SLOVENSKI STANDARD
SIST-TP CEN ISO/TR 20173:2018

01-oktober-2018

Nadomešča:

SIST-TP CEN ISO/TR 20173:2010

Varjenje - Razvrstitev materialov v skupine - Ameriški materiali (ISO/TR 20173:2018)

Welding - Grouping systems for materials - American materials (ISO/TR 20173:2018)

Schweißen - Werkstoffgruppeneinteilung - Amerikanische Werkstoffe (ISO/TR 20173:2018)

Soudage - Systèmes de groupement des matériaux - Matériaux américains (ISO/TR 20173:2018)

Ta slovenski standard je istoveten z: CEN ISO/TR 20173:2018

ICS:

25.160.20 Potrošni material pri varjenju Welding consumables

SIST-TP CEN ISO/TR 20173:2018 en

TECHNICAL REPORT

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

CEN ISO/TR 20173

August 2018

ICS 25.160.20

Supersedes CEN ISO/TR 20173:2009

English Version

Welding - Grouping systems for materials - American materials (ISO 20173:2018)

Soudage - Systèmes de groupement des matériaux - Matériaux américains (ISO 20173:2018)

Schweißen - Werkstoffgruppeneinteilung - Amerikanische Werkstoffe (ISO 20173:2018)

This Technical Report was approved by CEN on 25 July 2018. It has been drawn up by the Technical Committee CEN/TC 121.

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Ref. No. CEN ISO/TR 20173:2018 E

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European foreword

This document (CEN ISO/TR 20173:2018) 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.

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This document supersedes CEN ISO/TR 20173:2009.

Endorsement notice

The text of ISO/TR 20173:2018 has been approved by CEN as CEN ISO/TR 20173:2018 without any modification.

TECHNICAL REPORT

ISO/TR 20173

Third edition
2018-07

Welding — Grouping systems for materials — American materials

Soudage — Systèmes de groupement des matériaux — Matériaux américains

Reference number
ISO/TR 20173:2018(E)

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Published in Switzerland

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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 10, *Quality management in the field of welding*.

Any feedback, question or request for official interpretation related to 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/members.html. Official interpretations, where they exist, are available from this page: https://committee.iso.org/sites/tc44/home/interpretation.html.

This third edition cancels and replaces the second edition (ISO/TR 20173:2009), which has been technically revised. The main changes compared to the previous edition are as follows:

— Table 1 and Table 2 have been completely revised;

— the layout has been editorially revised.

Welding — Grouping systems for materials — American materials

1 Scope

This document provides an American grouping system for materials for welding purposes, classified in accordance with the grouping system of ISO/TR 15608. A number of Canadian, Australian and New Zealand materials commonly used in North America are also included.

It can also apply for other purposes, such as heat treatment, forming, and non-destructive testing. Types of steels are listed in accordance with the grouping system of ISO/TR 15608:2017, Table 1.

This document covers grouping systems for the following standardized materials:

— steel;

— aluminium and its alloys;

— nickel and its alloys;

— copper 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:

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

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

4 American grouping system for materials

Tables 1 and 2 give American grouping systems for ferrous and non-ferrous materials, respectively.

Materials from the following organizations are listed:

— AAR (Association of American Railroads);

— ABS (American Bureau of Shipping);

— API (American Petroleum Institute);

— AS/NZS (Australia. New Zealand Standards);

— ASTM (ASTM International, formerly the American Society for Testing of Materials);
— ASME (American Society of Mechanical Engineers);
— CSA (Canadian Standards Association);
— MSS (Manufacturers Standardization Society);
— NACE (NACE International, formerly the National Association of Corrosion Engineers).

Table 1 — American grouping system for ferrous materials

Standard	Specification	No.	UNS	Type/Grade	ASME/AWS P/M-No.	Group No.	ISO/TR 15608:2017 Group	Nominal composition
AAR	AAR	TC-128		B	10C	1	11.1	C-Mn-Si
AAR	AAR	M-201		A	1	1	11.1	C-Mn-Si
AAR	AAR	M-201		B	1	2	11.1	C-Mn-Si
AAR	AAR	M-201		B+	1	3	11.1	C-Mn-Si
AAR	AAR	M-201		C	1	4	11.1	C-Mn-Si
ABS	ABS	ABS		CS	1	1	1.1	C-Mn-Si
ABS	ABS	ABS		DS	1	1	1.1	C-Mn-Si
ABS	ABS	ABS	K01801	E	1	1	1.1	C-Si
ABS	ABS	ABS	K02101	D	1	1	1.1	C-Si
ABS	ABS	ABS	K02102	B	1	1	1.1	C
ABS	ABS	ABS	K02300	A	1	1	1.1	C
ABS	ABS	ABS	K11846	AH32	1	1	1.2	C-Mn-Si
ABS	ABS	ABS	K11846	DH32	1	1	1.2	C-Mn-Si
ABS	ABS	ABS	K11846	EH32	1	1	1.2	C-Mn-Si
ABS	ABS	ABS	K11846	FH32	1	1	1.2	C-Mn-Si
ABS	ABS	ABS	K11852	AH36	1	2	1.2	C-Mn-Si
ABS	ABS	ABS	K11852	DH36	1	2	1.2	C-Mn-Si
ABS	ABS	ABS	K11852	EH36	1	2	1.2	C-Mn-Si
ABS	ABS	ABS	K11852	FH36	1	2	1.2	C-Mn-Si
ABS	ABS	ABS	K11857	AH40	1	2	1.3	C-Mn-Si
ABS	ABS	ABS	K11857	DH40	1	2	1.3	C-Mn-Si
ABS	ABS	ABS	K11857	EH40	1	2	1.3	C-Mn-Si
ABS	ABS	ABS	K11857	FH40	1	2	1.3	C-Mn-Si
API	API	2H		42	1	1	1.2	C-Mn
API	API	2H		50	1	2	1.2	C-Mn
API	API	2MT1		50	1	1	1.2	C-Mn
API	API	2W		50	1	1	1.2	C-Mn
API	API	2W		60	1	2	1.3	C-Mn
API	API	2Y		42	1	1	1.2	C-Mn

