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Brazing — Grouping systems for materials — American materials

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National foreword

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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.

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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.

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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.

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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

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