

THE REQUIREMENTS FOR ACQUIRING THE PRODUCT(S) DESCRIBED HEREIN SHALL CONSIST OF THIS SPECIFICATION SHEET AND THE ISSUE OF THE FOLLOWING SPECIFICATION LISTED IN THAT ISSUE OF THE DODISS SPECIFIED IN THE SOLICITATION: MIL-S-21472

THIS SPECIFICATION IS APPROVED FOR USE BY ALL DEPARTMENTS AND AGENCIES OF THE DEPARTMENT OF DEFENSE.

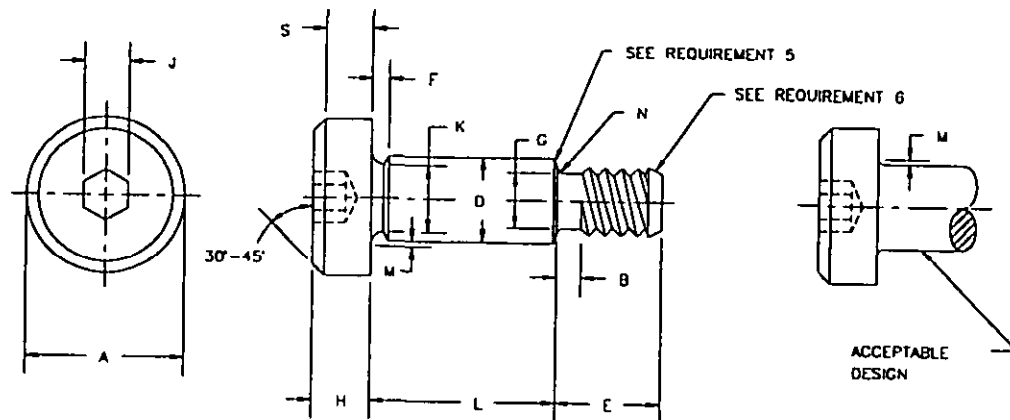


TABLE I.

| NOMINAL SIZE | | .250 | .3125 | .375 | .500 | .625 | .750 | 1.000 | 1.250 |
|-----------------------------|------------|----------|----------|----------|----------|----------|----------|----------|---------|
| THREADS (UNC-3A) | | .1900-24 | .2500-20 | .3125-18 | .3750-16 | .5000-13 | .6250-11 | .7500-10 | .8750-9 |
| D SHOULDER DIAMETER | MAX | .2480 | .3105 | .3730 | .4980 | .6230 | .7480 | .9980 | 1.2480 |
| | MIN | .2460 | .3085 | .3710 | .4960 | .6210 | .7460 | .9960 | 1.2460 |
| A HEAD DIAMETER | MAX | .375 | .438 | .562 | .750 | .875 | 1.000 | 1.312 | 1.750 |
| | MIN | .357 | .419 | .543 | .729 | .853 | .977 | 1.267 | 1.723 |
| H HEAD HEIGHT | MAX | .188 | .219 | .250 | .312 | .375 | .500 | .625 | .750 |
| | MIN | .177 | .209 | .240 | .302 | .365 | .490 | .610 | .735 |
| S HEAD SIZE HEIGHT | MIN | .157 | .183 | .209 | .262 | .315 | .421 | .527 | .633 |
| E THREAD LENGTH | MAX | .375 | .438 | .500 | .625 | .750 | .875 | 1.000 | 1.125 |
| | MIN | .355 | .418 | .480 | .595 | .720 | .845 | .970 | 1.095 |
| G THREAD NECK DIAMETER | MAX | .142 | .193 | .249 | .304 | .414 | .521 | .638 | .750 |
| | MIN | .133 | .182 | .237 | .291 | .397 | .502 | .616 | .726 |
| B THREAD NECK WIDTH | MAX | .083 | .100 | .111 | .125 | .154 | .182 | .200 | .222 |
| J SOCKET WIDTH ACROSS FLATS | NOM | .125 | .156 | .188 | .250 | .312 | .375 | .500 | .625 |
| K SHOULDER NECK DIAMETER | MIN | .227 | .289 | .352 | .477 | .602 | .727 | .877 | 1.227 |
| F SHOULDER NECK WIDTH | MAX | .093 | .093 | .093 | .093 | .093 | .093 | .125 | .125 |
| N THREAD NECK FILLET | MAX | .023 | .028 | .031 | .035 | .042 | .051 | .055 | .062 |
| | MIN | .017 | .022 | .025 | .029 | .036 | .045 | .049 | .056 |
| M HEAD FILLET | MAX | .014 | .017 | .020 | .026 | .032 | .039 | .050 | .060 |
| | MIN | .009 | .012 | .015 | .020 | .024 | .030 | .040 | .050 |
| 2/ SHEAR STRENGTH | SINGLE MIN | 1,170 | 2,180 | 3,700 | 5,580 | 10,400 | 16,600 | 25,000 | 34,800 |
| | DOUBLE MIN | 7,980 | 12,550 | 18,150 | 32,450 | 50,900 | 73,400 | 130,800 | 204,850 |
| 1/ TENSILE STRENGTH | LBS-MIN | 1,950 | 3,640 | 6,170 | 9,310 | 17,300 | 27,700 | 41,700 | 58,000 |

