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**Method of tensile stress relaxation
test for metallic materials**

ICS 77.040.10

Descriptors : metals, tensile stress, stress relaxation, tensile testing

Reference number : JIS Z 2276 : 2000 (E)

Z 2276 : 2000

Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of International Trade and Industry through deliberations at the Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS Z 2276 : 1975** is replaced with **JIS Z 2276 : 2000**.

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In the event of any doubts arising as to the contents,
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Method of tensile stress relaxation test for metallic materials

Introduction The main purposes of this revision are the switch over of traditional units into International System of Units, and the clarification of prescriptions so as not to fall behind new advancement of learning.

1 Scope This Standard specifies the method of the test for measuring the tensile stress relaxation (stress change dependent on time) of metallic materials under the condition of a constant tensile total strain and of a constant temperature.

2 Normative references The following standards contain provisions which, through reference in this Standard, constitute provisions of this Standard. The most recent editions of the standards indicated below shall be applied.

JIS B 7741 *Verification of extensometers used in uniaxial testing*

JIS C 1602 *Thermocouples*

JIS G 0202 *Glossary of terms used in iron and steel (testing)*

JIS G 3109 *Steel bars for prestressed concrete*

JIS G 3137 *Small size-deformed steel bars for prestressed concrete*

JIS Z 8301 *Rules for the drafting and presentation of Japanese Industrial Standards*

3 Definitions For the purposes of this Standard, the definitions given in JIS G 0202 and the following definition apply.

a) **test force** The force applied on a test piece to fulfill the purpose of test.

4 Principle of test First apply, while keeping a test piece at a specified temperature, the test force longitudinally to a test piece until the initial specified test force (initial stress) or total strain is attained, and then measure the test force (stress) which changes with the lapse of time, under the condition that the total strain is constant.

5 Testing apparatus

5.1 Tensile stress relaxation tester

5.1.1 Type of tester Testers are classified into lever type, hydraulic type, screw type and spring type, in accordance with the method to load tensile test force.

5.1.2 Precision of test force The precision of test force of tester shall be as shown in Table 1 within the range of 5 % to 100 % of its maximum test force capacity. The precision of test force shall be verified on both of the test force decrease and increase.