

# SVENSK STANDARD

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### **Motståndssvetsning – Svetsbarhet – Del 2: Utvärderingsförfaranden för svetsbarhet vid punktsvetsning (ISO 18278-2:2014)**

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

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Europastandarden EN ISO 18278-2:2016 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN ISO 18278-2:2016.

Denna standard ersätter SS-EN ISO 18278-2:2004, utgåva 1.

The European Standard EN ISO 18278-2:2016 has the status of a Swedish Standard. This document contains the official English version of EN ISO 18278-2:2016.

This standard supersedes the Swedish Standard SS-EN ISO 18278-2:2004, edition 1.

**Förhållandet till övriga delar under samma huvudtitel - Utdrag ur Förord i ISO 18278-2:2016/  
Relations to other parts under the same general title - Extract from the Foreword of ISO 18278-2:2016**

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*

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EUROPEAN STANDARD

**EN ISO 18278-2**

NORME EUROPÉENNE

EUROPÄISCHE NORM

February 2016

ICS 25.160.40

Supersedes EN ISO 18278-2:2004

English Version

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

This European Standard was approved by CEN on 27 November 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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EUROPÄISCHES KOMITEE FÜR NORMUNG

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

# Contents

Page

<b>European foreword</b> .....	
<b>Introduction</b> .....	<b>v</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Welding equipment</b> .....	<b>2</b>
4.1 General.....	2
4.2 Electrodes.....	2
4.3 Welding current.....	2
4.4 Mechanical settings.....	2
4.5 Measurement of parameters.....	2
4.5.1 Welding current and electrode force.....	2
4.5.2 Electrode cooling water flow rate.....	2
4.6 Measurement of results.....	3
4.6.1 Weld diameter.....	3
4.6.2 Detection of expulsion.....	3
<b>5 Preliminary adjustments</b> .....	<b>3</b>
5.1 Electrode alignment.....	3
5.2 Electrode conditioning.....	3
<b>6 Determination of the welding current range</b> .....	<b>3</b>
6.1 Test specimens.....	3
6.2 Welding parameters.....	3
6.3 Test procedure.....	3
6.4 Current range criteria.....	4
6.5 Three sheet and multiple stack-ups.....	4
<b>7 Estimation of electrode life</b> .....	<b>4</b>
7.1 Test specimens.....	4
7.2 Welding parameters.....	4
7.3 Procedure.....	5
7.4 Test criteria, interpretation of results.....	5
<b>8 Test report</b> .....	<b>6</b>
8.1 General.....	6
8.2 Welding current range.....	6
8.3 Electrode life.....	6
<b>Annex A (informative) Electrode alignment</b> .....	<b>7</b>
<b>Annex B (informative) Specific conditions for steel sheet customer qualification</b> .....	<b>9</b>
<b>Annex C (informative) Test specimens for mechanical characterization</b> .....	<b>12</b>
<b>Annex D (informative) Example of test report for welding current range</b> .....	<b>14</b>
<b>Annex E (informative) Example of test report for electrode life test</b> .....	<b>15</b>
<b>Bibliography</b> .....	<b>16</b>

## **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.

This document supersedes EN ISO 18278-2:2004.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, 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 18278-2:2016 has been approved by CEN as EN ISO 18278-2:2016 without any modification.





## 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.



# 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*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 669, ISO 14373, ISO 17677-1 and ISO 18278-1 apply.