INCH-POUND
MIL-N-7873B
26 MAY 1994
SUPERSEDING
MIL-N-7873A
17 NOVEMBER 1967

MILITARY SPECIFICATION

NUT, SELF-LOCKING, 1,200° F

This specification is mandatory for use by all Departments and Agencies of the Department of Defense

1 SCOPE

1 1 This specification covers self-locking nuts and self-locking plate nuts for use where temperatures will not exceed 1,200°F

2 APPLICABLE DOCUMENTS

2 1 Government documents

2 1 1 Specification and standards Unless otherwise specified, issues of referenced documents are those in effect at the time of solicitation Information regarding the latest issue of government documents and adopted non-government documents can be obtained from the Department of Defense Index of Specification and Standards

SPECIFICATIONS

Federal

GGG-W-636	Wrenches, Box and Open End (Nonadjustable)
GGG-W-641	Wrench, Sockets, (and Sockets, Handles, and Attachments for Socket Wrenches, Hand)
PPP-H-1581	Hardware (Fasteners And Related Items) Packing Of

Military

MIL-S-8879	Screw Threads, Controlled Radius Root with Increased Minor Diameter, General Specification for

Beneficial comments (recommendations additions, deletions) any pertinent data which may be of use in improving this document should be addressed to Defense Industrial Supply Center, DISC-EPP, 700 Robbins Avenue, Philadelphia, PA 19111-5096 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter

AMSC N/A FSC 5310

STANDARDS

Military

AN503	Screw, Machine, Drilled, Fillister Head, Coarse Thread
MIL-STD-105	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	Marking for Shipment and Storage
MIL-STD-410	Nondestructive Testing Personnel (Qualification and Certification)
MIL-STD-1312	Fastener, Test Methods
MIL-STD-1312-7	Fastener Test Method, Vibration
MIL-STD-1312-8	Fastener Test Method, Tensile Strength
MIL-STD-1312-10	Fastener Test Method, Stress Rupture
MIL-STD-6866	Inspection, Liquid Penetrant
MS20500	Nut, Self Locking, Hexagon, 1200°F, 125 KSI Ftu
MS20501	Nut, Self Locking, Plate, Two Lug, 1200°F, 125 KSI Ftu

(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)

2 2 Other publications - Unless otherwise specified, issues of referenced documents are those in effect at the time of solicitation Information regarding the latest issue of non-government documents not adopted by the government can be obtained from the organization responsible for their publications

American Society of Mechanical Engineers

ANSI/ASME B46 1 Surface Texture (Surface Roughness, Waviness and Lay)

(Copies of the above publication may be obtained from the American Standards Association, Inc , 10 East 40th Street, New York, N Y 10016)

Society of Automotive Engineers (Aerospace Material Specifications)

AMS2411 Silver Plating, For High Temperature Applications

(Copies of SAE publications may be obtained from the Society of Automotive Engineers, Inc , 400 Commonwealth Drive, Warrendale, PA 15068-0001

American Society for Testing and Materials (ASTM)

ASTM A342 Standard Test Method For Permeability of Feebly Magnetic Materials

(Application for copies should be addressed to the American Society for Testing and Materials 1916 Race St Philadelphia, Pa 19103

3 REQUIREMENTS

3 1 Military standards - The individual item requirements shall be as specified herein and in accordance with the applicable standards In the event of any conflict between requirements of this specification and the standard, the latter shall govern

3 2 Qualification - The nuts furnished under this specification shall be products which are qualified for listing on the applicable Qualified Products List (QPL) at the time set for opening of bids

3 2 1 Retention of qualification - To maintain status on a Qualified Products List, certification shall be submitted to indicate continued compliance with the requirements of this specification (see 4 3 3)

3 3 Materials - Nuts shall be fabricated from heat-resisting and corrosion-resisting austenitic steel which is not subject to intergranular deterioration at 1,200°F ±25°F In the event the applicable standard drawing specifies a particular material for fabrication of the nuts, the specified material shall be used

3 4 Design - Self-locking nut design shall conform to the applicable standard

3 5 Construction - The self-locking nut or nut element shall be a self-contained, all-metal unit, including the self-locking device The locking device shall be of the prevailing torque type and shall not operate by means of separate movement from the installation and shall not depend upon pressure on the bearing surface for locking action

