METRIC

MIL-DTL-38999/28H
12 May 2015
SUPERSEDING
MIL-DTL-38999/28G
30 May 2008

DETAIL SPECIFICATION SHEET

CONNECTORS, ELECTRICAL, CIRCULAR, NUT, HEXAGON, CONNECTOR MOUNTING, SERIES III AND IV, METRIC

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-38999.

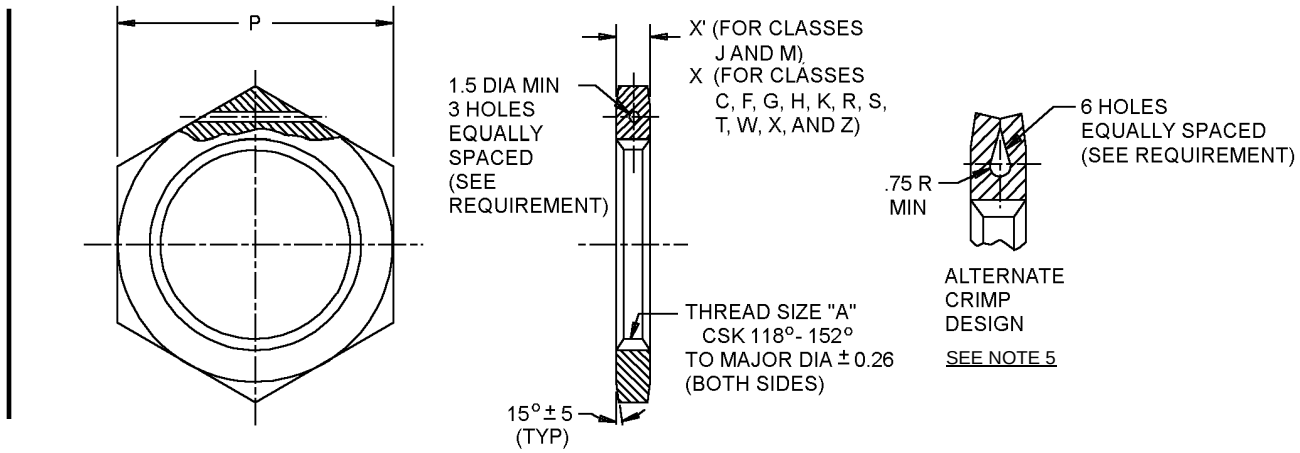


FIGURE 1. Nut, hexagon.

AMSC N/A

FSC 5935

Dash number	Shell size		A thread size	P hex	X' + .29 - .00	X + .45 - .00
	Series III and MIL-DTL-38999/43 of series IV	Series IV, MIL-DTL-38999/44 only				
1	9	--------	M17X1 – 6H (see note 3)	24.00 21.82	4.54	3.17
2	11	--------	M20X1– 6H (see note 4)	27.00 24.99	4.54	3.17
3	13	11	M25X1 – 6H	32.00 29.77	4.54	3.17
4	15	13	M28X1– 6H	36.00 32.91	4.54	3.17
5	--------	15	M31X1 – 6H	41.00 39.26	4.54	3.17
6	17	--------	M32X1 – 6H	37.00 36.12	4.54	3.17
7	-------	17	M34X1 – 6H	41.00 39.25	4.54	3.17
8	19	-------	M35X1 – 6H	41.00 39.25	4.54	3.17
9	21	19	M38X1 – 6H	46.00 42.47	4.54	3.17
10	23	21	M41X1 – 6H	50.00 45.61	4.54	3.17
11	25	23	M44X1 – 6H	51.23 49.25	4.54	3.17
12	-------	25	M47X1 – 6H	55.00 53.54	4.54	3.17

NOTES:

1. Dimensions are in millimeters. Inch equivalents are given for information only.
2. Remove all burrs and sharp edges.
3. Modified minor diameter: 16.04 – 16.15 mm (.631 - .636 inches).
4. Modified minor diameter: 19.07 – 19.15 mm (.751 - .754 inches).
5. Standard safety wire holes are drilled. The safety wire openings depicted in the alternate design are crimped. The alternate hex nut with a crimped edge is specified by adding a "-C" to the Part or Identifying Number (PIN).

FIGURE 1. Nut, hexagon – Continued.

mm	Inches	mm	Inches	mm	Inches	mm	Inches
0.29	.011	24.00	.945	36.12	1.422	46.00	1.811
0.45	.018	24.99	.984	37.00	1.457	49.25	1.939
0.75	.0295	27.00	1.063	39.25	1.545	50.00	1.969
1.5	.059	29.77	1.172	39.26	1.546	51.23	2.017
3.17	.125	32.00	1.260	41.00	1.614	53.54	2.108
4.54	.178	32.91	1.296	42.47	1.672	55.00	2.165
21.82	.859	36.00	1.417	45.61	1.796		

REQUIREMENTS:

Dimensions and configurations: See figure 1.
Material: See table I.
Finish: See table I and MIL-DTL-38999.
Applicable jam-nut connectors: See MIL-DTL-38999, series III and IV.

