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Mekanisk provning av svetsar i metalliska material – Dragprovning av kryss- och överlappsförband (ISO 9018:2003)

Destructive tests on welds in metallic materials – Tensile test on cruciform and lapped joints (ISO 9018:2003)

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The European Standard EN ISO 9018:2003 has the status of a Swedish Standard. This document contains the official English version of EN ISO 9018:2003.

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English version

Destructive tests on welds in metallic materials - Tensile test on cruciform and lapped joints (ISO 9018:2003)

Essais destructifs des soudures sur matériaux métalliques -
Essai de traction des assemblages en croix et à
recouvrement (ISO 9018:2003)

Zerstörende Prüfung von Schweißverbindungen an
metallischen Werkstoffen - Zugversuch am Doppel-T-Stoß
und Überlappstoß (ISO 9018:2003)

This European Standard was approved by CEN on 10 November 2003.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Management Centre has the same status as the official versions.

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Contents

	Page
Foreword	3
Introduction	4
1 Scope	5
2 Normative references	5
3 Symbols and abbreviated terms	5
4 Principle	6
5 Test pieces and test specimens	7
6 Method of testing	10
7 Test report	10
8 Evaluation of results	11
Annex A (informative) Example of a test report	12

Foreword

This document (EN ISO 9018:2003) has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" in collaboration with Technical Committee CEN/TC 121 "Welding", the secretariat of which 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of an identical text or by endorsement, at the latest by June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.

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

Endorsement notice

The text of ISO 9018:2003 has been approved by CEN as EN ISO 9018:2003 without any modifications.

Introduction

Requests for official interpretations of any aspect of this standard should be directed to the Secretariat of ISO/TC 44/SC 5 via your national standards body, a complete listing which can be found at www.iso.org

Destructive tests on welds in metallic materials — Tensile test on cruciform and lapped joints

1 Scope

This International Standard specifies the sizes of test pieces and test specimens and the procedure for carrying out tensile tests in order to determine the tensile strength and the location of fracture of welded joints with transverse stressed fillet welds.

This International Standard applies to metallic materials with welded cruciform and lapped joints on plates¹⁾.

Information concerning evaluation of test results is not included in this International Standard.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 6892, *Metallic materials — Tensile testing at ambient temperature*

3 Symbols and abbreviated terms

The symbols used for the tensile tests are specified in Table 1 and Figures 1 to 5.

1) The term “plate”, alone or in combination, is used to mean “plate”, “sheet”, “extruded bar” and other solid sections.

Table 1 — Symbols and abbreviated terms

Symbol	Designation	Unit
a, a_1, a_2, a_3, a_4	Fillet weld throat thickness	mm
A_f	Fracture area ($w_f \times b$)	mm ²
b	Width of the test specimen equal to the length of fracture surface	mm
c	Free length between section to be tested and grips of testing device	mm
d	Length of test plates used	mm
f	Gap width for lapped specimens	mm
F_m	Maximum load sustained by the test specimen during testing	N
L_t	Total length of the test specimen	mm
R_m	Tensile strength (F_m/A_f)	MPa
t_1, t_2, t_3	Thicknesses of the materials used to prepare test pieces and test specimens	mm
w_f	Width of the fracture surface ^a	mm
^a See Figure 1.		

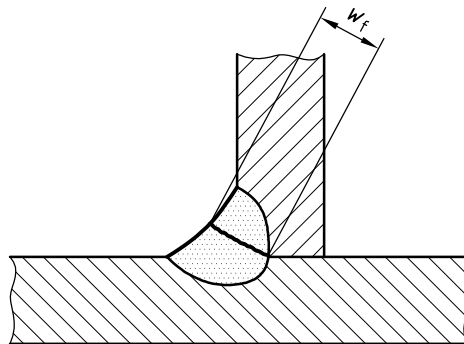


Figure 1 — Definition of width of fracture surface

4 Principle

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

Unless otherwise specified, the test shall be carried out at 23 °C ± 5 °C.

Unless otherwise stated, the general principles of ISO 6892 apply.