

FED SUP CLASS  
5305, 5306, 5307

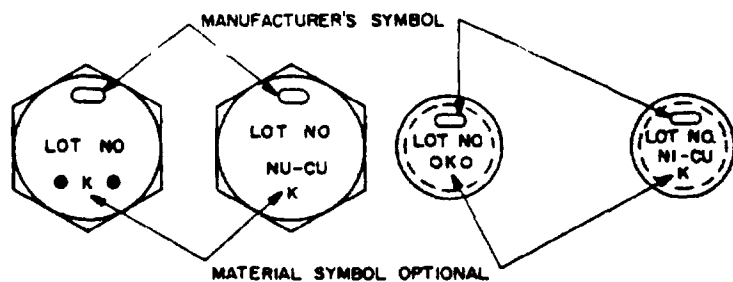


TABLE I. Mechanical properties.<sup>1/</sup>

| Identification symbol     | Tensile strength (minimum)        | Yield strength <sup>2/</sup> 0.2 percent offset (minimum) | Elongation in 2 inches (minimum) |
|---------------------------|-----------------------------------|---|----------------------------------|
| °K°<br>(OR)<br>Ni-Cu<br>K | 1b/in <sup>2</sup><br><br>130,000 | 1b/in <sup>2</sup><br><br>90,000                          | Percent<br><br>20.0              |

<sup>1/</sup> As determined by round specimens of ASTM E 8.  
<sup>2/</sup> Fasteners 1" and over - 85,000 lb/in<sup>2</sup>, minimum.

Intended use: Nickel-copper-aluminum alloy fasteners are intended for services involving high stress and severe marine corrosion.

REQUIREMENTS

1. Material: Material shall be nickel-copper-aluminum alloy, class A of QQ-N-286.
2. Mechanical properties: Fasteners shall conform to the mechanical property requirements of table I.
3. Bar stock: The bar stock used shall be cold drawn and annealed, hot rolled and annealed, hot forged and annealed, or annealed and age hardened. Fasteners headed, cut or roll threaded from annealed bar stock shall be age hardened. Fasteners manufactured from age hardened bar stock shall have heads and threads formed by cutting.
4. Marking: Identification marking shall be applied as illustrated above to the head of the bolt, end of the stud, and end of socket head cap screw.

(H) REINSTATEMENT NOTICE

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|  |                        |  |                   |
|--|------------------------|--|-------------------|
| P A Navy-SH<br>Other Cust                          | INTERNATIONAL INTEREST | TITLE<br>BOLT, STUD, AND SOCKET CAP HEAD SCREW, NICKIL-COPPER-ALUMINUM ALLOY | MILITARY STANDARD |
|  |                        |  | MS18116(SH)       |
| PROCUREMENT SPECIFICATION<br>MIL-S-1222 or FF-S-86 |                        |  | SHEET 1 OF 2      |

This military standard is approved for use by the Naval Sea Systems Command, Department of the Navy and is available for use by all Departments and Agencies of the Department of Defense.

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REQUIREMENTS (Continued)

5. Lot identification. All fasteners identified by one lot number shall be of the same nominal size and threading, same heat or melt of metal, same processing of bar stock and fastener blanks, and same heat-treat batch or continuous heat treating process controlled to the same age hardening limits. The following numbers are currently reserved for other nonferrous fastener materials and shall not be used for lot identification:

|     |      |      |      |     |
|-----|------|------|------|-----|
| 8   | 24T4 | 464  | 630  | 661 |
| 8F  | 61T6 | 464H | 639  | 675 |
| 8M  | 410  | 510  | 651  |     |
| B8  | 416  | 510H | 655  |     |
| B8M | 462  | 614  | 655H |     |

6. Sampling Sampling of fasteners shall be as required by the acquisition specification.

7. Examination for seams and cracks. Samples selected in accordance with the quality assurance requirements of the applicable acquisition specification, shall be subjected to dye penetrant examination as specified in MIL-STD-271 for the presence of defects such as seams or cracks as deep as, or visible in, the root of the thread, or circumferential defects at the fillet radius of bolts and cap screws. Any fastener in the sample containing one or more defects, thus indicated, shall be considered a defective towards rejection of the lot.

8. Certification Each delivery shall be accompanied by a certificate identified by the lot number(s) and include the following.

- (a) Copy of report covering mechanical test data and liquid penetrant inspection results.
- (b) Statement that records are available covering heat or melt number(s) of the material used, processing of bar stock and fastener blanks, thread forming and gaging, dimensional control employed, and heat treatments.

NOTES

- 1. Traceability. Certification required above constitutes traceability for critical systems.
- 2. Referenced documents shall be of the issue in effect on date of invitations for bids, or request for proposal except that referenced adopted industry documents shall give the date of the issue adopted.
- 3. For quality assurance purposes, this standard takes precedence over acquisition documents referenced herein.

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