PD ISO/TR 24471:2019

BSI Standards Publication

Brazing — Grouping systems for materials — American materials

bsi.

National foreword

This Published Document is the UK implementation of ISO/TR 24471:2019.

The UK participation in its preparation was entrusted to Technical Committee WEE/36, Qualification of welding personnel and welding procedures.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Published by BSI Standards Limited 2019

ISBN 978 0 539 05592 4

ICS 25.160.01

Compliance with a British Standard cannot confer immunity from legal obligations.

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 December 2019.

Amendments/corrigenda issued since publication

Date	Text affected

PD ISO/TR 24471:2019

TECHNICAL REPORT

ISO/TR 24471

First edition
2019-11-27

Brazing — Grouping systems for materials — American materials

Reference number
ISO/TR 24471:2019(E)

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

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 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 11, *Qualification requirements for welding and allied processes personnel*.

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.

Introduction

This document mirrors the similar materials grouping system given in ISO/TR 20173 for welding of US materials.

Parent materials have been grouped to minimize the number of brazer and brazing procedure qualification tests. Substitution of one parent material for another, for any purpose other than for qualification, even when within the allowable rules, should only be made after an evaluation of the material's suitability for its intended use. For some parent material substitutions, additional tests can be appropriate to verify the suitability of the substituted parent material.

TECHNICAL REPORT **ISO/TR 24471:2019**

Brazing — Grouping systems for materials — American materials

1 Scope

This document provides a grouping system for American parent materials for brazing.

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 Basis for classification of base metals for brazing qualification

Parent materials are grouped in Table 1 to Table 10.

Where classification is dependent on the amount of a given element, the controlling value is the maximum content given in the parent material specification.

The tensile strength given in the tables is for the annealed condition. Where the minimum tensile strength is not given, that value is established by the document referencing this document.

Subclauses 4.1 to 4.8 give the parent material group numbers for the materials listed.

4.1 Ferrous alloys

— 100 Steels containing 1 % or less chromium

— 110 Steels containing more than 1 % chromium (see NOTE 1).

— 120 Steels containing aluminium or titanium

— 130 Stainless steels, austenitic

— 140 Stainless steels, austenitic containing titanium of less than 0,3 %

— 145 Stainless steels, austenitic-ferritic (duplex)

— 150 Stainless steels, martensitic, and ferritic

— 160 Stainless steels, martensitic, and ferritic containing less than 0,3 % combined aluminium and titanium

— 170 Cast iron

— 180 Cast iron, austenitic