3 5 1 Bearing surface - The bearing surface shall be normal to the axis of the thread pitch cylinder of the threads within 003 inch full indicator reading for sizes up to 5000 inch, and within 005 inch for sizes larger than 5000 inch (see 4 5 1 1) The wrenching surface circular runout to the thread pitch cylinder shall be within 010 inch full indicator movement

3 5 1 1 The bearing surface roughness average of the nuts shall not exceed 125 microinches (Ra) in accordance with ANSI/ASME B46 1 (see 4 5 1 2)

3 5 2 Threads - Unless otherwise specified, the threads shall be in conformance with MIL-S-8879 prior to incorporation of the locking feature Threads used on the locking device may be displaced or deformed in any manner which provides self-locking nuts conforming to this specification After incorporation of the locking feature, the nut shall allow the "go" gage to enter a minimum of 1 5 turns before engagement of the locking element

3 5 3 Plate nut rivet-bolt hole alignment - Plate nut rivet-bolt hole alignment shall be in accordance with the applicable standard (see 4 5 1 3)

3 6 Plating and surface treatment - The threads shall be silver plated in accordance with AMS 2411 Nominal thread size 2500 inch and larger shall show a minimum of 0002 inch thick silver plate on thread flank and show complete coverage of threads Nominal thread size under 2500 shall show 0003 to 0005 inch thick silver plate on bearing surface Silver plate shall be optional on other areas except, no plating shall be applied in the area of the projecting weld nibs of weld plate nuts

3 7 Mechanical Properties

3 7 1 Axial tensile strength - The nuts shall have a minimum axial tensile strength of not less than the values specified in table I, when tested as specified in 4 5 2

3 7 2 Stress rupture tensile strength - Nuts shall withstand the tensile load specified in table I, when tested at elevated temperature as specified in 4 5 2

TABLE I Minimum strength requirements

Thread size	Axial strength at room temp (lbs min)	Axial strength after baking at 1,200°F for 6 hours (lbs min)	Stress rupture tensile load 96 hours at 1,200°F (lbs min)
1380-32	1,130	850	
1640-32	1,720	1,290	
1900-32	2,460	1,840	940
2500-28	4,580	3,430	1,710
3125-24	7,390	5,500	2,730
3750-24	11 450	8,600	4,130
4375-20	15,450	11,600	5,580
5000-20	21,110	15,800	7,520
5625-18	26,810	20,100	9,540
6250-18	34,130	25,600	12,000
7500-16	50,020	37,500	17,600
8750-14	68,440	51,300	23,900
1 0000-12	92 180	69,100	32,000

3 7 3 Torque -

3 7 3 1 Wrench torque - Wrenchable nuts shall withstand the wrench torque listed in table II (see 4 5 3 1) There shall be no permanent deformation that may interfere with the use of a box or socket wrench conforming to GGG-W-636 and GGG-W-641, respectively

TABLE II Wrench torque at room temp after 6-hour (+ 25 hr - 000 hr) bake at 1,200°F ±25°F

Size	Wrench torque Inch-Pounds
1380-32	20
1640-32	30
1900-32	60
1380-32	150
1640-32	360
1900-32	650
4375-20	1,200
5000-20	1,600
5625-18	2,300
6250-18	4,000
7500-16	6,000
8750-14	8,000
1 0000-12	11,000

TABLE III Maximum locking and minimum breakaway torque values

Thread size	Maximum locking torque (in-lbs) (installation or removal)	Minimum breakaway torque (in -lbs) 15th removal
1380-32 UNJC	10	1 0
1640-32 UNJC	15	1 5
1900-32 UNJF	18	2 0
2500-28 UNJF	30	3 5
3125-24 UNJF	60	6 5
3750-24 UNJF	80	9 5
4375-20 UNJF	100	14 0
5000-20 UNJF	150	18 0
5625-18 UNJF	200	24 0
6250-18 UNJF	300	32 0
7500-16 UNJF	400	50 0
8750-14 UNJF	600	70 0
1 0000-12 UNJF	800	90 0

3 7 3 2 Locking torque

3 7 3 2 1 Maximum locking torque - Observe the maximum locking torque during installation and the maximum torque during the removal cycle The torque for installation or removal shall not exceed the values specified in table III when tested at room temperature After baking at 1,200°F ±25°F, the maximum locking torque of the nut shall not exceed twice the value specified in table III (see 4 5 3 2)