Table 1 *(continued)*

Standard	Specification	No.	UNS	Type/Grade	ASME/AWS P/M-No.	Group No.	ISO/TR 15608:2017 Group	Nominal composition
API	API	2Y		50	1	1	1.2	C-Mn
API	API	2Y		50T	1	2	1.2	C-Mn
API	API	2Y		60	1	2	1.3	C-Mn
API	API	5L		A	1	1	1.1	C-Mn
API	API	5L		A25	1	1	1.1	C-Mn
API	API	5L		A25, Cl. I	1	1	1.1	C-Mn
API	API	5L		A25, Cl. II	1	1	1.1	C-Mn
API	API	5L		A25P	1	1	1.1	C-Mn
API	API	5L		B	1	1	11.1	C-Mn
API	API	5L		BM	1	1	1.1	C-Mn
API	API	5L		BMO	1	1	1.1	C-Mn
API	API	5L		BMS	1	1	1.1	C-Mn
API	API	5L		BN	1	1	1.1	C-Mn
API	API	5L		BNO	1	1	1.1	C-Mn
API	API	5L		BNS	1	1	1.1	C-Mn
API	API	5L		BQ	1	1	1.1	C-Mn
API	API	5L		BQO	1	1	1.1	C-Mn
API	API	5L		BQS	1	1	1.1	C-Mn
API	API	5L		BR	1	1	1.1	C-Mn
API	API	5L		X42	1	1	11.1	C-Mn
API	API	5L		X42M	1	1	1.2	C-Mn
API	API	5L		X42MO	1	1	1.2	C-Mn
API	API	5L		X42MS	1	1	1.2	C-Mn
API	API	5L		X42N	1	1	1.2	C-Mn
API	API	5L		X42NO	1	1	1.2	C-Mn
API	API	5L		X42NS	1	1	1.2	C-Mn
API	API	5L		X42Q	1	1	1.2	C-Mn
API	API	5L		X42QO	1	1	1.2	C-Mn
API	API	5L		X42QS	1	1	1.2	C-Mn

Table 1 *(continued)*

Standard	Specification	No.	UNS	Type/Grade	ASME/AWS P/M-No.	Group No.	ISO/TR 15608:2017 Group	Nominal composition
API	API	5L		X42R	1	1	1.2	C-Mn
API	API	5L		X46	1	1	11.1	C-Mn
API	API	5L		X46M	1	1	1.2	C-Mn
API	API	5L		X46MO	1	1	1.2	C-Mn
API	API	5L		X46MS	1	1	1.2	C-Mn
API	API	5L		X46N	1	1	1.2	C-Mn
API	API	5L		X46NO	1	1	1.2	C-Mn
API	API	5L		X46NS	1	1	1.2	C-Mn
API	API	5L		X46Q	1	1	1.2	C-Mn
API	API	5L		X46QO	1	1	1.2	C-Mn
API	API	5L		X46QS	1	1	1.2	C-Mn
API	API	5L		X52	1	1	11.1	C-Mn
API	API	5L		X52M	1	1	1.2	C-Mn
API	API	5L		X52MO	1	1	1.2	C-Mn
API	API	5L		X52MS	1	1	1.2	C-Mn
API	API	5L		X52N	1	1	1.2	C-Mn
API	API	5L		X52NO	1	1	1.2	C-Mn
API	API	5L		X52NS	1	1	1.2	C-Mn
API	API	5L		X52Q	1	1	1.2	C-Mn
API	API	5L		X52QO	1	1	1.2	C-Mn
API	API	5L		X52QS	1	1	1.2	C-Mn
API	API	5L		X56	1	2	11.1	C-Mn
API	API	5L		X56M	1	2	2.1	C-Mn
API	API	5L		X56MO	1	2	2.1	C-Mn
API	API	5L		X56MS	1	2	2.1	C-Mn
API	API	5L		X56N	1	2	1.3	C-Mn
API	API	5L		X56Q	1	2	3.1	C-Mn
API	API	5L		X56QO	1	2	3.1	C-Mn
API	API	5L		X56QS	1	2	3.1	C-Mn