1/ Ultimate tensile strength of 140,000 psi min, based on the minimum thread neck area.

2/ Single shear strength of 84,000 psi min in thread neck area, based on the minimum thread neck area.
Double shear strength of 168,000 psi min in shoulder area, based on the minimum shoulder.

(E) DENOTES CHANGE(S)

INCH-POUND

| | | |
|--|---|---|
| PREPARING ACTIVITY: DLA-15 CUSTODIANS: ARMY- AR NAVY- SH AIR FORCE- 99 | MILITARY SPECIFICATION SHEET TITLE SCREW, SHOULDER - SOCKET HEAD, HEXAGON, ALLOY STEEL, CADMIUM PLATED, UNC-3A | SPECIFICATION SHEET NUMBER MS51975 J MAR 95 REV C |
| REVIEW: CSA,82 USER: PROJECT NUMBER: 5305-2074 | | SUPERSEDING MS51975D 25 APR 94 (SEE NOTE 6) |
| DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited. | | AMSC- N/A FSC 5305 |

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PREVIOUS EDITIONS ARE OBSOLETE.

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OMB No. 0704-0188

TABLE II

| NOMINAL SIZE | | .250 | .3125 | .375 | .500 | .625 | .750 | 1.000 | 1.250 |
|-------------------|-------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| THREADS (UNC-3A) | | .1900-24 | .2500-20 | .3125-18 | .3750-16 | .5000-13 | .6250-11 | .7500-10 | .8750-9 |
| L SHOULDER LENGTH | TOL | DASH NUMBER | DASH NUMBER | DASH NUMBER | DASH NUMBER | DASH NUMBER | DASH NUMBER | DASH NUMBER | DASH NUMBER |
| .375 | | 1 | | | | | | | |
| .500 | | 2 | 8 | 16 | | 38* | | | |
| .625 | | 3 | 9 | 17 | | 39* | | | |
| .750 | | 4 | 10 | 18 | 28 | 40* | | | |
| .875 | | | | | | 41* | | | |
| 1.000 | | 5 | 11 | 19 | 29 | 42* | 51* | | |
| 1.250 | | 6 | 12 | 20 | 30 | 43 | 52* | | |
| 1.500 | ±.005 | 7 | 13 | 21 | 31 | 44 | 53 | 60* | |
| 1.750 | | | 14 | 22 | 32 | 45 | 54 | 61* | 71* |
| 2.000 | | | 15 | 23 | 33 | 46 | 55 | 62* | 72* |
| 2.250 | | | | 24 | 34 | 47 | 56 | 63* | 73* |
| 2.500 | | | | 25 | 35 | 48 | 57 | 64* | 74* |
| 2.750 | | | | 26 | 36 | 49 | 58 | 65* | 75* |
| 3.000 | | | | 27 | 37 | 50 | 59 | 66* | 76* |
| 3.500 | | | | | | | 61 | 68* | 77* |
| 3.750 | | | | | | 80 | | | |
| 4.000 | | | | | | | | 70* | 78* |

* Indicates manufacturer's non-stock production item.

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| PREPARING ACTIVITY: DLA-15 CUSTODIANS: ARMY- AR NAVY- SH AIR FORCE- 99 REVIEW: GSA, 82 USER: PROJECT NUMBER: 5305-2074 | MILITARY SPECIFICATION SHEET TITLE SCREW, SHOULDER - SOCKET HEAD, HEXAGON, ALLOY STEEL, CADMIUM PLATED, UNC-3A | SPECIFICATION SHEET NUMBER MS51975 3 MAR 95 REV E SUPERSEDING MS51975D 25 APR 94 (SEE NOTE 6) AMSC- N/A FSC 5305 |
| DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited. | | Page 2 of 3 |

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REQUIREMENTS:

1. MATERIAL: ALLOY STEEL, IN ACCORDANCE WITH PROCUREMENT SPECIFICATION.
2. PROTECTIVE COATING: CADMIUM PLATED IN ACCORDANCE WITH QQ-P-416, TYPE II, CLASS 2.
3. THREADS: THREADS SHALL BE CLASS 3A IN ACCORDANCE WITH FED-STD-H28/2. ACCEPTABILITY OF SCREW THREADS SHALL BE IN ACCORDANCE WITH FED-STD-H28/20, SYSTEM 22.
4. HEAD: PLAIN OR KNURLED ARE ACCEPTABLE.
5. EDGE OF SHOULDER: THE EDGE OF SHOULDER MAY BE BROKEN. THE RADIUS OR CHAMFER MAY NOT EXCEED 0.005 INCH FOR SHOULDERS TO 0.375 INCH DIAMETER AND 0.008 INCH FOR LARGER DIAMETERS.
6. SCREW POINT CHAMFER: THE POINT SHALL BE FLAT OR SLIGHTLY CONCAVE, AND CHAMFERED. THE PLANE OF THE POINT SHALL BE APPROXIMATELY NORMAL TO THE AXIS OF THE SCREW. THE CHAMFER SHALL EXTEND SLIGHTLY BELOW THE ROOT OF THE THREAD, AND THE EDGE BETWEEN FLAT AND CHAMFER MAY BE SLIGHTLY ROUNDED. THE INCLUDED ANGLE OF THE POINT SHOULD BE APPROXIMATELY 90 DEGREES.
7. PART NUMBER: THE PART NUMBER SHALL CONSIST OF THE BASIC MS NUMBER FOLLOWED BY A DASH NUMBER TAKEN FROM TABLE II.

EXAMPLE: MS51975-1

DASH NUMBER

BASIC MS NUMBER

⑤ MS51975-1 INDICATES - SCREW, SHOULDER, SOCKET HEAD, HEXAGON, ALLOY STEEL, .250 NOMINAL SHOULDER SIZE, .375 SHOULDER LENGTH, 1900-24 UNC-3A THREAD SIZE, CADMIUM PLATED.

- ⑥ IDENTIFICATION: SCREWS WITH NOMINAL SIZES .1900 AND LARGER SHALL BE PERMANENTLY MARKED BY THE MANUFACTURER INDICATING SOURCE IDENTIFICATION, MARKING SIZE, TYPE, AND LOCATION OF MARKS AT MANUFACTURER'S OPTION. SCREWS SHALL NOT BE MARKED ON BEARING OR WRENCHING SURFACES.

NOTES:

1. INTERPRET DIMENSIONS AND TOLERANCES IN ACCORDANCE WITH ANSI Y14.5M.
2. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.
3. IN THE EVENT OF A CONFLICT BETWEEN THE TEXT OF THIS STANDARD AND THE REFERENCES CITED HEREIN, THE TEXT OF THIS STANDARD SHALL TAKE PRECEDENCE.
4. REFERENCED GOVERNMENT (OR NON-GOVERNMENT) DOCUMENTS OF THE ISSUE LISTED IN THAT ISSUE OF THE DEPARTMENT OF DEFENSE INDEX OF SPECIFICATIONS AND STANDARDS (DODISS) SPECIFIED IN THE SOLICITATION FORM A PART OF THIS STANDARD TO THE EXTENT SPECIFIED HEREIN.
5. SEE MS21301 FOR UNPLATED ALLOY STEEL AND MS51576 FOR CORROSION RESISTANT STEEL SCREWS.
6. SCREWS COVERED BY DASH NUMBERS 1 THRU 70 GIVEN IN MS16637 AND MS16638 ARE CANCELLED AFTER 15 DECEMBER 1964 AND SUPERSEDED BY THE SCREWS GIVEN IN MS51975 HAVING THE SAME DASH NUMBERS. THE CANCELLED SCREWS CANNOT ALWAYS REPLACE THE SUPERSEDING SCREWS AND SHOULD BE USED UNTIL STOCKS ARE DEPLETED. USE ONLY THE SUPERSEDING SCREWS FOR NEW DESIGN AND REPLACEMENT.

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| PREPARING ACTIVITY: DLA-15 CUSTODIANS: ARMY - AR NAVY - SH AIR FORCE - 99 REVIEW: GSA, 22 USER: PROJECT NUMBER: 5305-2074 | MILITARY SPECIFICATION SHEET TITLE SCREW, SHOULDER - SOCKET HEAD, HEXAGON, ALLOY STEEL, CADMIUM PLATED, UNC-3A | SPECIFICATION SHEET NUMBER MS51975 3 MAR 95 REV E SUPERSEDING MS51975D 25 APR 94 (SEE NOTE 6) AMSC- N/A FSC 5305 |
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