

MIL-C-21657A (OS)
25 April 1972
SUPERSEDING
MIL-C-21657 (NOrd)
30 October 1958

MILITARY SPECIFICATION

COPPER-BERYLLIUM ALLOY, LOW MAGNETIC EFFECT (FOR SPECIAL PURPOSE TOOLS AND EQUIPMENT)

*This specification has been approved by the Naval Ordnance
Systems Command, Department of the Navy*

1. SCOPE

1.1 Scope. This specification covers copper-beryllium alloy for nonmagnetic tools and equipment furnished in bar and rod. (See 6.1.)

1.2 Classification Copper-beryllium alloy bars and rods covered by this specification shall be furnished in the following conditions as specified, (see 6.2):

Condition A—Hot rolled (or cold rolled), and solution treated.

Condition H—Hot rolled (or cold rolled), solution treated, and cold worked.

2. APPLICABLE DOCUMENTS

2.1 The following documents of the issue in effect on date of invitation for bids or requests for proposal form a part of this specification to the extent specified herein.

SPECIFICATIONS

Federal

QQ-C-530	Copper-Beryllium Alloy Bar, Rod, and Wire
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|FSC 9530|

MIL-C-21657A (OS)

Military

MIL-M-19595 Magnetic Effect Limits for Nonmagnetic
Equipment Used in the Proximity of Magnetic
Influence Ordnance

(Copies of documents required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer)

3. REQUIREMENTS

3.1 Material Unless otherwise specified in the contract or order (see 6.2), material covered by this specification shall be in accordance with the requirements of QQ-C-530

3.2 Magnetic effects Material covered by this specification shall conform to the magnetic effect requirements of MIL-M-19595.

4. QUALITY ASSURANCE PROVISIONS

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

4.2 Sampling, inspection, and test procedures Sampling, inspection, and test procedures shall be as required by QQ-C-530. In addition, material shall be sampled and tested for magnetic effect in accordance with the requirements of MIL-M-19595.

5. PREPARATION FOR DELIVERY

5.1 Unless otherwise specified in the contract or order (see 6.2), material covered by this specification shall be prepared for delivery in accordance with the requirements of QQ-C-530

6. NOTES

6.1 Intended use The material covered by this specification is intended for special purpose tools and equipment where minimum magnetic effects are required. The limits of magnetic effect are far more stringent than those required for general purpose "non-magnetic" tools

6.2 Ordering data Procurement documents should specify the following

- (a) Title, date, and number of this specification
- (b) Form and condition of material required (see 1.2)
- (c) Material requirements if different from 3.1
- (d) Preparation for delivery if different from 5.1

6.3 Special heat treatment The magnetic characteristics of beryllium-copper depend upon the iron content. QQ-C-530 permits up to 0.40 percent iron. The magnetic effects of beryllium-copper with iron in excess of 0.10 percent may be reduced or eliminated by raising the solution temperature from the standard 1450° Fahrenheit to a maximum of 1550° Fahrenheit followed by a water quench and the standard aging treatment (3 hours at 600° Fahrenheit)

Custodian
Navy - OS

Preparing activity
Navy - OS
(Project no 9530-N006)

SPECIFICATION ANALYSIS SHEET

Form Approved
Budget Bureau No. 22 K25

INSTRUCTIONS This sheet is to be filled out by personnel either Government or contractor involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side. Staple in corner and send to preparing activity. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.

SPECIFICATION MIL-C-21657A (OS), Copper-Beryllium Alloy, Low Magnetic Effect
(For Special Purpose Tools and Equipment)

ORGANIZATION

CITY AND STATE

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT

☐ SUBCONTRACT

1 HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE?

A GIVE PARAGRAPH NUMBER AND WORDING

B RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES

2 COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID

3 IS THE SPECIFICATION RESTRICTIVE?

☐ YES ☐ NO (If "yes" in what way?)

4 REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers attach to form and place both in an envelope addressed to preparing activity)

SUBMITTED BY (Printed or typed name and activity Optional)

DATE

DD FORM 1426
1 JAN 66

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED

FOLD

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