3 7 3 2 2 Minimum breakaway torque - The torque required to start unloaded the nut in the removal direction shall be measured and shall not be less than the values specified in table III (see 4 5 3 2)

3 7 3 2 3 Reusability - Unless otherwise specified, nuts shall be capable of 15 unloaded installation and removal cycles without damage to the nut (see 4 5 3 2 3)

3 7 3 3 Torque out - Torque out values for plate nuts shall be not less than the values listed in table IV (see 4 5 3 3) The nut or assembly shall conform to the values specified without cracking the nut retainer the nut shall not become malformed sufficiently to preclude the application of the same torque in the opposite direction

TABLE IV Torque out

Thread size	Torque (inch-pounds)
1380-32	30
1640-32	45
1900-32	60
1380-32	100
1640-32	160
1900-32	240
4375-20 and over	350

3 8 Push out - Push out values for the plate nuts shall be not less than the values listed in table V (see 4 5 4) The minimum load required to push out the nut from the retainer of any plate nut shall be not less than the values specified in table V Additionally, for any plate nut, the minimum load required to effect a permanent deformation axial with the nut element of 030 inch, measured at the thread centerline between the test plate and the base of the threaded element, shall be not less than the values specified in table V

TABLE V Push out

Thread size	Pounds
1380-32	60
1640-32	80
1900-32	100
2500-28 and over	125

3 9 Vibration - Wrenchable and plate nuts shall show no evidence of failure when subjected to the vibration test (see 4 5 5) Vibration test on nuts larger than 500 inch thread size are waived, provided that nuts 500 thread size and smaller of the same type and design of locking device have passed the vibration test Vibration testing is not required for sizes smaller than 190 Vibration tests on plate nuts having locking devices identical to qualified wrenchable nuts are waived Plate nuts requiring vibration tests shall be vibrated after removal of plate lugs

3 10 Discontinuities - Discontinuities in the nuts shall not exceed the depths shown in table VI when tested as specified in 4 5 6 Cracks shall not be permitted in any location A crack is defined as a clean crystalline break passing through the grain or grain boundary without the inclusion of foreign elements

TABLE VI Limits of depths on laps, seams, and inclusions of finished nuts

Thread size	3125 and under	3750	4375	5000	5625	6250	7500	8750
Hexagon and plate nuts made from sheet metal	005	006	006	007	008	009	010	011
Hexagon and plate nuts made from bar or wire	010	011	012	014	016	017	019	022

3 11 Magnetic permeability - The magnetic permeability of corrosion resistant steel nuts shall be less than 2 0 (air = 1 0) in a field strength of H = 200 oersteds (see 4 5 7)

3 12 Identification of product - Nuts shall be identified in accordance with the applicable standard

3 13 Workmanship - Workmanship shall be consistent with the type of product, finish, and the class of thread fit specified The product shall be free from fins, cracks, toolmarks, and other defects which might affect serviceability

4 QUALITY ASSURANCE PROVISIONS

4 1 Responsibility for inspection - Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein Except as otherwise specified, the contractor may use his own or any other facilities suitable for the performance of inspection requirements specified herein, unless disapproved by the Government The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements

4 2 Classification of inspection - The inspections specified herein are classified as follows
(a) Qualification inspection (4 3)
(b) Quality conformance inspection (4 4)

4 3 Qualification inspection - Qualification inspection shall consist of the inspections listed in table VII (see 6 3)

4 3 1 Sample - All nuts, bolts, screws, and mandrels necessary for inspections specified herein shall be furnished by the manufacturer The number of nuts to be subjected to qualification inspection shall be as specified in table VII Samples shall be identified as required and forwarded to the activity responsible for qualification, designated in the letter of authorization from that activity (see 6 3)

4 3 2 Certified test report - The manufacturer shall furnish a certified test report showing that the manufacturer's product satisfactorily conforms to this specification The test report shall include actual results of the tests specified herein When this report is submitted, it shall be accompanied by a dated drawing which completely describes the manufacturer's product The drawing shall specify all dimensions and tolerances composition of material selected, plating applied, and the forming process The manufacturer's part number for each size shall be included on the above drawing