TABLE I. Material and finish. 1/

Hex nut finish code	Material	Finish	Applicable connector class code
C	Aluminum alloy	Anodic (nonconductive)	C
F	Aluminum alloy	Electroless nickel coating (conductive)	F, G, R
W	Aluminum alloy	Olive-drab cadmium plate over a suitable underplate (conductive)	W
X	Aluminum alloy	Same as W, but higher corrosion requirement	X
T	Aluminum alloy	Nickel fluorocarbon polymer, non-reflective (conductive)	T
Z	Aluminum alloy	Zinc nickel, non-reflective (conductive)	Z
K	Corrosion resistant steel 2/	Passivated (conductive)	K, H, Y
N	Corrosion resistant steel 2/	Electrodeposited nickel plating (conductive)	N, S, L
J	Resin with or without filler	Olive-drab cadmium plate over a suitable underplate (conductive)	J
M	Resin with or without filler	Electroless nickel coating, (conductive)	M
V	Resin with or without filler	Unplated (no finish)	J, M

1/ See MIL-DTL-38999.
2/ Shall be cleaned, descaled and passivated in accordance with SAE-AMS2700.

Qualification. Qualification shall be in accordance with MIL-DTL-38999, except only the following tests shall be required:

Examination of product.
Safety wire hole pull-out (see requirement below).
Salt spray (corrosion).

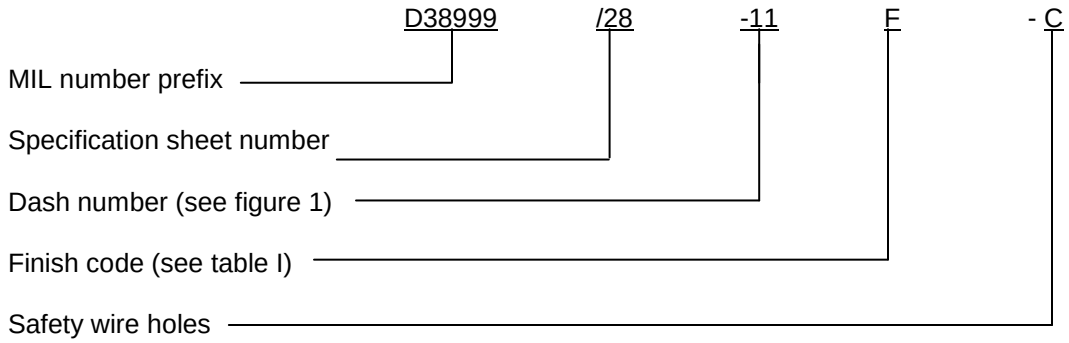
Safety wire pull-out: Safety wire shall not pull out of hex nuts with crimped edges when safety wire NI-CU alloy (MONEL™) (UNS NO4400) or NI-CR alloy (INCONEL™) (UNS NO6600) 0.51 mm (.020 inch) diameter in accordance with NASM20995 is threaded through a hole and a pull of 133.5 Newton (30 lb) minimum is applied. Nine pulls total shall be applied. Pulls shall be applied in three directions. Pulling forces shall be applied parallel with the axis of the nut and also perpendicular to the axis of the nut. Three pulls shall be applied parallel to the axis in one direction and three pulls shall be applied parallel to the axis in the opposite direction. An additional three pulls shall be applied perpendicular to axis of nut.

Group A inspection shall consist of examination of product and safety wire pull-out. Sampling for group A inspection shall be as specified in table II.

TABLE II. Group A sampling plan.

Lot size	Sampling size
1 to 13	100 percent
14 to 150	13 units
151 to 280	20 units
281 to 500	29 units
501 to 1,200	34 units
1,201 to 3,200	42 units
3,201 and up	54 units

Part or Identifying Number (PIN) example:



(Standard safety wire holes are drilled. No PIN designator code is used when hex nuts with drilled safety wire holes are specified. When a hex nut with crimped edges is required, a “-C” designator shall be added to the end of the PIN to indicate a crimped design.)

Changes from previous issue. The margins of this specification are marked with vertical lines to indicate where changes from the previous issue were made. 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 and relationship to the last previous issue.

Referenced documents. In addition to MIL-DTL-38999, this document references the following:

MIL-DTL-38999/43
MIL-DTL-38999/44
NASM20995
SAE-AMS2700

CONCLUDING MATERIAL

Custodians:
Army – CR
Navy - AS
Air Force - 85
DLA – CC

Preparing activity:
DLA - CC

(Project 5935-2015-118)

Review activities:
Army - AR, MI
Navy - EC, MC, SH
Air Force - 19, 99

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.