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Resistance welding - Weldability - Part 2: Evaluation procedures for weldability in spot welding (ISO 18278-2:2016)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

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Resistance welding - Weldability - Part 2: Evaluation procedures for weldability in spot welding (ISO 18278-2:2016)

Soudage par résistance - Soudabilité - Partie 2: Méthodes d'évaluation de la soudabilité par points (ISO 18278-2:2016)

Widerstandsschweißen - Schweißeignung - Teil 2: Verfahren zum Bewerten der Eignung für das Widerstandspunktschweißen (ISO 18278-2:2016)

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

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European foreword

This document (EN ISO 18278-2:2016) 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 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of an identical text or by endorsement, at the latest by August 2016, and conflicting national standards shall be withdrawn at the latest by August 2016.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.

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Endorsement notice

The text of ISO 18278-2:2016 has been approved by CEN as EN ISO 18278-2:2016 without any modification.

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INTERNATIONAL STANDARD

ISO 18278-2

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Resistance welding — Weldability —

Part 2: Evaluation procedures for weldability in spot welding

Soudage par résistance — Soudabilité —

Partie 2: Méthodes d'évaluation de la soudabilité par points

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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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.

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/TC 44, *Welding and allied processes*, Subcommittee SC 6, *Resistance welding and allied mechanical joining*.

Requests for official interpretations of any aspect of this document should be directed to the Secretariat of ISO/TC 44/SC 6 via your national standards body. A complete listing of these bodies can be found at www.iso.org.

This second edition cancels and replaces the first edition (ISO 18278-2:2004), which has been technically revised.

ISO 18278 consists of the following parts, under the general title *Resistance welding — Weldability*:

— *Part 1: General requirements for the evaluation of weldability for resistance spot, seam and projection welding of metallic materials*

— *Part 2: Evaluation procedures for weldability in spot welding*

Introduction

This document describes procedures for evaluating the resistance spot welding weldability by determining the welding current range and electrode life.

These procedures can be used to evaluate the following:

a) the effect of electrode material, shape, dimensions and electrode cooling;

b) the effect of material types and thicknesses and coatings being welded;

c) the effect of welding conditions;

d) the effect of welding equipment.

INTERNATIONAL STANDARD **ISO 18278-2:2016(E)**

Resistance welding — Weldability —

Part 2: Evaluation procedures for weldability in spot welding

1 Scope

This part of ISO 18278 provides specific test procedures for the determination of the acceptable welding current range and the electrode life.

It is applicable for the evaluation of the weldability of assemblies of uncoated and coated sheets of individual thicknesses from 0,4 mm to 6,0 mm.

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 669, *Resistance welding — Resistance welding equipment — Mechanical and electrical requirements*

ISO 5182, *Resistance welding — Materials for resistance welding electrodes and ancillary equipment*

ISO 5821, *Resistance welding — Spot welding electrode caps*

ISO 10447, *Resistance welding — Testing of welds — Peel and chisel testing of resistance spot and projection welds*

ISO 14270, *Resistance welding — Destructive testing of welds — Specimen dimensions and procedure for mechanized peel testing resistance spot, seam and embossed projection welds*

ISO 14272, *Resistance welding — Destructive testing of welds — Specimen dimensions and procedure for cross tension testing of resistance spot and embossed projection welds*

ISO 14273, *Resistance welding — Destructive testing of welds — Specimen dimensions and procedure for tensile shear testing resistance spot, seam and embossed projection welds*

ISO 14373, *Resistance welding — Procedure for spot welding of uncoated and coated low carbon steels*

ISO 15609-5, *Specification and qualification of welding procedures for metallic materials — Welding procedure specification — Part 5: Resistance welding*

ISO 17653, *Resistance welding — Destructive tests on welds in metallic materials — Torsion test of resistance spot welds*

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

ISO 18278-1, *Resistance welding — Weldability — Part 1: General requirements for the evaluation of weldability for resistance spot, seam and projection welding of metallic materials*