4 3 3 Retention of qualification Certification shall be requested by the Defense Industrial Supply Center, (Code DISC EPP), 700 Robbins Avenue, Philadelphia, PA 19111-5096 Certification shall be at the time of the two year review and shall be signed by a responsible official of management, attesting that the listed product(s) is still available from the listed plant, can be produced under the same conditions as originally qualified, (i e , same process, materials, construction, design, manufacturer's part number, or designation), and meets the requirements of the current issue of the specification Failure to provide the certification will be cause for removal from the QPL After completion of the certification review, the QPL will be reprinted to show the date of certification (DD Form 1718, Certification of Qualified Products, shall be used for obtaining certification)

4 4 Quality conformance inspection - Quality conformance inspection shall consist of the tests specified in table VIII

4 4 1 Selection of samples - Sample nuts shall be selected at random from each lot as specified herein

4 4 1 1 Inspection lot - An inspection lot shall consist of finished nuts which are of the same type and diameter manufactured from one material heat using the same process, heat treated in the same manner and produced as one continuous run or part thereof

TABLE VII Qualification inspections

Test	Requirement paragraph	Test method paragraph	Sample size
Examination of product	3 4 - 3 6	4 5 1 - 4 5 1 3	ALL
Axial tensile strength	3 7 1	4 5 2 1	10
Stress-rupture tensile strength	3 7 2	4 5 2 1	3
Wrench torque	3 7 3 1	4 5 3 1	3
Locking torque	3 7 3 2	4 5 3 2	20 1/
Torque out	3 7 3 3	4 5 3 3	5
Push out	3 8	4 5 4	5
Vibration	3 9	4 5 5	10
Discontinuities	3 10	4 5 6	ALL
Magnetic permeability	3 11	4 5 7	ALL

1/ For locking torque (10) of the (20) samples shall be tested (10) per 4 5 3 2 2

TABLE VIII Quality conformance inspections

Test	Requirement paragraph	Test method paragraph
Examination of product	3 4 - 3 6	4 5 1 - 4 5 1 3
Axial tensile strength	3 7 1	4 5 2 1 1
Locking torque	3 7 3 2	4 5 3 2 2
Torque out (not applicable to right angle plate nuts)	3 7 3 3	4 5 3 3
Push out (not applicable to right angle plate nuts)	3 8	4 5 4
Discontinuities	3 10	4 5 6
Magnetic permeability	3 11	4 5 7

4 4 1 2 Sampling plan A - Sample sizes for inspection of product characteristics delineated in paragraph 4 4 1 2 1 shall be in accordance with MIL-STD-105 as follows

Major A - Inspection level S-4
Major B - Inspection level S-3
Minor - Inspection level S-2

Failure of any sample to meet specified requirements shall be cause for rejection of the lot

4 4 1 2 1 Product Characteristics - The following characteristics shall be inspected

Major A
Visual presence of locking configuration

Major B
101 Thread fit
102 Bearing surface perpendicularity
103 Surface plating or surface treatment
104 Rivet hole location and alignment (plate nuts only)

Minor
201 Height of nut
202 Dimensions of wrenching element (wrenchable nuts only)
203 Loose or hanging burrs
205 All dimensional characteristics not covered above

4 4 1 3 Sampling plan B - For the axial strength test (4 5 2 1 1), the sample shall be selected in accordance with table IX or X, as specified herein Each sample shall conform to the requirements that AVG [X] - 4OR is greater than the minimum strength requirements of table I

Where

AVG [X] = sample average tensile strength
R = sample range, i e , largest tensile strength minus smallest tensile strength

In the event that the sample fails the variable plan test and no one item of the sample falls below the minimum requirement a new sample shall be taken according to the attribute plan in table X The attribute plan may be used at the outset in lieu of the variables plan

4 4 1 4 Sampling plan C - For the locking torque, torque out, and push out tests (4 5 3 2 2, 4 5 3 3 and 4 5 4, respectively), sampling shall be in accordance with the attribute plan shown in table X The acceptance or rejection numbers shall apply to all of the inspections for the locking torque, torque out, and push out tests taken separately, i e , a nut shall be classified defective if it fails any of these inspections

TABLE IX Variables plan

Lot size	Sample size
Under 10,000	5
10,000 to 50,000	7
50,001 to 100,000	10
Over 100,000	15

TABLE X Attribute plan

Lot size	Sample size	Acceptance number
Under 10 000	5	0
10,000 to 50,000	7	0
50,001 to 100,000	10	0
Over 100,000	15	0

4 4 1 5 Sampling plan D - For the discontinuities test (4 5 6) sampling shall be at random in accordance with MIL-STD-105, Level S-3 Failure of any sample to meet the requirements of table VI after microexamination in accordance with 4 5 6 shall be cause for rejection of the lot Multipiece nuts, such as gang channels and floating nuts, shall be inspected before assembly

4 5 Inspection methods -

4 5 1 Examination of product - The nuts shall be examined for conformance to this specification and applicable standards with respect to dimensions, and finish

4 5 1 1 Bearing surface perpendicularity - Prior to incorporation of the locking feature the nut shall be assembled on a Class 3A threaded member having a minimum thread length equal to the nut height The bearing surface values shall be measured at the outer periphery of the nut with a feeler gage, after contact when the nut is turned finger tight on a table squareness gage

4 5 1 2 Surface roughness - The surface roughness shall be measured in accordance with ANSI/ASME B46 1

4 5 1 3 Plate-nut rivet / bolt hole spacing - Plate nut rivet or bolt spacing may be determined by suitable variable gages, or by means of a properly sized functional alignment gage

4 5 2 Tests for mechanical properties

4 5 2 1 Axial and stress rupture strength - The bolts or studs used for these tests shall be hardened and shall be threaded in accordance with MIL-S-8879 When conducting the test, the bolt hole in the bearing plate shall have a free fit not in excess of 016 inch greater than the diameter of the bolt The thickness of the bearing plate shall be not less than the diameter of the bolt used in the test

4 5 2 1 1 Axial tensile strength - The axial tensile test shall be conducted according to MIL-STD-1312-8 Prior to qualification testing, five (5) nuts shall be baked at 1200°F ±25°F for a minimum of six (6) hours (+ 25hr - 00hr) These nuts plus five (5) in the received condition shall be tested at room temperature to the load specified in table I For quality conformance, nuts shall be assembled on the bolts or studs and subjected to the axial strength test at room temperature (no prior baking required) The test shall be carried to destruction when the variable sampling plan (Table IX) is used The tests need not be carried to destruction, when the attribute sampling plan (Table X) is used

4 5 2 1 2 Stress rupture strength - The nut shall be tested according to MIL-STD-1312-10 at 1,200° F± 25°F in tension for a minimum of 96 hours (+ 25hr - 000hr) The load applied shall be as specified in table I

4 5 3 Torque -

4 5 3 1 Wrench torque - Bolts in accordance with 4 5 2 1 shall be used for this test Wrenchable nuts shall be baked for 6 hours (+ 25hr - 000hr) at 1,200°F ±25°F, then cooled to room temperature The nuts shall then be tightened against a steel bushing with a box or socket wrench to the torque values specified in table II Box wrenches shall be type I, class 1 conforming to GGG-W-636 and socket wrenches shall conform to GGG-W-641 Deformation which interferes with the proper application and removal of the nut with the wrench is sufficient cause for rejection

4 5 3 2 Locking torque - The locking torque tests shall be run with no axial load on the nut at a rate slow enough to obtain a dependable measurement of torque The temperature rise of the nut under tests shall not exceed 75°F above room temperature

4 5 3 2 1 Maximum locking and minimum breakaway torque - Nuts on bolts shall be tested in accordance with paragraph 4 5 3 2 1, 4 5 3 2 2 and 4 5 3 2 2 1

4 5 3 2 1 1 Bolts or screws for maximum locking torque and minimum breakaway torque tests - For the maximum locking torque and minimum breakaway torque tests, bolts or screws shall conform to 160 KSI rated, plain finish, A286 bolts, with threads in accordance with MIL-S-8879 for sizes No 10 and above, and to AN503 for sizes under No 10, except that the material of the bolts or screws shall be equal or equivalent to the material of the nut All bolts or screws used shall allow the nut to be assembled fully with the fingers up to the locking element

