

INTERNATIONAL STANDARD

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Steel for the reinforcement of concrete — Determination of percentage total elongation at maximum force

*Acier à béton pour armatures passives — Détermination de l'allongement
total pour cent sous charge maximale*



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Foreword

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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 10606 was prepared by Technical Committee ISO/TC 17, *Steel*, Subcommittee SC 16, *Steels for the reinforcement and prestressing of concrete*.

Annex A of this International Standard is for information only.

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Steel for the reinforcement of concrete — Determination of percentage total elongation at maximum force

1 Scope

This International Standard specifies two methods for determining the percentage total elongation at maximum force, A_{gt} , by tensile testing of ordinary reinforcing steel. One method is based on measurement with an extensometer during the tensile test. The other method is based on measurement after fracture.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 7500-1:1986, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tensile testing machines*.

ISO 9513:1989, *Metallic materials — Verification of extensometers used in uniaxial testing*.

3 Definition

For the purposes of this International Standard, the following definition applies.

3.1 percentage total elongation at maximum force: Increase in the gauge length of the test piece at maximum force, expressed as a percentage of the original gauge length (L_0). [ISO 6892]

See figure 1.

4 Apparatus

4.1 Tensile testing machine, class 1, verified according to ISO 7500-1.

4.2 Marking equipment, for marking the test pieces according to clause 5 (for measurement after fracture).

4.3 Measuring device, for measuring the distances between the marks before and after fracture.

4.4 Extensometer, class 2, verified according to ISO 9513 (for measurement during the tensile test).

5 Test piece

5.1 Test piece to be measured after fracture

The test piece shall be sufficiently long to allow for the free length between the grips to be at least

- 350 mm if $d \leq 25$ mm;
- 400 mm if $25 \text{ mm} < d \leq 32$ mm;
- 500 mm if $32 \text{ mm} < d \leq 40$ mm;

where d is the nominal diameter of the test piece.