ICS 77.040.10
H 22

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

中华人民共和国国家标准

GB/T 228.1—2010
Replace GB/T 228—2002

Metallic materials - Tensile testing – Part 1 : Method of test at room temperature

金属材料 拉伸试验 第 1 部分: 室温试验方法

(ISO 6892-1: 2009, MOD)

Issued on December 23, 2010 **Implemented on December 01 2011**

Issued by **General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China**

Standardization Administration of the People's Republic of China

Contents

Foreword

The modification of this section adopts the international standard ISO 6892-1:2009 *Metallic Materials－Tensile Testing－Part1: Method of Test at Room Temperature* (English Version).

The overall structure, the hierarchical division, the preparation method and the technological content of this section are basically equal to ISO 6892-1:2009.

Amendments and supplements to the following part of the international standards are made in this section, and the margin of the page of the terms involved in the text is identified by vertical single-lines:

——In normative references, this section directly reference to China's national standards corresponding to the international standards.

——Increase some normative references－GB/T8170 *Numerical Rules for Rounding and Limit Values of Representation and Decision*, GB/T10623 *Test Terms to Determine the Mechanical Properties of Metallic Materials*, GB/T22066 *Evaluation of Static Uniaxial Testing Machine with a Computer Data Acquisition System*.

——The minimum of the three measurements of the original cross-sectional area is replaced by the average in Chapter 7.

——Add some basic principles about the determination of the upper and lower yield strength position in Chapter 12.

——Add the "test results of numerical rounding" in Chapter 22.

——Add the normative Appendix J of successive approximation method for determination of provisions plastic eyes strength (Rp).

——Add examples in the informative Appendix K of unloading force method for determination of provisions residual extension strength.

The details in Appendix B, Appendix C, Appendix D and Appendix E about proportional test pieces and disproportionate test pieces are modified accordingly.

——Modify the evaluation method for estimating the uncertainty and form the Appendix L of evaluating the estimation of the uncertainty of the tensile test measurement results

For using easily this section also do the following editorial changes:

—— Change the word "the International Standard" to "the Standard";

—— Use decimal point "." instead of commas "," using as decimal point;

——Delete the preface of the International Standard.

This section replaces GB/T 228-2002 *Metallic Materials-tensile Test Method*. This section does much amendments and additions to the technical content of the original standards in the following areas:

——Modify the standard name

——Normative references

——Add the control method of the test rate. Method A is strain rate control method

——Test results of numerical rounding

——Evaluation method for estimating the uncertainty of the tensile test measurement results

——Add the informative Appendix A of suggestion for using the computer-controlled tensile testing machine

——Add the informative Appendix F of the only rate of beams estimated after taking into account the stiffness (or softness) of the testing machine.

Annex A, F, G, H, I, K, L and M of this Part is informative annex, Annex B, C, D, E, J of this Part is normative annex.

This Part is proposed by China Iron and Steel Association.

This Part is under the jurisdiction of National Technical Committee on Iron and Steel of Standardization Administration of China

Chief draft units of this Standard: Central Iron and Steel Research Institute, China Metallurgical Information & Standardization Institute, Baosteel Corporation, MTS Systems (Shanghai) Company, Ltd, Shougang Company Limited, Shanghai Hualong Testing Instrument Co., Ltd, Shanghai Entry-Exit Inspection and Quarantine Bureau, Dalian Xiwang Equipment Co., Ltd, Shanghai Material Research Institute and Beijing General Research Institute of Nonferrous Metals.

Chief drafters of this Part: Gao Yifei, Liang Xinbang, Dong Li, Sun Shanye, Li Heping, An Jianping, Zhu Linmao, Wang Ping, Lu Changcheng, Yin Jianjun, Wu Yinwen, Wang Bing, Wang Fusheng and Wu Chaohui.

History editions replaced by this Standard as following:

— GB/T 228-1963, GB/T 228-1976, GB/T 228-1987, GB/T 228-2002;
— GB/T 3076-1982;
— GB/T 6397-1986.

Introduction

In this Standard, there are two methods of testing speeds available. The first, method A, is based on strain rates (including crosshead separation rate) and the second, method B, is based on stress rates. Method A is intended to minimize the variation of the test rates during the moment when strain rate sensitive parameters are determined and to minimize the measurement uncertainty of the test results.

Metallic materials - Tensile testing – Part 1 : Method of test at room temperature

1 Scope

This part of GB/T 228 specifies the method for tensile testing of metallic materials and definition, symbol and specification, test pieces as well as dimension determination, test apparatus, test requirements, performance determination, rounding off for numerical values and test report.

This Part is applicable to the determination of tensile testing of metallic material at room temperature.

NOTE Annex A indicates complementary recommendations for computer controlled testing machines.

2 Normative References

The articles contained in the following documents have become this standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB/T 2975 Steel and steel products--Location and preparation of test pieces for mechanical testing (GB/T 2975-1998, eqv ISO 377: 1997)

GB/T 8170 Rules of rounding off for numerical values & expression and judgement of limiting values

GB/T 10623 Metallic material - Mechanical testing – Vocabulary (GB/T 10623-2008, ISO 23718: 2007, MOD)

GB/T 12160 Calibration of extensometers used in uniaxial testing (GB/T 12160-2002, ISO 9513: 1999, IDT)

GB/T 16825.1 Verification of static uniaxial testing machines - Part 1：Tension/compression testing machines - Verification and calibration of the force-measuring system (GB/T 16825.1-2008, ISO 7500-1: 2004, IDT)

GB/T 17600.1 Steel--Conversion of elongation values--Part 1: Carbon and low alloy steels (GB/T 17600.1-1998, eqv ISO 2566-1: 1984)

GB/T 17600.2 Steel--Conversion of elongation values--Part 2: Austenitic steels (GB/T 17600.2-1998, eqv ISO 2566-2: 1984)

完整版本请在线下单

或咨询：

TEL: 400-678-1309

QQ: 19315219

Email：info@lancarver.com

http://www.lancarver.com

线下付款方式：

1. 对公账户：

单位名称：北京文心雕语翻译有限公司

开 户 行：中国工商银行北京清河镇支行

账　　号：0200 1486 0900 0006 131

2. 支付宝账户：info@lancarver.com

注: 付款成功后，请预留电邮，完整版本将在一个工作日内通过电子 PDF 或 Word 形式发送至您的预留邮箱，如需索取发票，下单成功后的三个工作日内安排开具并寄出，预祝合作愉快！