TECHNICAL REPORT

ISO/TR 15608

Fourth edition
2017-02

Welding — Guidelines for a metallic materials grouping system

Soudage — Lignes directrices pour un système de groupement des matériaux métalliques

Reference number
ISO/TR 15608:2017(E)

© ISO 2017



COPYRIGHT PROTECTED DOCUMENT

© ISO 2017, Published in Switzerland

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

Contents

Page

Foreword ..... **iv**
1 Scope **1**
2 Normative references **1**
3 Terms and definitions **1**
4 Grouping system for steels **1**
5 Grouping system for aluminium and aluminium alloys **4**
6 Grouping system for copper and copper alloys **4**
7 Grouping system for nickel and nickel alloys **5**
8 Grouping system for titanium and titanium alloys **5**
9 Grouping system for zirconium and zirconium alloys **6**
10 Grouping system for cast irons **6**
Bibliography **7**

© ISO 2017 – All rights reserved

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).

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).

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 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

This document was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 10, *Quality management in the field of welding*.

This fourth edition cancels and replaces the third edition (ISO/TR 15608:2013), which has been revised and contains the following changes:

a) the grouping system for steels has been revised (Clause 2);

b) the Bibliography has been updated and the document editorially revised.

Requests for official interpretations of any aspect of this document should be directed to the Secretariat of ISO/TC 44/SC 10 via your national standards body. A complete listing of these bodies can be found at www.iso.org.

© ISO 2017 – All rights reserved

Welding — Guidelines for a metallic materials grouping system

1 Scope

This document provides guidelines for a uniform system for grouping materials for welding purposes. It can also be applied for other purposes, such as heat treatment, forming and non-destructive testing.

It covers grouping systems for the following standardized materials:

— steels;

— aluminium and its alloys;

— copper and its alloys;

— nickel and its alloys;

— titanium and its alloys;

— zirconium and its alloys;

— cast irons.

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:

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

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

4 Grouping system for steels

Steels are grouped as shown in Table 1. Only those elements that are specified in material standards or specifications should be considered. Ladle (or heat) analyses should be used in preference of product analysis when both are specified. The figures given in groups:

— 1, 2, 3 and 11 refer to the chemical composition specified in the material standard (specified values);

— 4 to 10 are based on the elemental content used in the designation of the alloys.

Materials assigned to a group in ISO/TR 20172, ISO/TR 20173 and ISO/TR 20174 should be considered assigned to those groups by this document. For materials that are not assigned to a group, the criteria of this document apply.

© ISO 2017 – All rights reserved