
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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

In exceptional circumstances, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example), it may decide by a simple majority vote of its participating members to publish a Technical Report. A Technical Report is entirely informative in nature and does not have to be reviewed until the data it provides are considered to be no longer valid or useful.

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.

ISO/TR 20173 was prepared by Technical Committee ISO/TC 44, *Welding and allied processes*, Subcommittee SC 10, *Unification of requirements in the field of metal welding*.

This second edition cancels and replaces the first edition (ISO/TR 20173:2005), which has been technically revised.

Requests for official interpretations of any aspect of this Technical Report 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 <http://www.iso.org>.

Welding — Grouping systems for materials — American materials

1 Scope

This Technical Report provides an American grouping system for materials for welding purposes, classified in accordance with the grouping system of ISO/TR 15608:2005^[1].

It may 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 15608:2005^[1], Table 1.

This Technical Report 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 American grouping system for materials

See Tables 1 and 2.

Table 1 — American grouping system for ferrous material

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
AS	15	5-490	—	1	—	1.1	C
AS	15	7-430	—	1	—	1.1	C
AS	15	7-460	—	1	—	1.1	C
AS	15	7-490	—	1	—	1.1	C
A/SA	36	—	K02600	1	1	11.1	C-Mn-Si
A/SA	36	—	K02600	1	1	11.1	C-Mn-Si
A/SA	53	Type E, Gr. A	K02504	1	1	11.1	C

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	53	Type E, Gr. B	K03005	1	1	11.1	C-Mn
A/SA	53	Type F	—	1	1	11.1	C
A/SA	53	Type S, Gr. A	K02504	1	1	11.1	C
A/SA	53	Type S, Gr. B	K03005	1	1	11.1	C-Mn
A/SA	105	—	K03504	1	2	11.1	C
A/SA	106	A	K02501	1	1	1.1	C-Si
A/SA	106	B	K03006	1	1	11.1	C-Mn-Si
A/SA	106	C	K03501	1	2	11.1	C-Mn-Si
A	108	1015 CW	G10150	1	1	1.1	C
A	108	1018 CW	G10180	1	1	1.1	C
A	108	1020 CW	G10200	1	1	1.1	C
A	108	8620 CW	G86200	3	3	4.1	0.5Ni-0.5Cr-Mo
A	131	A	—	1	1	1.1	C
A	131	AH32	—	1	2	1.2	C-Mn-Si
A	131	AH36	—	1	2	1.2	C-Mn-Si
A	131	B	—	1	1	1.1	C-Mn-Si
A	131	CS	—	1	1	1.1	C-Mn-Si
A	131	D	—	1	1	1.1	C-Mn-Si
A	131	DH32	—	1	2	1.2	C-Mn-Si
A	131	DH36	—	1	2	1.2	C-Mn-Si
A	131	DS	—	1	1	1.1	C-Mn-Si
A	131	E	—	1	2	1.1	C-Mn-Si
A	131	EH32	—	1	2	1.2	C-Mn-Si
A	131	EH36	—	1	2	1.2	C-Mn-Si
A/SA	134	SA283, Gr. A	—	1	1	1.1	C
A/SA	134	SA283, Gr. B	—	1	1	1.1	C
A/SA	134	SA283, Gr. C	K02401	1	1	1.1	C
A/SA	134	SA283, Gr. D	K02702	1	1	1.1	C
A/SA	134	SA285, Gr. A	K01700	1	1	1.1	C
A/SA	134	SA285, Gr. B	K02200	1	1	1.1	C
A/SA	134	SA285, Gr. C	K02801	1	1	11.1	C
A/SA	135	A	—	1	1	1.1	C
A/SA	135	B	—	1	1	11.1	C
A	139	A	—	1	1	1.1	C
A	139	B	K03003	1	1	1.1	C

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A	139	C	K03004	1	1	11.1	C
A	139	D	K03010	1	1	11.1	C
A	139	E	K03012	1	1	11.1	C
A	167	Type 302B	S30215	8	1	8.1	18Cr-8Ni-2Si
A	167	Type 308	S30800	8	2	8.2	20Cr-10Ni
A	167	Type 309	S30900	8	2	8.2	23Cr-12Ni
A	167	Type 309S	S30908	8	2	8.2	23Cr-12Ni
A	167	Type 310	S31000	8	2	8.2	25Cr-20Ni
A	167	Type 310S	S31008	8	2	8.2	25Cr-20Ni
A/SA	178	A	K01200	1	1	1.1	C
A/SA	178	C	K03503	1	1	11.1	C
A/SA	178	D	—	1	2	11.1	C-Mn-Si
A/SA	179	—	K01200	1	1	1.1	C
A/SA	181	Cl. 60	K03502	1	1	11.1	C-Si
A/SA	181	Cl. 70	K03502	1	2	11.1	C-Si
A	182	F60	S32205	10H	1	10.1	22Cr-5Ni-3Mo-N
A	182	F6a, Cl. 3	S41000	6	3	7.2	13Cr
A	182	F6a, Cl. 4	S41000	6	3	7.2	13Cr
A	182	S34565	S34565	8	4	8.2	24Cr-17Ni-6Mn-4.5Mo-N
A/SA	182	F1	K12822	3	2	1.1	C-0.5Mo
A/SA	182	F10	S33100	8	2	8.1	20Ni-8Cr
A/SA	182	F11, Cl. 1	K11597	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	182	F11, Cl. 2	K11572	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	182	F11, Cl. 3	K11572	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	182	F12, Cl. 1	K11562	4	1	5.1	1Cr-0.5Mo
A/SA	182	F12, Cl. 2	K11564	4	1	5.1	1Cr-0.5Mo
A/SA	182	F2	K12122	3	2	4.2	0.5Cr-0.5Mo
A/SA	182	F21	K31545	5°	1	5.2	3Cr-1Mo
A/SA	182	F22, Cl. 1	K21590	5°	1	5.2	2.25Cr-1Mo
A/SA	182	F22, Cl. 3	K21590	5°	1	5.2	2.25Cr-1Mo
A/SA	182	F22V	K31835	5C	1	6.2	2.25Cr-1Mo-V
A/SA	182	F304	S30400	8	1	8.1	18Cr-8Ni
A/SA	182	F304H	S30409	8	1	8.1	18Cr-8Ni
A/SA	182	F304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	182	F304LN	S30453	8	1	8.1	18Cr-8Ni-N

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	182	F304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	182	F310	S31000	8	2	8.2	25Cr-20Ni
A/SA	182	F310MoLN	S31050	8	2	8.2	25Cr-22Ni-2Mo-N
A/SA	182	F316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	182	F316H	S31609	8	1	8.1	16Cr-12Ni-2Mo
A/SA	182	F316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	182	F316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	182	F316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	182	F317	S31700	8	1	8.1	18Cr-13Ni-3Mo
A/SA	182	F317L	S31703	8	1	8.1	18Cr-13Ni-3Mo
A/SA	182	F321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	182	F321H	S32109	8	1	8.1	18Cr-10Ni-Ti
A/SA	182	F347	S34700	8	1	8.1	18Cr-10Ni-Cb
A/SA	182	F347H	S34709	8	1	8.1	18Cr-10Ni-Cb
A/SA	182	F348	S34800	8	1	8.1	18Cr-10Ni-Cb
A/SA	182	F348H	S34809	8	1	8.1	18Cr-10Ni-Cb
A/SA	182	F3V	K31830	5C	1	6.2	3Cr-1Mo-V-Ti-B
A/SA	182	F3VCb	—	5C	1	6.2	3Cr-1Mo-0.25V-Cb-Ca
A/SA	182	F429	S42900	6	2	7.2	15Cr
A/SA	182	F430	S43000	7	2	7.1	17Cr
A/SA	182	F44	S31254	8	4	8.2	20Cr-18Ni-6Mo
A/SA	182	F45	S30815	8	2	8.2	21Cr-11Ni-N
A/SA	182	F46	S30600	8	1	8.1	18Cr-15Ni-4Si
A/SA	182	F5	K41545	5B	1	5.3	5Cr-0.5Mo
A/SA	182	F50	S31200	10H	1	10.2	25Cr-6Ni-Mo-N
A/SA	182	F51	S31803	10H	1	10.1	22Cr-5Ni-3Mo-N
A/SA	182	F53	S32750	10H	1	10.2	25Cr-7Ni-4Mo-N
A/SA	182	F54	S39274	10H	1	10.2	25Cr-7Ni-3Mo-2W-Cu-N
A/SA	182	F55	S32760	10H	1	10.1	25Cr-8Ni-3Mo-W-Cu-N
A/SA	182	F5a	K42544	5B	1	5.3	5Cr-0.5Mo
A/SA	182	F6a, Cl. 1	S41000	6	1	7.2	13Cr
A/SA	182	F6a, Cl. 2	S41000	6	3	7.2	13Cr
A/SA	182	F6b	S41026	6	3	7.2	13Cr-0.5Mo
A/SA	182	F6NM	S41500	6	4	7.2	13Cr-4.5Ni-Mo

