
COUNTERSINK, COUNTERBORE, OR RADIUS RELIEF TO THREAD WITHIN THE LIMITS OF DIMENSIONS "60" AND 88 MIN ANGLE

30° ± 5

WASHER FACE CHAMFER OR RADIUS RELIEF TO HEX FLATS OPTIONAL WHEN WITHIN THE 30° ± 5 ANGLE AND "60" DIA LIMITATIONS

STYLE A

STYLE B

EITHER STYLE A OR B TO BE SUPPLIED AT MANUFACTURER'S OPTION

SEGMENTED BEAM LOCK

NOTE

CONFIGURATION OF NUT OPTIMAL LIMITATIONS IMPOSED ONLY ON DIMENSIONS AND REQUIREMENTS SPECIFIED HEREDEN SEE EXAMPLE OF PART NUMBERS

DENOTES CHANGE(S)

INCH - POUND

1

PREPARING ACTIVITY DLA-IS
CUSTODIAN ARMY - AR MAY - AS
AIR FORCE - 99 DLA-
REVIEW AT AV ER GL MI 05 SH 11 82
USER
PROJECT NUMBER 5310-2029

MILITARY SPECIFICATION SHEET
TITLE NUT, SELF-LOCKING, HEXAGON-REGULAR HEAD, 450°F 125 KSI FLU

SPECIFICATION SHEET NUMBER MS21045
REV L 5 NOV 94
SUPERSEDDING MS21045 K 30 AUG 94

AMSC - N/A FSC 5310

DISTRIBUTION STATEMENT A, APPROVED FOR PUBLIC RELEASE, DISTRIBUTION UNLIMITED

DD Form 672, MAY 88
### TABLE 1: DIMENSIONS AND TOLERANCES

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<tr>
<th>THREAD</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>#0 F</th>
<th>AXIAL STRENGTH SQUARINESS</th>
<th>WEIGHT REF.</th>
<th>#8K</th>
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(a) THREADS IN ACCORDANCE WITH MIL-S-8879
(b) BEARING SURFACE (#8K) SHALL BE SQUARE WITH PITCH DIAMETER WHEN MEASURED ON ACCORDANCE WITH MIL-N-25027
(c) DIMENSIONS ACROSS FLATS MAY INCLUDE DEFLECTION OF SELF-LOCKING DEVICE

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PREPARING ACTIVITY DLA-15
CUSTODIANS ARMY- NAVY- AS
AIR FORCE- DLA-
MAILING ADDRESS AT, AV, ER, GM, MI, OS, SH, 11, 82
USER PROJECT NUMBER 5310-2029

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REQUIREMENTS

1. MATERIALS. ALLOY STEEL GRADE 8740 (UNS G87400) PER AMS 6322
   CARBON STEEL GRADE 1008 (UNS G10080) PER ASTM A29
   CARBON STEEL GRADE 1010 (UNS G10100) PER AMS 5050
   CARBON STEEL GRADE 1015 (UNS G10150) PER AMS 5080
   CARBON STEEL GRADE 1018 (UNS G10180) PER AMS 5069
   CARBON STEEL GRADE 1021 (UNS G10210) PER ASTM A29
   CARBON STEEL GRADE 1022 (UNS G10220) PER AMS 5070
   CARBON STEEL GRADE 1030 (UNS G10300) PER ASTM A29
   CARBON STEEL GRADE 1033 (UNS G10330) PER AMS 5080
   CARBON STEEL GRADE 1036 (UNS G10360) PER AMS 5070
   CARBON STEEL GRADE 1046 (UNS G10460) PER ASTM A29
   CARBON STEEL GRADE 1110 (UNS G11100) PER AMS 5022
   CARBON STEEL GRADE 1118 (UNS G11180) PER ASTM A29
   CARBON STEEL GRADE 1137 (UNS G11370) PER AMS 5024
   CARBON STEEL GRADE 1213 (UNS G12130) PER ASTM A29
   CARBON STEEL GRADE 1214 (UNS G12140) PER ASTM A29
   CARBON STEEL GRADE 15821 (UNS H15211) PER SAE J1268
   CORROSION RESISTANT STEEL TYPE 303 (UNS S30300) PER AMS 5640
   CORROSION RESISTANT STEEL TYPE 304 (UNS S30400) PER ASTM A493
   CORROSION RESISTANT STEEL TYPE 347 (UNS S34700) PER ASTM A279
   CORROSION RESISTANT STEEL TYPE 304H (UNS S30403) PER AMS 5647
   CORROSION RESISTANT STEEL TYPE A-286 (UNS S66286) PER AMS 5732 OR 5737
   CORROSION RESISTANT STEEL TYPE A-305 (UNS S30500) PER AMS 5686

