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**Steel — Hardenability test by end  
quenching (Jominy test)**

*Acier — Essai de trempabilité par trempe en bout (essai Jominy)*



<b>Contents</b>	<b>Page</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Principle</b> .....	<b>1</b>
<b>4 Symbols and designations</b> .....	<b>2</b>
<b>5 Form of test pieces and their preparation</b> .....	<b>2</b>
<b>6 Apparatus</b> .....	<b>3</b>
<b>7 Heating and quenching of test piece</b> .....	<b>6</b>
<b>8 Preparation for, and measurement of, hardness after quenching</b> .....	<b>6</b>
<b>9 Expression of results</b> .....	<b>7</b>
<b>10 Test report</b> .....	<b>8</b>
<b>Annex A (informative) Specification for the hardenability of a product</b> .....	<b>10</b>
<b>Annex B (informative) Additional information to clause 10</b> .....	<b>13</b>
<b>Annex C (informative) Calculation of the hardenability</b> .....	<b>15</b>
<b>Bibliography</b> .....	<b>16</b>

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

International Standard ISO 642 was prepared by Technical Committee ISO /TC 17 *Steel*, Subcommittee SC 7, *Methods of testing (other than mechanical tests and chemical analysis)*.

This second edition cancels and replaces the first edition (ISO 642:1979) which has been technically revised.

Annexes A, B, and C of this International Standard are for information only.

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# Steel — Hardenability test by end quenching (Jominy test)

## 1 Scope

This International Standard specifies a method for determining the hardenability of steel by end quenching (Jominy test) by using a test piece 25 mm in diameter and 100 mm long.

NOTE By agreement and for a defined field of application, the test described in this International Standard may be replaced by the calculation of the Jominy curve in accordance with an accepted mathematical model (see annex C). In case of dispute, the test shall be carried out.

## 2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 6507-1, *Metallic materials — Vickers hardness test — Part 1: Test method*.

ISO 6508-1, *Metallic materials — Rockwell hardness test — Part 1: Test method (scales A, B, C, D, E, F, G, H, K, N, T)*.

ISO 6508-2, *Metallic materials — Rockwell hardness test — Part 2: Verification and calibration of testing machines (scales A, B, C, D, E, F, G, H, K, N, T)*.

ISO 6508-3, *Metallic materials — Rockwell hardness test — Part 3: Calibration of reference blocks (scales A, B, C, D, E, F, G, H, K, N, T)*.

## 3 Principle

The test consists of:

- a) heating a cylindrical test piece to a specified temperature in the austenitic range for a specified period of time;
- b) quenching it by spraying water on one of its ends under specified conditions;
- c) measuring the hardness at certain given points, on longitudinal flats made on the test piece, in order to determine the hardenability of the steel by variations of this hardness.