature ranges. °F (°C)
11	1	Color 1 natural product color, -90° to 400°F (-68 to 204°C) solvent resisting
12	2	Color 2 - Black color -90° to 400°F (-68 to 204°C) solvent resisting

1/ Not for aerospace usage.

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PIN: The PIN consists of prefix "MS", the specification sheet number, dash number for sleeve size, letter for material, and a blank or number for dry film lubricate. Unassigned PIN's shall not be used.



PIN examples:

MS27070-10C Indicates a sleeve size 10, CRES with dry film class designator "blank".
MS27070-10C4 Indicates a sleeve size 10, CRES with dry film class designator 4.

Identification of product. The PIN and the manufacturer's trademark shall be permanently marked on the part.

Order of precedence. Unless otherwise noted herein or in the contract, 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.

Referenced documents shall be of the issue in effect on date of invitations for bid.

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 MIL-DTL-27272, this document references the following:

MIL-PRF-46010	MS27059	ASME B46.1
MS27053	MS27060	SAE-AMS2700
MS27054	MS27381	SAE-AMS5643
MS27055	MS27382	SAE-AS1701
MS27056	MS27383	SAE-AS5272
MS27057	MS27384	
MS27058	MS27385	

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CONCLUDING MATERIAL

Custodians:

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

Preparing activity:
DLA - CC

(Project 4730-2018-111)

Review activities:

Army - AR, AT, MI
Navy - SA, SH
Air Force - 71

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>.