TECHNICAL REPORT

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Third edition
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Welding — Grouping systems for materials — American materials

Soudage — Systèmes de groupement des matériaux — Matériaux américains

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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

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		X60	1	2	11.1	C-Mn
API	API	5L		X60M	1	2	2.1	C-Mn
API	API	5L		X60MO	1	2	2.1	C-Mn
API	API	5L		X60MS	1	2	2.1	C-Mn
API	API	5L		X60N	1	2	1.3	C-Mn
API	API	5L		X60Q	1	2	3.1	C-Mn
API	API	5L		X60QO	1	2	3.1	C-Mn
API	API	5L		X60QS	1	2	3.1	C-Mn
API	API	5L		X65	1	2	11.1	C-Mn
API	API	5L		X65M	1	2	2.1	C-Mn
API	API	5L		X65MO	1	2	2.1	C-Mn
API	API	5L		X65MS	1	2	2.1	C-Mn
API	API	5L		X65Q	1	2	3.1	C-Mn
API	API	5L		X65QO	1	2	3.1	C-Mn
API	API	5L		X65QS	1	2	3.1	C-Mn
API	API	5L		X70	1	3	11.1	C-Mn
API	API	5L		X70M	1	3	2.2	C-Mn
API	API	5L		X70MO	1	3	2.2	C-Mn
API	API	5L		X70MS	1	3	2.2	C-Mn
API	API	5L		X70Q	1	3	3.1	C-Mn
API	API	5L		X70QO	1	3	3.1	C-Mn
API	API	5L		X70QS	1	3	3.1	C-Mn
API	API	5L		X80M	1	4	2.2	C-Mn
API	API	5L		X80MO	1	4	2.2	C-Mn
API	API	5L		X80Q	1	4	3.1	C-Mn
API	API	5L		X80QO	1	4	3.1	C-Mn
API	API	5LS		X46	1	1	11.1	C-Mn
AS/ASTM	AS	945		50	1	2	1.2	C-Mn-Si
AS/ASTM	AS	945		65	1	2	1.3	C-Mn-Si-Ti

Table 1 *(continued)*

Standard	Specification	No.	UNS	Type/Grade	ASME/AWS P/M-No.	Group No.	ISO/TR 15608:2017 Group	Nominal composition
AS	AS	1548		5-490	1	2	1.2	C
AS	AS	1548		7-430	1	1	1.2	C
AS	AS	1548		7-460	1	1	1.2	C
AS	AS	1548		7-490	1	2	1.2	C
AS	AS	1548		PT430	1	1	1.2	C
AS	AS	1548		PT430	1	1	1.1	C
AS	AS	1548		PT460	1	1	1.1	C
AS	AS	1548		PT460	1	1	1.2	C
AS	AS	1548		PT490	1	2	1.2	C
AS	AS	1548		PT490	1	2	1.2	C
AS	AS	1548		PT540T	1	2	1.3	C-Mn
AS/NZS	AS/NZS	1594		HA200	1	1	1.1	C
AS/NZS	AS/NZS	1594		HA250	1	1	1.1	C
AS/NZS	AS/NZS	1594		HA300	1	1	1.2	C-Mn
AS/NZS	AS/NZS	1594		HA300/1	1	1	1.2	C-Mn
AS/NZS	AS/NZS	1594		HA350	1	1	1.2	C-Mn
AS/NZS	AS/NZS	1594		HA400	1	1	2.1	C-Mn
AS/NZS	AS/NZS	1594		HU250	1	1	1.1	C
AS/NZS	AS/NZS	1594		HU300	1	1	1.2	C-Mn
AS/NZS	AS/NZS	1594		HU300/1	1	1	1.2	C-Mn
AS/NZS	AS/NZS	1594		HW350	1	1	1.4	C-Mn-Cr-Ni-Cu
AS/NZS	AS/NZS	1594		XF300	1	1	1.2	C-Mn
AS/NZS	AS/NZS	1594		XF400	1	1	2.1	C-Mn
AS/NZS	AS/NZS	1594		XF500	1	3	2.2	C-Mn
AS/NZS	AS/NZS	3597		500			3.1	C-Mn-1Cr.25Mo
AS/NZS	AS/NZS	3597		600			3.1	C-Mn-1Cr.25Mo
AS/NZS	AS/NZS	3597		700			3.1	C-Mn-1Cr.25Mo
AS/NZS	AS/NZS	3597		700PV	11B		3.1	C-Mn-1Cr.25Mo
AS/NZS	AS/NZS	3678		200	1	1	1.1	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
AS/NZS	AS/NZS	3678		250	1	1	1.2	C-Mn
AS/NZS	AS/NZS	3678		250L15	1	1	1.2	C-Mn
AS/NZS	AS/NZS	3678		300	1	2	1.2	C-Mn
AS/NZS	AS/NZS	3678		300L15	1	2	1.2	C-Mn
AS/NZS	AS/NZS	3678		350	1	2	1.2	C-Mn
AS/NZS	AS/NZS	3678		350L15	1	2	1.2	C-Mn
AS/NZS	AS/NZS	3678		400	1	2	1.3	C-Mn
AS/NZS	AS/NZS	3678		400L15	1	2	1.3	C-Mn
AS/NZS	AS/NZS	3678		450	1	2	1.3	C-Mn
AS/NZS	AS/NZS	3678		450L15	1	2	1.3	C-Mn
AS/NZS	AS/NZS	3678		WR350	3	1	1.4	C-Mn-Cr-Ni-Cu
AS/NZS	AS/NZS	3678		WR350L0	3	1	1.4	C-Mn-Cr-Ni-Cu
AS/NZS	AS/NZS	3679.1		250	1	1	1.1	C-Mn
AS/NZS	AS/NZS	3679.1		250L0	1	1	1.1	C-Mn
AS/NZS	AS/NZS	3679.1		250L15	1	1	1.1	C-Mn
AS/NZS	AS/NZS	3679.1		300	1	2	1.2	C-Mn
AS/NZS	AS/NZS	3679.1		300L0	1	2	1.2	C-Mn
AS/NZS	AS/NZS	3679.1		300L15	1	2	1.2	C-Mn
AS/NZS	AS/NZS	3679.1		350	1	2	1.2	C-Mn
AS/NZS	AS/NZS	3679.1		350L0	1	2	1.2	C-Mn
AS/NZS	AS/NZS	3679.1		350L15	1	2	1.2	C-Mn
AS/NZS	AS/NZS	3679.1		400	1	2	1.3	C-Mn
AS/NZS	AS/NZS	3679.1		400L0	1	2	1.3	C-Mn
AS/NZS	AS/NZS	3679.1		400L15	1	2	1.3	C-Mn
ASTM	A	27	J02501	70-40	1	2	1.1	C
ASTM	A	27	J03000	60-30	1	1	11.1	C
ASTM	A	27	J03000	U-60-30	1	1	1.1	C
ASTM	A	27	J03001	65-35	1	1	11.1	C
ASTM	A	27	J03501	70-36	1	2	11.1	C

