BS EN ISO 4063:2023

BSI Standards Publication

Welding, brazing, soldering and cutting — Nomenclature of processes and reference numbers

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National foreword

This British Standard is the UK implementation of EN ISO 4063:2023. It is identical to ISO 4063:2023. It supersedes BS EN ISO 4063:2010, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee WEE/1, Definitions and symbols for welding.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Published by BSI Standards Limited 2023

ISBN 978 0 539 01045 9

ICS 01.040.25; 25.160.01

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 30 April 2023.

Amendments/corrigenda issued since publication

Date	Text affected

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 4063

April 2023

ICS 01.040.25; 25.160.01

Supersedes EN ISO 4063:2010

English Version

Welding, brazing, soldering and cutting - Nomenclature of processes and reference numbers (ISO 4063:2023)

Soudage, brasage et coupage - Nomenclature et numérotation des procédés (ISO 4063:2023)

Schweißen, Hartlöten, Weichlöten und Schneiden - Liste der Prozesse und Ordnungsnummern (ISO 4063:2023)

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European foreword

This document (EN ISO 4063:2023) has been prepared by Technical Committee ISO/TC 44 "Welding and allied processes" in collaboration with Technical Committee CEN/TC 121 “Welding and allied processes” 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of an identical text or by endorsement, at the latest by October 2023, and conflicting national standards shall be withdrawn at the latest by October 2023.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 4063:2023 has been approved by CEN as EN ISO 4063:2023 without any modification.

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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).

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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.

This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 7, *Representation and terms*, 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 fifth edition cancels and replaces the fourth edition (ISO 4063:2009), which has been technically revised.

The main changes are as follows:

— incorporation of processes and reference numbers for welding and thermal joining of plastics.

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. 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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Welding, brazing, soldering and cutting — Nomenclature of processes and reference numbers

1 Scope

This document establishes a nomenclature for:

— welding;

— brazing, soldering and weld brazing;

— thermal cutting;

with each process identified by a reference number.

It covers the main processes (one digit), groups (two digits) and sub-groups (three digits). The reference number for any process has a maximum of three digits. This system is intended as an aid in computerization and the drafting of, for example, drawings, working papers and welding procedure specifications, and enables the uniform international designation of the processes.

This document does not cover all process variants. The process numbers can be supplemented with additional information for variants not listed.

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 terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

4 Designation

4.1 General

Where a full designation is required for a joining process, it shall have the following structure: the number of this document (i.e. “ISO 4063”), separated by a dash from the reference number of the process, as shown in these examples.

EXAMPLE 1 Process “Cold pressure welding” with reference number 48 is designated as:

ISO 4063 – 48

EXAMPLE 2 Process “Radio frequency welding” with reference number 62 is designated as:

ISO 4063 – 62

EXAMPLE 3 Process “Heated wedge welding with hot gas” with reference number 662-A is designated as:

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ISO 4063 – 662-A

4.2 Hybrid joining processes

When multiple processes are used simultaneously in one process area, the processes shall be described using the designations for each process separated by the symbol "+".

EXAMPLE Process "Gas laser welding" (reference number 522) together with process "Plasma arc welding" (reference number 15) is designated as:

ISO 4063 – 522 + 15

5 List of processes and reference numbers

5.1 General

The first designation listed is the preferred one and any subsequent designations are synonyms. Terms used in the United States of America (USA) are shown for information where there are differences.

Annex A provides supplementary options for process variants.

Annex B provides an overview for replaced and obsolete processes.

Annex C provides a list of commonly used acronyms and abbreviations for the welding processes in the United States of America included in this document.

5.2 Welding

1 Arc welding

11 Metal arc welding without gas protection

111 Manual metal arc welding
Shielded metal arc welding, USA

112 Gravity welding
Gravity arc welding with covered electrode
Gravity feed welding, USA

114 Self-shielded tubular cored arc welding

12 Submerged arc welding

121 Submerged arc welding with solid wire electrode

122 Submerged arc welding with strip electrode

124 Submerged arc welding with metal powder addition

125 Submerged arc welding with tubular cored electrode

126 Submerged arc welding with cored strip electrode

13 Gas-shielded metal arc welding
Metal inert gas (MIG) welding/Metal active gas (MAG) welding
Gas metal arc welding (GMAW), USA

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131 MIG welding with solid wire electrode
GMAW using inert gas and solid wire electrode, USA

132 MIG welding with flux cored electrode
Gas shielded flux cored arc welding, USA

133 MIG welding with metal cored electrode
GMAW using inert gas and metal cored wire, USA

135 MAG welding with solid wire electrode
GMAW using active gas with solid wire electrode, USA

136 MAG welding with flux cored electrode
GMAW using active gas and flux cored electrode, USA

138 MAG welding with metal cored electrode
GMAW using active gas and metal cored electrode, USA

14 Gas-shielded arc welding with non-consumable tungsten electrode
Tungsten inert gas (TIG) welding/Tungsten active gas (TAG) welding
Gas tungsten arc welding (GTAW), USA

141 TIG welding with solid filler material
GTAW using inert gas and solid filler material, USA

142 Autogenous TIG welding
Autogenous gas tungsten arc welding using inert gas, USA

143 TIG welding with tubular cored filler material
GTAW using inert gas and tubular cored filler material, USA

145 TIG welding using reducing gas and solid filler material
GTAW using inert gas plus reducing gas additions and solid filler material, USA

146 TIG welding using reducing gas and tubular cored filler material
GTAW using inert gas plus reducing gas additions and tubular cored filler material, USA

147 Gas-shielded arc welding with non-consumable tungsten electrode using active gas
TAG welding
GTAW using active gas, USA

15 Plasma arc welding

151 Plasma MIG welding

152 Powder plasma arc welding

153 Plasma welding with transferred arc

154 Plasma arc welding with non-transferred arc

155 Plasma arc welding with partially transferred arc

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