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

GB/T 10120-2013

Replacing GB/T 10120-1996

Metallic materials -- Tensile stress relaxation -- Method of test

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Quarantine of the People's Republic of China, Standardization
Administration of the People's Republic of China**

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3 ", in order to improve the operability of the test;

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard replaces GB/T 10120-1996 "metal stress relaxation test method", the content of the original standard techniques in the following aspects of the

Great changes and additions.

--- Modify the standard name;

--- Modify the normative references;

--- Modify the test principle, terminology, symbols and diagrams;

--- An increase of two categories of tests. continuous and discontinuous test test, and "break test" to re-start the test requirements and

step;

--- Using EN10319-1.2003 Figure on tensile specimens relaxation offered to cancel the original standard tensile specimens FIG relaxation;

--- Provisions of the coaxial test machine should not exceed 10%;

--- Temperature range of the subdivision;

--- Increased the tester changes in ambient temperature requirements;

--- Calibration cycle temperature measuring device in detail provisions;

--- Ambient temperature measurement sample size gives a clear request;

--- Increasing the elastic modulus measurement requirements;

--- Added "rounding off the test results" clearly requires the revision of the test results, delete the "Data Processing" Terms and

content;

- Delete the original standard in Appendix A "prestressing steel tensile stress relaxation test specimen, test procedures and data processing";
- Original standard body of the "cyclic bending stress relaxation test specimen, test procedures and data processing" as Appendix A;
- Increase the informative Appendix B "on different thermocouple materials";
- Increase the informative Appendix C "thermocouple calibration requirements";
- Increased by reference.

This standard uses redrafted law revision adopts EN10391.2003 "metallic materials - Tensile stress relaxation testing - Part 1. Test program".

This standard and EN10391. Difference and Its Cause 2003 is as follows.

- Delete the European Standard Introduction to adapt our standards to prepare and format requirements;
- Modify the standard name to expand the scope of use, ease of application;
- Remove the reference to European standards, adapt our standards to prepare and format requirements;
- Modify the scope to enhance the applicability;
- Lead normative references were modified accordingly to adapt our standards to prepare and format requirements;
- Modify the requirements extensometer calibration cycle to improve the operability of the test;

Maximum allowable temperature --- temperature gradient to "3,4,5" for demanding test, the maximum temperature gradients were controlled at "2,3,

3 ", in order to improve the operability of the test;

- Increasing the normative Appendix A "high temperature cyclic bending stress relaxation test specimen, test procedures and data processing" to provide more comprehensive and clear;
- The EN10391.2003 Information Appendix A, Appendix B corresponds to Appendix B, Appendix C, preparation and adaptation of standard version

Type requirements.

The standard proposed by China Iron and Steel Association.

This standard by the National Steel Standardization Technical Committee (SAC/TC183) centralized.

This standard was drafted. Shanghai Electric Power Generation Equipment Co., Ltd. Shanghai Turbine Works, Steel Research Institute, Wuhan Iron and Steel (Group) Corporation,

Metallurgical Industry Information Standards Institute.

Drafters of this standard. Gu Guoqing, Zhu Yuemei, TESTING AND LIU Zheng-dong, Dong Li, IRON Rencui Ying, Wang should be painted.

This standard replaces the standards previously issued as follows.

--- GB/T 10120-1988, GB/T 10120-1996.

Metallic materials - Tensile stress relaxation test method

1 Scope

This standard specifies the terms and definitions of stress relaxation test of metallic materials, symbols and instructions, test principle, test equipment, samples, test

Program, numerical results of rounding, the test report.

This standard applies to metallic materials - Test methods of tensile stress relaxation under constant strain and temperature conditions. High temperature cyclic bending stress

Stress relaxation tests can also be performed with reference to this standard, see Appendix A.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein

Member, undated references, the latest edition (including any amendments) applies to this document.

RT Test Method. Test Part 1 GB/T 228.1 metallic materials tensile

Creep Test Methods GB/T 2039 metal material uniaxial stretching

GB/T 10623 test the mechanical properties of metallic materials term

GB/T 12160 uniaxial extensometer calibration test

Inspection and tension and (or) pressure testing machine force measuring system. GB/T 16825.1 of static uniaxial testing machines - Part 1

calibration

3 Terms and Definitions

GB/T 10623 and defined by the following terms and definitions apply to this document.

3.1

Gauge gaugelength

Provisions for specimen elongation measurement section.

3.1.1

Original gauge originalgaugelength

L_0

Heating and deformation of the specimen labeled before the gauge length.

3.1.2

Extensometer gauge length extensometergaugelength

L_e

Extensometer distance between the two measuring points.

Note. In some cases, $L_e = L_0$.

3.1.3

Reference length referencelength

L_r

Used to calculate the basic length of the strain.