Table 1 *(continued)*

Standard	Specification	No.	UNS	Type/Grade	ASME/AWS P/M-No.	Group No.	ISO/TR 15608:2017 Group	Nominal composition
ASTM/ASME	A/SA	31	K03100	B	1	1	11.1	C
ASTM/ASME	A/SA	36			1	1	11.1	C-Mn-Si
ASTM/ASME	A/SA	36			1	1	11.1	C-Mn-Si
ASTM/ASME	A/SA	36	K02595		1	1	11.1	C-Mn-Si
ASTM/ASME	A/SA	36	K02596		1	1	11.1	C-Mn-Si
ASTM/ASME	A/SA	36	K02597		1	1	11.1	C-Mn-Si
ASTM/ASME	A/SA	36	K02598		1	1	1.1	C-Mn-Si
ASTM/ASME	A/SA	36	K02599		1	1	1.1	C-Mn-Si
ASTM/ASME	A/SA	36	K02600		1	1	11.1	C-Mn-Si
ASTM/ASME	A/SA	53	K02504	E, A	1	1	1.1	C
ASTM/ASME	A/SA	53	K02504	S, A	1	1	1.1	C
ASTM/ASME	A/SA	53	K03005	E, B	1	1	11.1	C-Mn
ASTM/ASME	A/SA	53	K03005	F	1	1	11.1	C
ASTM/ASME	A/SA	53	K03005	S, B	1	1	11.1	C-Mn
ASTM/ASME	A/SA	105	K03504		1	2	11.1	C
ASTM/ASME	A/SA	106	K02501	A	1	1	1.1	C-Si
ASTM/ASME	A/SA	106	K03006	B	1	1	11.1	C-Mn-Si
ASTM/ASME	A/SA	106	K03501	C	1	2	11.1	C-Mn-Si
ASTM	A	108	G10150	1015 CW	1	1	1.1	C
ASTM	A	108	G10180	1018 CW	1	1	1.1	C
ASTM	A	108	G10200	1020 CW	1	1	1.1	C
ASTM	A	108	G86200	8620 CW	3	3	4.1	0.5Ni-0.5Cr-Mo
ASTM	A	131		A	1	1	1.1	C
ASTM	A	131		AH32	1	2	1.2	C-Mn-Si
ASTM	A	131		AH36	1	2	1.2	C-Mn-Si
ASTM	A	131		B	1	1	1.1	C-Mn-Si
ASTM	A	131		CS	1	1	1.1	C-Mn-Si
ASTM	A	131		D	1	1	1.1	C-Mn-Si
ASTM	A	131		DH32	1	2	1.2	C-Mn-Si

Table 1 *(continued)*

Standard	Specification	No.	UNS	Type/Grade	ASME/AWS P/M-No.	Group No.	ISO/TR 15608:2017 Group	Nominal composition
ASTM	A	131		DH36	1	2	1.2	C-Mn-Si
ASTM	A	131		DS	1	1	1.1	C-Mn-Si
ASTM	A	131		E	1	2	1.1	C-Mn-Si
ASTM	A	131		EH32	1	2	1.2	C-Mn-Si
ASTM	A	131		EH36	1	2	1.2	C-Mn-Si
ASTM/ASME	A/SA	134	K01400	SA283, A	1	1	1.1	C
ASTM/ASME	A/SA	134	K01700	SA285, A	1	1	1.1	C
ASTM/ASME	A/SA	134	K01702	SA283, B	1	1	1.1	C
ASTM/ASME	A/SA	134	K02200	SA285, B	1	1	1.1	C
ASTM/ASME	A/SA	134	K02401	SA283, C	1	1	1.1	C
ASTM/ASME	A/SA	134	K02599	SA36	1	1	1.1	C
ASTM/ASME	A/SA	134	K02702	SA283, D	1	1	11.1	C
ASTM/ASME	A/SA	134	K02801	SA285, C	1	1	11.1	C
ASTM/ASME	A/SA	135	K02509	A	1	1	1.1	C
ASTM/ASME	A/SA	135	K03018	B	1	1	11.1	C
ASTM	A	139	K02508	A	1	1	1.1	C
ASTM	A	139	K03003	B	1	1	11.1	C
ASTM	A	139	K03004	C	1	1	11.1	C
ASTM	A	139	K03010	D	1	1	11.1	C
ASTM	A	139	K03012	E	1	1	11.1	C
ASTM	A	161	K11522	T1	3	1	1.1	C-0.5Mo
ASTM	A	167	S30215	302B	8	1	8.1	18Cr-8Ni-2Si
ASTM	A	167	S30800	308	8	2	8.2	20Cr-10Ni
ASTM	A	167	S30900	309	8	2	8.2	23Cr-12Ni
ASTM	A	167	S31000	310	8	2	8.2	25Cr-20Ni
ASTM/ASME	A/SA	178	K01200	A	1	1	1.1	C
ASTM/ASME	A/SA	178	K02709	D	1	2	11.1	C-Mn-Si
ASTM/ASME	A/SA	178	K03503	C	1	1	11.1	C
ASTM/ASME	A/SA	179	K01200		1	1	1.1	C

