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## Resistance welding — Overview of standards for resistance welding

*Soudage par résistance — Vue d'ensembles des normes de soudage par résistance*

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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](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 of 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 [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*.

Any feedback, question or request for official interpretation related to 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/members.html](http://www.iso.org/members.html). Official interpretations, where they exist, are available from this page: <https://committee.iso.org/sites/tc44/home/interpretation.html>.

# Resistance welding — Overview of standards for resistance welding

## 1 Scope

This document gives an overview of ISO documents for resistance welding. It covers the following processes:

- resistance spot welding;
- projection welding;
- seam welding;
- flash welding;
- upset (resistance butt) welding.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

No terms and definitions are listed in this document.

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

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

## 4 Overview of standards for resistance welding

[Table 1](#) shows an overview of standards for resistance welding.

Table 1 — Overview of standards for resistance welding

Standard topic	Resistance welding				
	Resistance spot welding	Projection welding	Seam welding	Flash welding	Upset (resistance butt) welding
Quality management	ISO 9000 series	ISO 9000 series	ISO 9000 series	ISO 9000 series	ISO 9000 series
Vocabulary for quality management	ISO 9000	ISO 9000	ISO 9000	ISO 9000	ISO 9000
Welding symbols/Graphical symbols	ISO 2553	ISO 2553	ISO 2553	ISO 2553	ISO 2553
Quality requirements for welding/joining	ISO 7000/IEC 60417	ISO 7000/IEC 60417	ISO 7000/IEC 60417	ISO 7000/IEC 60417	ISO 7000/IEC 60417
	ISO 14554-1	ISO 14554-1	ISO 14554-1	ISO 14554-1	ISO 14554-1
	ISO 14554-2	ISO 14554-2	ISO 14554-2	ISO 14554-2	ISO 14554-2
Specification and qualification standards					
General rule					
Joining procedure specification	ISO 15609-5	ISO 15609-5	ISO 15609-5	ISO 15609-5	ISO 15609-5
Qualification based on consumable, experience, standard welding procedure, and pre-production testing	N/A	N/A	N/A	N/A	N/A
Joining procedure test	ISO 15614-12	ISO 15614-12	ISO 15614-12	ISO 15614-13	ISO 15614-13
Joining procedures (guideline)	ISO 14373	ISO 8167	ISO 16433		
	ISO 18594	ISO 16432			
	ISO 18595				
Testing procedures and test specimens	ISO 10447	ISO 10447	ISO 14270	ISO 14270	
	ISO 14270	ISO 14270	ISO 14271	ISO 14271	
	ISO 14271	ISO 14271	ISO 14273	ISO 14273	
	ISO 14272	ISO 14272	ISO 14329	ISO 14329	
	ISO 14273	ISO 14273	ISO 17654	ISO 17654	
	ISO 14323	ISO 14323			
	ISO 14324	ISO 14329			
	ISO 14329				
	ISO 17653				
	ISO 18592				

Table 1 (continued)

Standard topic	Resistance welding					Upset (resistance butt) welding
	Resistance spot welding	Projection welding	Seam welding	Flash welding		
Non-destructive tests (NDT)	—	—	—	—	—	—
Guideline on quality level for imperfections	ISO 6520-2	ISO 6520-2	ISO 6520-2	ISO 6520-2	ISO 6520-2	ISO 6520-2
Evaluation of the weldability	ISO 18278-1 ISO 18278-2 ISO 18278-3 ISO 14327					
Acceptance levels of welds	—	—	—	—	—	—
Vocabulary	ISO 17677-1	ISO 17677-1	ISO 17677-1	ISO 17677-1	ISO 17677-1	ISO 17677-1
Measurements of welding parameters	ISO 17657-1	ISO 17657-1	ISO 17567-1	ISO 17657-1	ISO 17657-1	ISO 17657-1
	ISO 17657-2	ISO 17657-2	ISO 17657-2	ISO 17657-2	ISO 17657-2	ISO 17657-2
	ISO 17657-3	ISO 17657-3	ISO 17657-3	ISO 17657-3	ISO 17657-3	ISO 17657-3
	ISO 17657-4	ISO 17657-4	ISO 17657-4	ISO 17657-4	ISO 17657-4	ISO 17657-4
	ISO 17657-5	ISO 17657-5	ISO 17657-5	ISO 17657-5	ISO 17657-5	ISO 17657-5
Requirements for welding equipment	ISO 669	ISO 669	ISO 669	ISO 669	ISO 669	ISO 669
	ISO 5828	ISO 5828	ISO 5828	ISO 5828	ISO 5828	ISO 5828
	ISO 7931	ISO 865		ISO 8205-1	ISO 8205-1	ISO 8205-1
	ISO 1089	ISO 8205-1		ISO 8205-2	ISO 8205-2	ISO 8205-2
	ISO 6210-1	ISO 8205-2		ISO 8205-3	ISO 8205-3	ISO 8205-3

Table 1 (continued)

Standard topic	Resistance welding					Upset (resistance butt) welding
	Resistance spot welding	Projection welding	Seam welding	Flash welding		
Electrodes, adapters and caps	ISO 5182	ISO 5182	ISO 5182	ISO 5182	ISO 5182	ISO 5182
	ISO 5821					
	ISO 5184					
	ISO 5827					
	ISO 5822					
	ISO 5183-1					
	ISO 5183-2					
	ISO 5826					
	ISO 5829					
	ISO 5830					
	ISO 8430-1					
	ISO 8430-2					
	ISO 8430-3					
	ISO 9312					
ISO 9313						
ISO 20168						
Transformers			ISO 5826			
			ISO 10656			
			ISO 22829			
Welding personnel/Qualification of welding operator and weld setter	ISO 14732	ISO 14732	ISO 14732	ISO 14732	ISO 14732	ISO 14732
Occupational safety and health (OSH)	IEC 62135-1	IEC 62135-1	IEC 62135-1	IEC 62135-1	IEC 62135-1	IEC 62135-1
	IEC 62135-2	IEC 62135-2	IEC 62135-2	IEC 62135-2	IEC 62135-2	IEC 62135-2
	IEC 62822-3	IEC 62822-3	IEC 62822-3	IEC 62822-3	IEC 62822-3	IEC 62822-3

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- [19] ISO 7000/IEC 60417, *Graphical symbols for use on equipment*
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