2. COATING. STEEL NUTS (WITHOUT DRY FILM LUBRICATION) CADMIUM PLATED IN ACCORDANCE WITH QQ-P-416 TYPE II CLASS 2 DRY FILM LUBRICATED STEEL NUTS IN ACCORDANCE WITH QQ-P-416 TYPE II CLASS 2 IF THE NUTS WILL NOT BE SPRAY COATED. REQUIREMENTS OF QQ-P-416 TYPE II ALUMINUM COATING. ION VAPOR DEPOSITED PER MIL-C-83488

3. PASSIVITY. CORROSION RESISTANT STEEL NUTS PER QQ-P-35 BEFORE DRY FILM LUBRICATED

4. LUBRICANT. DRY FILM LUBRICANT APPROVED IN ACCORDANCE WITH MIL-N-25027. NON DRY LUBRICANT SHALL BE SOLUBLE IN THE CLEANER SPECIFIED IN MIL-S-8802

5. SURFACE ROUGHNESS. IN ACCORDANCE WITH AMS/ASME B46.1 UNLESS OTHERWISE SPECIFIED THE SURFACE ROUGHNESS SHALL NOT EXCEED 125 MICRONICHELLES

6. PERFORMANCE. SEE PROCUREMENT SPECIFICATION EXCEPT DRY FILM LUBRICATION SPECIFICATION LIMITS FIVE REUSE CYCLES

7. MAGNETIC PERMEABILITY. IN ACCORDANCE WITH MIL-N-25027

NOTES

1. DIMENSIONS IN INCHES
2. BREAK ALL SHARP EDGES AND REMOVE ALL BURRS AND SLIVERS
3. EXAMPLE OF PART NUMBER
   MS21045-44 = 2500-28 STEEL NUT, CADMIUM PLATED SOLUBLE LUBRICANT SEGMENTED BEAM LOCK OR ELLIPTICAL LOCK
   MS21045-44 = 2500-28 STEEL NUT, CADMIUM PLATED DRY FILM LUBRICANT SEGMENTED BEAM LOCK OR ELLIPTICAL LOCK
   MS21045-40 = 2500-28 CORROSION RESISTANT STEEL NUT DRY FILM LUBRICANT SEGMENTED BEAM LOCK
4. AN ADDITIONAL DASH "S" CODE INDICATES SEGMENTED BEAM LOCK "E" CODE INDICATES ELLIPTICAL BEAM LOCK "A" CODE INDICATES ION VAPOR DEPOSITED ALUMINUM COATING
5. DESIGN AND USAGE LIMITATIONS. THESE NUTS ARE DESIGNED TO DEVELOP THE TENSILE STRENGTH OF BOLTS AND SCREWS WITH AN ULTIMATE STRESS (S) OF 125 KSI BASED ON THE CROSS SECTIONAL AREA AT THE BASIC ROOT DIAMETER OF THE THREAD. THESE NUTS ARE DESIGNED TO BE USED ON 3A EXTERNAL THREADS PER MIL-S-8879. THESE NUTS SHALL BE USED IN ACCORDANCE WITH THE LIMITATIONS SPECIFIED IN MIL-S-8868B
6. INTERCHANGEABILITY RELATIONSHIP. EXCEPT FOR THE AN363 7/16-20 THREAD SIZE NUTS, MS21045 NUTS CAN UNIVERSALLY REPLACE THE ALL METAL AN363 AND NAS1021 NUTS OF LIKE MATERIAL PLATING AND THREAD SIZE BUT THESE AN363 AND NAS1021 NUTS CANNOT UNIVERSALLY REPLACE THE MS21045 NUTS

7. BIDS SHALL BE SOLICITED ONLY FROM THE MANUFACTURERS LISTED ON GSP-25027

8. IN THE EVENT OF A CONFLICT BETWEEN THE TEXT OF THIS DOCUMENT AND THE REFERENCES CITED HEREIN, THE TEXT OF THIS DOCUMENT SHALL TAKE PRECEDENCE

9. UNLESS OTHERWISE SPECIFIC IN THE DOCUMENTS REFERENCED, THESE ARE TO EFFECT AT THE TIME OF ISSUE

PREPARING ACTIVITY: DLA-A5
CUSTOMERS: ARMY—NAVY—AS
AIR FORCE—99 DLA

REVIEW AT: AV ER GL ML DS SH SN 82
USER PROJECT NUMBER: 5310-2029

DISTRIBUTION STATEMENT: A. Approved for public release; distribution is unlimited

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### Table II: Interchangeability Relationship

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### Source

This specification is approved for use by all departments and agencies of the Department of Defense.

The requirements for acquiring the products described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the drawings specified in the solicitation W912QZ-25-D-00027.

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