Table 1 *(continued)*

Standard	Specification	No.	UNS	Type/Grade	ASME/AWS P/M-No.	Group No.	ISO/TR 15608:2017 Group	Nominal composition
ASTM/ASME	A/SA	181	K03502	Cl. 60	1	1	11.1	C-Si
ASTM/ASME	A/SA	181	K03502	Cl. 70	1	2	11.1	C-Si
ASTM/ASME	A/SA	182	K11562	F12, Cl.1	4	1	5.1	1Cr-0.5Mo
ASTM/ASME	A/SA	182	K11564	F12, Cl.2	4	1	5.1	1Cr-0.5Mo
ASTM/ASME	A/SA	182	K11572	F11, Cl.2	4	1	5.1	1.25Cr-0.5Mo-Si
ASTM/ASME	A/SA	182	K11572	F11, Cl.3	4	1	5.1	1.25Cr-0.5Mo-Si
ASTM/ASME	A/SA	182	K11597	F11, Cl.1	4	1	5.1	1.25Cr-0.5Mo-Si
ASTM/ASME	A/SA	182	K12122	F2	3	2	4.2	0.5Cr-0.5Mo
ASTM/ASME	A/SA	182	K12822	F1	3	2	1.1	C-0.5Mo
ASTM/ASME	A/SA	182	K21590	F22, Cl.1	5A	1	5.2	2.25Cr-1Mo
ASTM/ASME	A/SA	182	K21590	F22, Cl.3	5A	1	5.2	2.25Cr-1Mo
ASTM/ASME	A/SA	182	K22035	FR	9A	1	9.1	2Ni-1Cu
ASTM/ASME	A/SA	182	K31390	F3VCb	5C	1	6.2	3Cr-1Mo-0.25V-Cb-Ca
ASTM/ASME	A/SA	182	K31545	F21	5A	1	5.2	3Cr-1Mo
ASTM/ASME	A/SA	182	K31830	F3V	5C	1	6.2	3Cr-1Mo-V-Ti-B
ASTM/ASME	A/SA	182	K31835	F22V	5C	1	6.2	2.25Cr-1Mo-V
ASTM/ASME	A/SA	182	K41545	F5	5B	1	5.3	5Cr-0.5Mo
ASTM/ASME	A/SA	182	K42544	F5a	5B	1	5.3	5Cr-0.5Mo
ASTM/ASME	A/SA	182	K90901	F91	15E	1	6.4	9Cr-1Mo-V
ASTM/ASME	A/SA	182	K90941	F9	5B	1	5.4	9Cr-1Mo
ASTM/ASME	A/SA	182	K92460	F92	15E	1	6.4	9Cr-2W
ASTM/ASME	A/SA	182	N08367		45		8.2	46Fe-24Ni-21Cr-6Mo-Cu-N
ASTM/ASME	A/SA	182	N08904	F904L	45		8.2	44Fe-25Ni-21Cr-Mo
ASTM/ASME	A/SA	182	S20910	FXM-19	8	3	8.3	22Cr-13Ni-5Mn
ASTM/ASME	A/SA	182	S21904	FXM-11	8	3	8.3	21Cr-6Ni-9Mn
ASTM/ASME	A/SA	182	S30400	F304	8	1	8.1	18Cr-8Ni
ASTM/ASME	A/SA	182	S30403	F304L	8	1	8.1	18Cr-8Ni
ASTM/ASME	A/SA	182	S30409	F304H	8	1	8.1	18Cr-8Ni
ASTM/ASME	A/SA	182	S30451	F304N	8	1	8.1	18Cr-8Ni-N