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**NATIONAL STANDARD OF THE  
PEOPLE'S REPUBLIC OF CHINA**

**GB/T 14985-2007**

Replacing GB/T 14985-1994

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**General rules of dimensions, shape, surface, quality, testing  
method and inspection for expansion alloys**

膨胀合金尺寸、外形、表面质量、试验方法和检验规则的一般规定

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## Foreword

This Standard replaces GB/T 14985-1994 "General rules of dimensions, shape, surface quality, test method and inspection for expansion alloys". Compared with GB/T 14985-1994, the main changes in this Standard are as follows: - Add "Normative references" and "Order content"; - Revise the allowable deviation for dimension and shape regulations of cold-drawn (pulled) wire to directly refer to the relevant content in GB/T 342; - Revise the provisions of "higher precision and ordinary precision" in the allowable deviation of cold rolled strip thickness dimensions in GB/T 14985-1994 to that it shall be carried out according to the provisions of width  $\geq 150$  mm and width  $\leq 150$  mm. Modify the original

negative deviation to positive and negative deviation; - Revise the allowable deviation for dimension and shape regulations of cold drawn and polished rods to directly refer to the relevant content in GB/T 3207; - Revise the allowable deviation for dimension of hot forged materials to directly refer to the relevant content in GB/T 908. For the 20 mm ~ < 50 mm hot forged materials not included in GB/T 908, it is revised to "the allowable diameter deviation of 20 mm ~ < 50 mm hot forged materials is +

0.5 mm"; For the allowable deviation of the diameter of the hot forged material  $\geq 50$  mm, the accuracy requirements in Table 2 of GB/T 908 shall be directly quoted; - Revise the allowable deviation for dimension and shape regulations of hot rolled bars to directly refer to the relevant content in GB/T 702; - Delete the words "peeling, burrs, etc. that affect the use" from the surface quality in GB/T 14985-1994; - In Table 4, add the note "The air tightness test shall be carried out by the buyer. The thickness of the specimen to be tested shall be specified in the contract, otherwise the test shall be carried out according to the specimen grade A specified in GB/T 5778 "; - In Chapter 7, add the content "if the size, shape and surface quality are unqualified, it is a substandard product"; - Add "

8 Packaging, marks and quality certificate". Annex A of this Standard is normative. This Standard was proposed by China Iron and Steel Association. This Standard shall be under the jurisdiction of National Technical Committee of Standardization Administration of China. The drafting organizations of this Standard. Shaanxi Precision Alloy Co., Ltd., Shanghai Iron and Steel Research Institute. Main drafters of this Standard. Zhang Ailing, Liu Yongqing. Versions of standard substituted by this document are. GBn100-1981, GBn100-1987, GB/T 14985-1994. General rules of dimensions, shape, surface quality, testing method and inspection for expansion alloys

## 1 Scope

GB/T 14985-2007 is the Chinese national standard on general rules of dimensions, shape, surface, quality, testing method and inspection for expansion alloys, in the field of metallurgy. The /T suffix marks it as a recommended standard: it is not compulsory by itself, but it becomes binding as soon as a contract, a tender or a customer specification calls it up - which in practice is how most foreign buyers meet it. It was issued on 14 August 2007 by the General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China; Standardization Administration of China, and has been in force since 1 March 2008. Classification: ICS 77.140.99, CCS H58. This page is published from the official record of the standard held by the Chinese standards administration: the identification, the dates, the classification and the issuing body are taken from there. The clause text, the tables and the numeric limits are in the document itself, which is delivered complete in English translation.

This Standard specifies the dimensions, shape and allowable deviation, surface quality, testing methods, inspection rules, packaging, marks and quality certificates for expansion

alloys. This Standard applies to expansion alloys with a certain average linear expansion coefficient within a certain temperature range.

## 2 Normative references

The provisions in following documents become the provisions of this Standard through reference in this Standard. For dated references, the subsequent amendments (excluding corrigendum) or revisions do not apply to this Standard, however, parties who reach an agreement based on this Standard are encouraged to study if the latest versions of these documents are applicable. For undated references, the latest edition of the referenced document applies.

GB/T 222, Permissible tolerances for chemical composition of steel products

GB/T 223.3, Methods for chemical analysis of iron, steel and alloy. The daintily methane phosphomolybdate gravimetric method for the determination of phosphorus content

GB/T 223.4, Iron, steel and alloy - Determination of manganese content - Potentiometric or visual titration method

GB/T 223.5, Steel and iron - Determination of acid-soluble silicon and total silicon content - Reduced molybdosilicate spectrophotometric method

GB/T 223.9, Iron, steel and alloy - Determination of aluminium content - Chrome azurol S photometric method

GB/T 223.11, Iron, steel and alloy - Determination of chromium content - Visual titration or potentiometric titration method

GB/T 223.17, Methods for chemical analysis of iron, steel and alloy - The dianipyrylmethane photometric method for the determination of titanium content

GB/T 223.18, Methods for chemical analysis of iron steel and alloy - The sodium thiosulfate separation iodometric method for the determination of copper content

GB/T 223.20, Methods for chemical analysis of iron steel and alloy - The Potentiometric titration method for the determination of cobalt content

## 3 Order content

The contract or order for ordering according to this Standard shall include the followings.

### 4.1 Cold drawn (pulled) wires

4.1.1 Dimension and allowable deviation The diameter of cold drawn (pulled) wire is.

0.10 mm ~

7.00 mm. The allowable deviation of its diameter shall comply with the precision requirements in Table 2 or Table 3 in GB/T 342-1997. The accuracy grade should be specified in the contract. When not specified, it is provided with grade 10 accuracy.

#### **4.2.1 Dimension and allowable deviation**

4.2.1.1 Outer diameter and allowable deviation for inner-outer diameters, wall thickness The outer diameter and allowable deviation for inner and outer diameters, wall thickness of cold rolled (drawn) seamless pipes shall comply with the regulations of Table

1. Other specifications and size tolerances are negotiated between the supplier and the buyer.

#### **4.2.2 Shape**

4.2.2.1 The curvature per meter of the pipe is not greater than 2 mm. The total curvature is not greater than 0.2% of the total length.

#### **4.3.2.1 Strips with a thickness not greater than**

1.5 mm shall be delivered in rolls. If the buyer requires delivery in straight strips or in fixed lengths and multiples, it should be specified in the contract.

#### **4.4 Cold drawn and polished bars**

4.4.1 Dimension and allowable deviation Diameter of cold drawn and polished bars.

40.0 mm. The allowable diameter deviation should meet the accuracy requirements of 9(9h), 10(10h) and 11(11h) in Table 2 of GB/T 3207-1988. The accuracy grade should be specified in the contract. When not specified, it is provided according to grade 11 accuracy.

#### **4.5 Hot forged material**

4.5.1 Dimension and allowable deviation Dimensions and allowable deviations of hot forged materials shall comply with the provisions in Table 3.

#### **4.5.2 Shape**

4.5.2.1 The out-of-roundness of round steel should not exceed half of the diameter tolerance. The diagonal length of the square steel shall not be less than

1.4 times the lower limit of the side length.

### **5 Surface quality**

5.1 Cold rolled (pulled, drawn, polished) material The surface of cold rolled (pulled, drawn, polished) materials should be smooth. Defects such as microcracks, delamination, folds,