

**METALSETE MATERJALIDE KEEVITUSPROTSEDUURIDE  
SPETSIFITSEERIMINE JA KVALIFITSEERIMINE.  
KEEVITUSPROTSEDUURI SPETSIFIKAAT. OSA 5:  
KONTAKTKEEVITUS**

**Specification and qualification of welding procedures  
for metallic materials - Welding procedure  
specification - Part 5: Resistance welding (ISO 15609-  
5:2011, Corrected version 2011-12-01)**

**EESTI STANDARDI EESSÕNA****NATIONAL FOREWORD**

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| See Eesti standard EVS-EN ISO 15609-5:2011 sisaldab Euroopa standardi EN ISO 15609-5:2011 ingliskeelset teksti.     | This Estonian standard EVS-EN ISO 15609-5:2011 consists of the English text of the European standard EN ISO 15609-5:2011.          |
| 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

**Specification and qualification of welding procedures for metallic materials - Welding procedure specification - Part 5: Resistance welding (ISO 15609-5:2011, Corrected version 2011-12-01)**

Descriptif et qualification d'un mode opératoire de soudage pour les matériaux métalliques - Descriptif d'un mode opératoire de soudage - Partie 5: Soudage par résistance (ISO 15609-5:2011, Version corrigée 2011-12-01)

Anforderung und Qualifizierung von Schweißverfahren für metallische Werkstoffe - Schweißanweisung - Teil 5: Widerstandsschweißen (ISO 15609-5:2011, korrigierte Fassung 2011-12-01)

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## Foreword

This document (EN ISO 15609-5:2011) 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of an identical text or by endorsement, at the latest by April 2012, and conflicting national standards shall be withdrawn at the latest by April 2012.

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 15609-5:2004.

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### Endorsement notice

The text of ISO 15609-5:2011 has been approved by CEN as a EN ISO 15609-5:2011 without any modification.

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# Specification and qualification of welding procedures for metallic materials — Welding procedure specification —

## Part 5: Resistance welding

### 1 Scope

This part of ISO 15609 specifies requirements for the content of welding procedure specifications for resistance spot, seam, butt and projection welding processes. It is necessary to establish the acceptability of applying the principles of this part of ISO 15609 to other resistance and related welding processes before any qualification is undertaken.

NOTE Details of ISO 15609 (all parts — for titles, see Foreword) are given in ISO 15607:2003, Annex A.

Variables listed in this part of ISO 15609 are those influencing either weld dimensions (quality), weld nugget dimension, weld pattern positioning, mechanical properties or geometry of the welded joint.

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

ISO 4063, *Welding and allied processes — Nomenclature of processes and reference numbers*

ISO 5183 (all parts), *Resistance welding equipment — Electrode adaptors, male taper 1:10*

ISO 5184, *Straight resistance spot welding electrodes*

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

ISO 5827, *Spot welding — Electrode back-ups and clamps*

ISO 8205-1, *Water-cooled secondary connection cables for resistance welding — Part 1: Dimensions and requirements for double-conductor connection cables*

ISO 8205-2, *Water-cooled secondary connection cables for resistance welding — Part 2: Dimensions and requirements for single-conductor connection cables*

ISO 8430 (all parts), *Resistance spot welding — Electrode holders*

ISO 15607:2003, *Specification and qualification of welding procedures for metallic materials — General rules*

ISO 15614-12, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 12: Spot, seam and projection welding*

ISO 15614-13, *Specification and qualification of welding procedures for metallic materials — Welding procedure test — Part 13: Resistance butt and flash welding*

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

### **3 Terms and definitions**

For the purposes of this International Standard, the terms and definitions given in ISO 15607, ISO 17677-1 and ISO 669 apply.

## **4 Technical contents of welding procedure specification**

### **4.1 General**

The welding procedure specification (WPS) shall provide all information required to make a weld. The minimum information required in a WPS for resistance welding processes is listed in 4.2 to 4.4.

For some applications, it is necessary to supplement the list. All relevant information shall be specified in the WPS.

Tolerance ranges shall be specified.

Examples of the WPS format are shown in Annexes A, B and C; these forms should be modified according to actual practice.

### **4.2 Product manufacturer**

- Identification of the product manufacturer.
- Identification of the WPS.
- Reference to the welding procedure qualification record (WPQR — see ISO 15614-12 and ISO 15614-13).

### **4.3 Parent materials**

#### **4.3.1 Composition**

- Designation and type(s) of the material(s) and referenced standard(s).
- In case of coating(s), type, thickness, single or double sided.

#### **4.3.2 Dimensions**

- Thickness of material(s).
- Dimensions of cross-section of pipe or section (butt welding).

### **4.4 Common to all welding procedures**

#### **4.4.1 Welding process**

- Welding process(es) specified shall be designated as listed in ISO 4063: