

Resistance welding - Destructive testing of welds -
Specimen dimensions and procedure for mechanized
peel testing resistance spot, seam and embossed
projection welds (ISO 14270:2016)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 14270:2016 sisaldab Euroopa standardi EN ISO 14270:2016 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 14270:2016 consists of the English text of the European standard EN ISO 14270:2016.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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English Version

Resistance welding - Destructive testing of welds -
Specimen dimensions and procedure for mechanized peel
testing resistance spot, seam and embossed projection
welds (ISO 14270:2016)

Soudage par résistance - Essais destructifs des
soudures - Dimensions des éprouvettes et mode
opératoire pour l'essai de pelage mécanisé des
soudures par résistance par points, à la molette et par
bossages (ISO 14270:2016)

Widerstandsschweißen - Zerstörende Prüfung von
Schweißverbindungen - Probenmaße und Verfahren
für die mechanisierte Schälprüfung an
Widerstandspunkt-, Rollennaht- und
Buckelschweißungen mit geprägten Buckeln (ISO
14270:2016)

This European Standard was approved by CEN on 13 December 2015.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

European foreword

This document (EN ISO 14270:2016) has been prepared by IIW International Institute of Welding in collaboration with Technical Committee CEN/TC 121 "Welding and allied processes" the secretariat of which is held by DIN.

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 September 2016, and conflicting national standards shall be withdrawn at the latest by September 2016.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 14270:2001.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 14270:2016 has been approved by CEN as EN ISO 14270:2016 without any modification.

Contents

Page

Foreword	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Test pieces and specimens	2
5 Preparation of mechanized peel test specimens	5
5.1 General.....	5
5.2 Bending procedure of weld test specimens after welding.....	5
5.3 Bending procedure of test specimens before welding — Alternative procedure.....	5
5.4 Dimensions and accuracy.....	8
6 Peel testing procedure and test equipment	9
7 Re-test	10
8 Test report	10
Annex A (normative) Measurement of seam weld size	12
Annex B (informative) Influence of spot weld position on test results	13
Annex C (informative) Examples of bending tools	14
Annex D (informative) Determination of the bending centre position with press brake systems	16
Bibliography	17

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

The committee responsible for this document is ISO/IIW, *International Institute of Welding*, Commission III.

This second edition cancels and replaces the first edition (ISO 14270:2000), which has been technically revised.

Requests for official interpretations of any aspect of this International Standard should be directed to the ISO Central Secretariat, who will forward them to the IIW Secretariat for an official response.

Introduction

This edition of ISO 14270 no longer includes figures showing failure types and modes for tensile shear and cross tension testing in accordance with ISO 14329.

ISO 14270 has been revised to align it with ISO 17677-1. This edition of ISO 14270 is now applicable to testing of welds made in high strength materials including ultra-high strength materials as well as ordinary strength materials. Some of the figures related to the failure types and modes have been revised in accordance with ISO 17677-1.

Resistance welding — Destructive testing of welds — Specimen dimensions and procedure for mechanized peel testing resistance spot, seam and embossed projection welds

1 Scope

This International Standard specifies specimen dimensions and a testing procedure for mechanized peel testing of single spot, seam and embossed projection welds, in overlapping sheets, in any metallic material of thickness 0,5 mm to 3 mm, where the welds have a maximum diameter of $7\sqrt{t}$ (where t is the sheet thickness in mm).

For welds of diameter between $5\sqrt{t}$ and $7\sqrt{t}$, the peel strength values obtained may be lower than expected when using the recommended test specimen dimensions because the test specimen width is designed for welds of diameter of $5\sqrt{t}$ or less.

The object of mechanized peel testing is to determine the peel strength that the test specimen can sustain.

2 Normative references

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

ISO 7500-1, *Metallic materials — Verification of static uniaxial testing machines — Part 1: Tension/compression testing machines — Verification and calibration of the force-measuring system*

ISO 17677-1, *Resistance welding — Vocabulary — Part 1: Spot, projection and seam welding*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 17677-1 and the following apply.

3.1

mechanized peel strength

MPS

maximum peel force obtained from this test

3.2

peel force

force applied on test specimen during mechanized peel testing

3.3

minimum seam weld width

$W_{\min}$

minimum width of the seam weld measured at the faying surface

Note 1 to entry: See [Figure A.1](#).

Note 2 to entry: For interface failures, the seam weld width is measured in the plane of the interface in a transverse direction to the longitudinal axis of the linear seam weld.