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

## Part 13: Upset (resistance butt) and flash welding

*Descriptif et qualification d'un mode opératoire de soudage pour  
les matériaux métalliques — Épreuve de qualification d'un mode  
opératoire de soudage —*

*Partie 13: Soudage en bout par résistance pure et soudage par  
étincelage*



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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 document 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)).

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This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 6, *Resistance welding and allied mechanical joining*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 121, *Welding and allied processes*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This fourth edition cancels and replaces the third edition (ISO 15614-13:2021), which has been technically revised.

The main changes are as follows:

- petal test changed to bend test and bend test changed to three-point bend test;
- scope aligned with ISO 15614-1;
- [Clauses 2, 3, 7 and 8](#) updated;
- clause numbering revised;
- [Annex A](#) and Annex B combined into a new [Annex A](#).
- [Table 1](#) modified;
- Clause 9 aligned with ISO 15614-1;

A list of all parts in the ISO 15614 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's 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 of ISO/TC 44 documents, where they exist, are available from this page: <https://committee.iso.org/sites/tc44/home/interpretation.html>.

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## Introduction

It is intended that all new welding procedure qualifications be carried out in accordance with this document from the date of its publication.

However, this document does not invalidate previous welding procedure qualifications made to other standards or specifications, provided the intent of its technical requirements is satisfied and the previous welding procedure qualifications are relevant to the application and production work on which they are to be employed.

The primary purpose of welding procedure qualification is to demonstrate that the joining process proposed for construction is capable of producing joints having the required mechanical properties for the intended application.

Details of the ISO 15614 series are given in ISO 15607:2019, Annex A.