4 5 3 2 2 Maximum locking and minimum breakaway torque - Install and remove the nut from the test bolt 15 times Record the maximum locking torque and minimum breakaway torque during the first and fifteenth cycles A nut is considered fully installed when two thread pitches (including chamfer) of the bolt extend through the nut, the removal cycle is considered complete when the locking device is disengaged The minimum breakaway torque shall be determined when a minimum of one and a maximum of two bolt threads extend through the nut

4 5 3 2 2 1 Elevated temperature - Prior to each test cycle nut and bolt assemblies shall be baked for 6 hours minimum at 1200°F ± 25°F then cooled to room temperature The maximum torque shall be measured and recorded prior to baking on the first and fifteenth cycle for qualification only

4 5 3 2 3 Reusability - At the conclusion of the minimum breakaway torque tests, the nuts used in this test shall be examined for damage to the threads Noticeable distortion or scratches deep enough to reduce the strength of the threads shall be cause for rejection The threads on the bolt or screw, as applicable, shall remain in serviceable condition and permit the installation of a new nut freely with the fingers up to the self-locking element

4 5 3 3 Torque out - Plate nuts shall meet the torque-out values listed in table IV when tested with no axial load on the seat of the nut The nuts to be subjected to this test shall be riveted or fastened with screws to a steel plate of a thickness equal to or greater than the maximum thread diameter The bolt hole in the plate shall be located concentric with the nominal position of the thread in the nut within 010 inch total indicator reading The diameter of the torque stud or device shall have a maximum diametral clearance of 010 inch in the test plate The torque stud or device shall be provided with a shoulder to seat against the base of the nut or shall incorporate a suitable bushing to accomplish this Reverse loading may be accomplished by the addition of a check nut Torque may also be applied by wrenching an ease-out tool inserted from the top or bottom of the nut

4 5 4 Push out - The nuts shall be prepared for this test as specified in 4 5 3 3, except that the push-out stud or device shall be provided with a hemispherical end of a diameter equal to the thread diameter plus 1/32 inch minimum

4 5 5 Vibration - Sample nuts with matching bolts shall be vibrated in accordance with MIL-STD-1312 - 7 There shall be no failures at less than 30,000 cycles

TABLE XI VIBRATION REQUIREMENTS

Nut Size	Bolt	Assembly Torque (In-Lb)
1900-32	160 KSI rated,	36 ±1
2500-28	Plain Finish,	60 ±1
3125-24	A286 Bolts with	120 ±2
3750-24	Thread in	160 ±2
4375-20	accordance with	200 ±3
5000-20	MIL-S-8879	300 ±3

4 5 5 1 Preparation for vibration test

4 5 5 1 1 Accelerated vibration - One-half of the nuts shall be assembled in accordance with Figure 1, of MIL-STD-1312 - 7 with bolts and torque values as specified in Table XI The nuts shall then be removed and reinstalled to this torque four additional times before being vibrated

4 5 5 1 2 Baking of Test specimens - Five (5) nuts shall be assembled on the appropriate bolts and baked for six hours at $1200^{0} \pm 25^{0}$F The baked specimens shall be allowed to cool slowly in air to room temperature The nuts shall then be removed and reinstalled to torque values specified in Table XI four additional times before being vibrated

4 5 5 2 Method - Use MIL-STD-1312, Test 7 procedure

4 5 5 2 1 The assembly shall transverse the entire length of the slots in the test fixture The test shall be run for 30 000 cycles The test shall be stopped if a nut becomes disassembled from a bolt The nut samples shall be examined under 10X magnification for cracks

4 5 5 2 2 The nuts shall be considered to have failed to pass the vibration test under the following conditions

a When any structural failure, such as broken segments, locking inserts falling out, or cracks occur in the nuts during the test (Not including failure of the bolt)

b When any nut comes completely off the bolt or can be turned completely on or off the bolt with the fingers during or after completion of 30,000 cycles

c When relative rotation between any nut and bolt is greater than 360 degrees

4 5 6 Discontinuities - Discontinuities in nuts such as laps, seams, and inclusions, shall be determined by the fluorescent penetrant method of inspection, unless visual inspection discloses discontinuities which would preclude the necessity for these inspections If indications are present, representative samples shall be taken from those nuts and be further examined by micro examination to determine if the discontinuities are within the limits of table VI

4 5 6 1 Fluorescent penetrant inspection method - Fluorescent penetrant inspection shall be performed in accordance with MIL-STD-6866 This inspection shall be performed on nuts prior to plating, any required plating or coating shall be removed from finished nuts for this inspection. Nuts shall be dyed as an indication of fluorescent penetrant inspection specified by the sampling requirements of this specification Personnel conducting fluorescent penetrant inspection shall be qualified in accordance with MIL-STD-410

4 5 7 Magnetic permeability - The magnetic permeability shall be determined by the use of test method 6 in accordance with ASTM A342, or equivalent This test shall be performed on the same samples which were used in the axial strength test of 4 5 2 1 1

4 6 Packaging, packing, and marking - The sampling and inspection of preservation, packing and container marking shall be in accordance with PPP-H-1581

5 PREPARATION FOR DELIVERY

5 1 Preservation, packaging, packing, and marking - Self-locking nuts shall be preserved, packaged, packed, and marked for shipment in accordance with PPP-H-1581 Preservation and packaging shall be level A or C, as specified in the contract or order (see 6 2) Packing shall be level A, B, or C, as specified in the contract or order (see 6 2)

5 2 Packing - MS or NAS nuts furnished to the Government shall be packaged and sealed by the original manufacturer in flexible transparent, heat sealed bags Bag thickness shall be consistent with size and weight of the contents and withstand handling without degradation Quantities per unit packages shall be in accordance with PPP-H-1581

5 2 1 Marking - Identification shall be in indelible ink and placed on each bag The method of marking shall be in accordance with MIL-STD-129 Each bag shall be identified with the following information for source traceability

MS Part No or NAS Part No
Packaged by (Manufacturer's Name and Cage)
Manufacturer's Part No
Manufacturer's Lot No
Quantity
Date

6 NOTES

6 1 Intended use - The nuts and plate nuts are intended for use in applications where maximum temperatures do not exceed 1,200°F

6 2 Acquisition requirements - Procurement documents should specify

(a) Title, number, and date of this specification
(b) MS part number
(c) Quantity
(d) Applicable levels of packaging and packing (see section 5)

6 3 Qualification - With respect to products requiring qualification, awards will be made only for products that are at to the time set for opening of bids, qualified for inclusion in the applicable Qualified Products List (QPL 7873) whether or not such products have actually been so listed by that date The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or purchase orders for the products covered by this specification The activity responsible for the Qualified Products List is the Defense Industrial Supply Center , DISC EPP, 700 Robbins Avenue Philadelphia Pa 19111-5096

6 4 Changes from previous issue Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes

6 5 Subject term (keyword) listing

Nut
Self-locking
Plate
Wrenchable

CUSTODIANS.
Army - AV
Navy - AS
Air Force - 82

Preparing activity
DLA-IS

Project No 5310-1905

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1 The preparing activity must complete blocks 1, 2, 3, and 8 In block 1, both the document number and revision letter should be given
2. The submitter of this form must complete blocks 4, 5, 6, and 7
3 The preparing activity must provide a reply within 30 days from receipt of the form

NOTE This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts Comments submitted on this form do not constutite or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements

I RECOMMEND A CHANGE:	1 DOCUMENT NUMBER MIL N-18738	2 DOCUMENT DATE(YYMMDD) 94 MAY 26

3 DOCUMENT TITLE NUT, SELF-LOCKING 1,200°F

4 NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible Attach sheets if needed)

5 REASON FOR RECOMMENDATION

6 SUBMITTER

a. NAME (Last, First, Middle Initial)	b ORGANIZATION	
c ADDRESS (Include Zip Code)	d TELEPHONE (Include Area Code) (1) Commercial (2) AUTOVON (If applicable)	7. DATE SUBMITTED (YYMMDD)

8 PREPARING ACTIVITY DLA-IS

a NAME E DENNIS/E ALTOMARI	b TELEPHONE (Include Area Code) (1) Commercial (215) 697-3964/6827 (2) AUTOVON 442-3964/6827
c ADDRESS (Include Zip Code) DEFENSE INDUSTRIAL SUPPLY CENTER 700 ROBBINS AVENUE, BLDG 3 (CODE DISC-EEP) PHILADELPHIA, PA 19111-5096	IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT Defense Quality and Standardization Office 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041- Telephone (703) 756-2340 AUTOVON 289-2340