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	182	F9	K90941	5B	1	5.4	9Cr-1Mo
A/SA	182	F91	K90901	5B	2	6.4	9Cr-1Mo-V
A/SA	182	FR	K22035	9A	1	9.1	2Ni-1Cu
A/SA	182	FXM-11	S21904	8	3	8.3	21Cr-6Ni-9Mn
A/SA	182	FXM-19	S20910	8	3	8.3	22Cr-13Ni-5Mn
A/SA	182	FXM-27Cb	S44627	10I	1	7.1	27Cr-1Mo
A/SA	192	—	K01201	1	1	1.1	C-Si
A/SA	202	A	K11742	4	1	4.2	0.5Cr-1.25Mn-Si
A/SA	202	B	K12542	4	1	4.2	0.5Cr-1.25Mn-Si
A/SA	203	A	K21703	9A	1	9.1	2.5Ni
A/SA	203	B	K22103	9A	1	9.1	2.5Ni
A/SA	203	D	K31718	9B	1	9.2	3.5Ni
A/SA	203	E	K32018	9B	1	9.2	3.5Ni
A/SA	203	F	—	9B	1	9.2	3.5Ni
A/SA	204	A	K11820	3	1	1.1	C-0.5Mo
A/SA	204	B	K12020	3	2	1.1	C-0.5Mo
A/SA	204	C	K12320	3	2	1.2	C-0.5Mo
A/SA	209	T1	K11522	3	1	1.1	C-0.5Mo
A/SA	209	T1a	K12023	3	1	1.1	C-0.5Mo
A/SA	209	T1b	K11422	3	1	1.1	C-0.5Mo
A/SA	210	A-1	K02707	1	1	11.1	C-Si
A/SA	210	C	K03501	1	2	11.1	C-Mn-Si
A	211	A570-30	K02502	1	1	1.1	C
A	211	A570-33	K02502	1	1	1.1	C
A	211	A570-40	K02502	1	1	1.1	C
A/SA	213	—	S31277	45	—	8.2	27Ni-22Cr-7Mo-Mn-Cu
A/SA	213	S30600	S30600	8	1	8.1	17Cr-14Ni-4Si
A/SA	213	S30601	S30601	8	1	8.1	17.5Cr-17.5Ni-5.3Si
A/SA	213	S30815	S30815	8	2	8.2	21Cr-11Ni-N
A/SA	213	S31277	S31277	45	—	8.2	27Ni-22Cr-7Mo-Mn-Cu
A/SA	213	S31725	S31725	8	4	8.1	19Cr-15Ni-4Mo
A/SA	213	S31726	S31726	8	4	8.1	19Cr-15.5Ni-4Mo
A/SA	213	S32615	S32615	8	1	8.1	18Cr-20Ni-5.5Si
A/SA	213	T11	K11597	4	1	5.1	1.25Cr-0.5Mo-Si

