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English version

## Destructive tests on welds in metallic materials — Transverse tensile test

Essais destructifs des soudures sur matériaux  
métalliques — Essai de traction transversale

Zerstörende Prüfung von  
Schweißverbindungen an metallischen  
Werkstoffen — Querkzugversuch

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

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# CEN

European Committee for Standardization  
Comité Européen de Normalisation  
Europäisches Komitee für Normung

**Central Secretariat: rue de Stassart 36, B-1050 Brussels**

## Foreword

This European Standard has been prepared by the technical committee CEN/TC 121, Welding, of which the secretariat is held by DS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 1995, and conflicting national standards shall be withdrawn at the latest by December 1995.

According to the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

## Contents

	Page
Foreword	2
1 Scope	3
2 Normative references	3
3 Principle	3
4 Denominations and symbols	3
5 Removal of test specimens	3
5.1 Removal	3
5.2 Marking	3
5.3 Heat treatment and/or ageing	4
5.4 Extraction	4
5.5 Machining	5
6 Test procedure	8
7 Test results	8
7.1 General	8
7.2 Location of fracture	8
7.3 Examination of fracture surfaces	8
8 Test report	8
Annex A (informative) Test report	9
Figure 1 — Examples of the location of test specimens in joints	4
Figure 2 — Test specimens for plates and pipes	6
Figure 3 — Tensile test specimen for full section pipe	7
Figure 4 — Cylindrical test specimen for solid section	8
Table 1 — Denominations and symbols	3
Table 2 — Dimensions for plates and pipes	5
Table A.1 — Transverse tensile test in accordance with EN 895	9

## 1 Scope

This European Standard specifies the sizes of test specimen and the procedure for carrying out transverse tensile tests in order to determine the tensile strength and the location of fracture of a welded butt joint.

This standard applies to metallic materials in all forms of product with joints made by any fusion welding process.

Unless otherwise specified for specific points in this standard, the general principles of EN 10002-1 shall apply.

## 2 Normative references

This European Standard incorporates by dated or undated references, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

EN 10002-1, *Metallic materials — Tensile testing — Part 1: Method of test (at ambient temperature)*.

EN 24063, *Welding, brazing, soldering and braze welding of metals — Nomenclature of processes and reference numbers for symbolic representation on drawings*.

## 3 Principle

An increasing tensile load is continuously applied until rupture occurs in a test specimen taken transversely from a welded joint.

Unless otherwise specified, the test shall be carried out at ambient temperature ( $23 \pm 5$  °C).

## 4 Denominations and symbols

The denominations and symbols to be used for the transverse tensile tests are specified in Table 1 and represented in Table 2 and Figure 1 to Figure 3.

**Table 1 — Denominations and symbols**

Symbol	Denomination	Unit
$a$	Thickness of the test specimen	mm
$b$	Width of the calibrated parallel length	mm
$b_1$	Width of shoulder	mm
$D$	Outside diameter of the pipe <sup>a</sup>	mm
$d$	Diameter of the plug	mm
$L_c$	Parallel length	mm
$L_o$	Original gauge length	mm
$L_s$	Maximum width of the weld after machining	mm
$L_t$	Total length of the test specimen	mm
$r$	Radius of shoulder	mm
$t$	Thickness of the welded joint	mm

<sup>a</sup> The term “pipe”, alone or in combination, is used to mean “pipe”, “tube” or “hollow section (excluding rectangular cross section)”.

## 5 Removal of test specimens

### 5.1 Removal

The test specimen shall be removed transversely from the welded joint in such a way that, after machining, the weld axis will remain in the middle of the parallel length of the test specimen. For small diameter pipes, the test may be carried out on whole pipe (see Figure 3). If not specified by the application standard or agreed between the contracting parties, “small diameters” means  $D < 18$  mm.

### 5.2 Marking

Each test piece shall be marked to identify its exact location in the manufactured product or in the joint from which it has been removed.

If required by the relevant application standard, the direction of working (e.g. rolling or extrusion) shall be marked.

Each test specimen shall be marked to identify its exact location in the test piece from which it has been removed.

When removed from the test piece, each test specimen shall be marked.