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**Resistance welding — Weldability —  
Part 3:  
Evaluation procedures for weldability  
in spot weld bonding**

*Soudage par résistance — Soudabilité —*

*Partie 3: Méthodes d'évaluation de l'aptitude au soudocollage par  
points*

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# Contents

Page

|                                                                                         |           |
|-----------------------------------------------------------------------------------------|-----------|
| <b>Foreword</b>                                                                         | <b>iv</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 Weld bonding equipment</b>                                                         | <b>2</b>  |
| 4.1 General                                                                             | 2         |
| 4.2 Adhesive dispensing equipment                                                       | 2         |
| 4.3 Storage chamber                                                                     | 2         |
| 4.4 Electrodes                                                                          | 2         |
| 4.5 Welding current                                                                     | 2         |
| 4.6 Mechanical settings                                                                 | 2         |
| 4.7 Measurement of parameters                                                           | 2         |
| 4.7.1 Temperature                                                                       | 2         |
| 4.7.2 Amount of adhesive applied                                                        | 2         |
| 4.7.3 Welding current and electrode force                                               | 3         |
| 4.7.4 Electrode cooling water flow rate                                                 | 3         |
| 4.8 Measurement of results                                                              | 3         |
| 4.8.1 Weld diameter                                                                     | 3         |
| 4.8.2 Detection of expulsion                                                            | 3         |
| <b>5 Assembly preparation</b>                                                           | <b>3</b>  |
| <b>6 Preliminary adjustments</b>                                                        | <b>4</b>  |
| 6.1 Electrode alignment                                                                 | 4         |
| 6.2 Electrode conditioning                                                              | 4         |
| <b>7 Determination of the welding current range</b>                                     | <b>5</b>  |
| 7.1 Test specimens                                                                      | 5         |
| 7.2 Welding parameters                                                                  | 5         |
| 7.3 Test procedure                                                                      | 5         |
| 7.4 Current range criteria                                                              | 5         |
| 7.5 Three sheet and multiple stack-ups                                                  | 6         |
| <b>8 Estimation of electrode life</b>                                                   | <b>6</b>  |
| 8.1 Test specimens                                                                      | 6         |
| 8.2 Welding parameters                                                                  | 6         |
| 8.3 Procedure                                                                           | 6         |
| 8.4 Test criteria, interpretation of results                                            | 7         |
| <b>9 Test report</b>                                                                    | <b>7</b>  |
| 9.1 General                                                                             | 7         |
| 9.2 Welding current range                                                               | 8         |
| 9.3 Electrode life                                                                      | 8         |
| <b>Annex A (informative) Electrode alignment</b>                                        | <b>9</b>  |
| <b>Annex B (informative) Specimens with current shunt</b>                               | <b>11</b> |
| <b>Annex C (informative) Specific conditions for steel sheet customer qualification</b> | <b>13</b> |
| <b>Annex D (informative) Specimens for destructive testing</b>                          | <b>16</b> |
| <b>Annex E (informative) Example of a test report for welding current range</b>         | <b>18</b> |
| <b>Annex F (informative) Example of a test report for electrode life test</b>           | <b>19</b> |
| <b>Bibliography</b>                                                                     | <b>20</b> |

## 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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 6, *Resistance welding and allied mechanical joining*.

A list of all parts in the ISO 18278 series can be found on the ISO website.

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](http://www.iso.org).

## Introduction

This document describes procedures for evaluating the weldability of weld bonding using the resistance spot welding process 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;
- e) the effect of adhesive on welding.

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# Resistance welding — Weldability —

## Part 3:

## Evaluation procedures for weldability in spot weld bonding

### 1 Scope

This document specifies procedures for the determination of the acceptable welding current range and the electrode life for spot weld bonding using resistance spot welding with adhesive bonding.

This document is applicable for the evaluation of the weldability of prepared assemblies of uncoated and coated metal sheets with individual thicknesses from 0,4 mm to 6,0 mm.

### 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 669, *Resistance welding — Resistance welding equipment — Mechanical and electrical requirements*

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

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

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

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

ISO 18278-1:2015, *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 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <http://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

#### 3.1

##### **spot weld bonding**

resistance spot welding through an adhesive or sealant

#### 3.2

##### **substrate**

material upon the surface of which an adhesive is spread for weld bonding

#### 3.3

##### **prepared assembly**

set of components (substrates and adhesives) positioned prior to welding