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Method of tensile test for metallic materials

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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 Japanese Industrial Standards Committee in accordance with the Industrial Standardization Law. Consequently **JIS Z 2241** : 1993 is replaced with **JIS Z 2241** : 1998.

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In the event of any doubts arising as to the contents, the original JIS is to be the final authority.

Method of tensile test for metallic materials

Introduction This Japanese Industrial Standard based on **ISO 6892** : 1984 (*Metallic materials–Tensile testing*) has been made by translating the corresponding parts from the corresponding International Standard without changing the technical contents. In the revision at this time, the upper limit of the speed to apply force was specified to be 50 %/min and, in order to be in conformance with ISO Standard, the national use of the speed to apply force exceeding 50 %/min up to and including 80 %/min has been specified to be applied in accordance with the material standards of Japanese Industrial Standard.

1 Scope This Japanese Industrial Standard specifies the method of tensile test of metallic materials.

Remarks : The following standard is the corresponding International Standard to this Standard:

ISO 6892 : 1984 *Metallic materials–Tensile testing*

2 Normative references The following standards contain provisions which, through reference in this text, constitute provisions of this Standard. The latest editions of them apply.

JIS B 7721 *Verification of the force measuring system of the tensile testing machine*

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

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

JIS Z 2201 *Test pieces for tensile test for metallic materials*

JIS Z 8401 *Rules for rounding off of numerical values*

3 Definitions For the purpose of this Standard, the definitions given in **JIS G 0202** and the following definitions apply:

a) **gauge length** Length of the cylindrical or prismatic portion of the test piece on which elongation is measured at any moment during the test. In particular, a distinction is made between:

1) **original gauge length (L_o)** Gauge length before application of force.

2) **final gauge length (L_u)** Gauge length after rupture. Gauge length when the two pieces of the test piece have been carefully fitted back together so that their axes lie in a straight line.

b) **extensometer gauge length (L_e)** length of the parallel portion of the test piece used for the measurement of elongation by means of an extensometer (this length may differ from L_o and shall be of any value greater than b, d or the external diameter of a tube but less than the length of the parallel portion).

Where, b : Width of the parallel length of a flat test piece or average width of longitudinal strip from a tube or width of flat steel bar.

d : Diameter of a cylindrical test piece or diameter of round steel bar or internal diameter.

c) **elongation** Increase in the original gauge length at any moment during the test.

d) **percentage elongation** Elongation expressed as a percentage of the original