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YS

**NONFERROUS METALS INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

YS/T 334-2009

Replacing YS/T 334-1995

Copper-beryllium alloy rod

铍青铜圆形棒材

(English Translation)

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Foreword

The revised standard used by the US ASTM B196M-03 "copper beryllium alloy rod and strip" and ASTM B441-04 "copper - cobalt - beryllium and copper - Nickel - Beryllium Rod and Bar" standard.

The difference between standard and ASTM B196M-03's.

--- Shape only round bars, ASTM standards specified in this standard form for the bars and strip cross-section has a circular, hexagonal Shaped and octagonal bars and rectangle strip;

--- This standard is based on ASTM B196M-03 on the increase QBe2, QBe1.9, QBe1.9-0.1 and QBe1.7 grades; increase Plus heat processed and semi-hard state; for straightness modified, less than 1500mm length for straightness requirements when inferior to ASTM B196M-03 standards strictly;

Mechanical tests before --- the mechanical properties of different test requirements, specified in this standard aging heat treatment each state a tensile test, hardness Test only when the user requires parties to carry out the mechanical properties after aging heat treatment test for hardness test, tensile test for the special user Do not be carried out when the requesting Party; ASTM B196M-03 standard specifies the nominal diameter or a parallel plane spaced not more than 10mm Bars (round, hexagonal, octagonal) and bar (square) and the cross-sectional area of not more than 100mm² other sections were Tensile test, hardness test remaining. This standard is part of the material provisions of the elongation ratio ASTM B196M-03 standard is slightly Low, the other mechanical properties very demanding;

--- The standard increases the product's internal quality requirements and test methods.

The difference between the standard and ASTM B441-04.

--- Shape only round bars, ASTM B441-04 standard form specified in this standard for the bar and the strip, a round cross-section Shaped, hexagonal and octagonal bars and

rectangle strip;

--- This standard adds QBe0.3-1.5 grades and thermal processing state; for straightness modified, when the length is less than 1500mm Straightness requirements better than ASTMB441-04 strict standards;

--- Mechanical properties of different test requirements, this standard specifies the mechanical test before aging heat treatment each state a tensile test, hardness test Only when the user experience to carry out the requested Party, the mechanical properties after aging heat treatment test for hardness test, tensile test for the particular user when the requesting Party to carry out; ASTMB441-04 standard specifies the nominal diameter or parallel to the plane of spaced not more than 9.52mm Products and cross-sectional area of not more than 91mm² other product shapes tensile test, a hardness test to rest;

--- The standard increases the product's internal quality requirements and test methods.

Instead of the standard YS/T 334-1995 "beryllium copper rod." Compared with this standard YS/T 334-1995, the main changes are as follows.

--- This standard adds US C17000, C17200 and C17300 grade; product diameter tolerance, straightness, roundness and not Cut length has been adjusted;

--- On the part of the tensile strength and elongation of the lower limit of the range has been adjusted; removed Brinell hardness, some additions and modifications Rockwell Hardness range; an increase of non-proportional extension strength requirements;

--- For QBe0.6-2.5, QBe0.4-1.8, QBe0.3-1.5 grade products to increase the conductivity requirements;

--- Increasing the product selected for a predetermined ultrasonic flaw detection test.

Appendix A of this standard is the data appendix.

This standard by the National Standardization Technical Committee of non-ferrous metals and centralized.

This standard by the Ningxia Orient Tantalum Industry Co., Ltd. is responsible for drafting.

1 Scope

This standard specifies the beryllium copper rod requirements, test methods, inspection rules and signs, packaging, transportation, storage and purchase order (or contract) content.

This standard applies to beryllium bronze round bars aviation, aerospace, electronics, petroleum industry and other department.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard, however, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 228-2002 metallic materials at room temperature tensile test method GB/T 230.1 Metallic Rockwell hardness test - Part 1. Test methods (A, B, C, D, E, F, G, H, K, N, T scale) GB/T 351 metal material resistivity measurement method GB/T 3310 copper alloy rods ultrasonic flaw detection method GB/T 5231 Wrought copper and copper alloy chemical composition and shape of the product GB/T 8888 heavy non-ferrous metal processing products, packaging, labeling, transportation and storage YS/T 336 copper, nickel and alloy pipe and bar fracture test YS/T 470.1 beryllium copper alloys - Inductively coupled plasma emission spectrometry beryllium, cobalt, nickel, titanium, iron, aluminum, Silicon, lead, magnesium content

3.1 Categories

3.1.1

grade, status and specifications should meet the requirements of Table 1.

Table 1 Product grades, status and specifications

Grade status

specification

Diameter/mm	Length/mm	QBe2	QBe1.9	QBe1.9-0.1	QBe1.7	QBe0.6-2.5 (C17500)	QBe0.4-1.8 (C17510)	QBe0.3-1.5	C17000	C17200	C17300	Semi-hard state (Y2)	Hard (Y)
Hard aging state (TH04) 5 ~ 5000 ~ 101000 > 4000 ~ 10 ~ 201000 > 40500 ~ 3000 ~ 20													
Soft state or solution annealed condition (M) Soft aging state (TF00) 5-120 500-5000													
Thermal processing state (R) 20 ~ 5000 ~ 30500 > 30 to 50 500 to 3000 > 2500 ~ 50 ~ 120500													

Note 1: The state representation and description in Appendix A.

Note 2: Grade QBe0.6-2.5, QBe0.4-1.8 and QBe0.3-1.5 no semi-hard state (Y2).

Note 3: Length or double length should be in the order specified in the contract, otherwise press no definite length delivery.

Note 4: Other product specifications, may be negotiated.