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	213	T12	K11562	4	1	5.1	1Cr-0.5Mo
A/SA	213	T17	K12047	10B	1	4.1	1Cr-V
A/SA	213	T2	K11547	3	1	4.2	0.5Cr-0.5Mo
A/SA	213	T21	K31545	5A	1	5.2	3Cr-1Mo
A/SA	213	T22	K21590	5A	1	5.2	2.25Cr-1Mo
A/SA	213	T5	K41545	5B	1	5.3	5Cr-0.5Mo
A/SA	213	T5b	K51545	5B	1	5.3	5Cr-0.5Mo-Si
A/SA	213	T5c	K41245	5B	1	5.3	5Cr-0.5Mo-Ti
A/SA	213	T9	K90941	5B	1	5.4	9Cr-1Mo
A/SA	213	T91	K90901	5B	2	6.4	9Cr-1Mo-V
A/SA	213	TP201	S20100	8	3	8.3	17Cr-4Ni-6Mn
A/SA	213	TP202	S20200	8	3	8.3	18Cr-5Ni-9Mn
A/SA	213	TP304	S30400	8	1	8.1	18Cr-8Ni
A/SA	213	TP304H	S30409	8	1	8.1	18Cr-8Ni
A/SA	213	TP304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	213	TP304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	213	TP304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	213	TP309Cb	S30940	8	2	8.2	23Cr-12Ni-Cb
A/SA	213	TP309H	S30909	8	2	8.2	23Cr-12Ni
A/SA	213	TP309HCb	S30941	8	2	8.2	23Cr-12Ni-Cb
A/SA	213	TP309S	S30908	8	2	8.2	23Cr-12Ni
A/SA	213	TP310Cb	S31040	8	2	8.2	25Cr-20Ni-Cb
A/SA	213	TP310H	S31009	8	2	8.2	25Cr-20Ni
A/SA	213	TP310HCb	S31041	8	2	8.2	25Cr-20Ni-Cb
A/SA	213	TP310MoLN	S31050	8	2	8.2	25Cr-22Ni-2Mo-N
A/SA	213	TP310MoLN	S31050	8	2	8.2	25Cr-22Ni-2Mo-N
A/SA	213	TP310S	S31008	8	2	8.2	25Cr-20Ni
A/SA	213	TP316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	213	TP316H	S31609	8	1	8.1	16Cr-12Ni-2Mo
A/SA	213	TP316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	213	TP316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	213	TP316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	213	TP321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	213	TP321H	S32109	8	1	8.1	18Cr-10Ni-Ti

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	213	TP347	S34700	8	1	8.1	18Cr-10Ni-Cb
A/SA	213	TP347H	S34709	8	1	8.1	18Cr-10Ni-Cb
A/SA	213	TP347HFG	S34710	8	1	8.1	18Cr-10Ni-Cb
A/SA	213	TP348	S34800	8	1	8.1	18Cr-10Ni-Cb
A/SA	213	TP348H	S34809	8	1	8.1	18Cr-10Ni-Cb
A/SA	213	XM-15	S38100	8	1	8.1	18Cr-18Ni-2Si
A/SA	213	XM-19	S20910	8	3	8.3	22Cr-13Ni-5Mn
A/SA	214	—	K01807	1	1	1.1	C
A/SA	216	WCA	J02502	1	1	1.1	C-Si
A/SA	216	WCB	J03002	1	2	1.1	C-Si
A/SA	216	WCC	J02503	1	2	1.1	C-Mn-Si
A	217	C12A	J84090	5B	2	6.4	9Cr-1Mo-V
A/SA	217	C12	J82090	5B	1	5.4	9Cr-1Mo
A/SA	217	C5	J42045	5B	1	5.3	5Cr-0.5Mo
A/SA	217	CA15	J91150	6	3	7.2	13Cr
A/SA	217	WC1	J12524	3	1	1.1	C-0.5Mo
A/SA	217	WC4	J12082	4	1	9.1	1Ni-0.5Cr-0.5Mo
A/SA	217	WC5	J22000	4	1	4.2	0.75Ni-1Mo-0.75Cr
A/SA	217	WC6	J12072	4	1	5.1	1.25Cr-0.5Mo
A/SA	217	WC9	J21890	5A	1	5.2	2.25Cr-1Mo
A/SA	225	C	K12524	10A	1	4.1	Mn-0.5Ni-V
A/SA	225	D	K12004	10A	1	2.1	Mn-0.5Ni-V
A/SA	234	WP1	K12821	3	1	11.2	C-0.5Mo
A/SA	234	WP11, Cl. 1	—	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	234	WP12, Cl. 1	K12062	4	1	5.1	1Cr-0.5Mo
A/SA	234	WP22, Cl. 1	K21590	5A	1	5.2	2.25Cr-1Mo
A/SA	234	WP5	K41545	5B	1	5.3	5Cr-0.5Mo
A/SA	234	WP91	K90901	5B	2	6.4	9Cr-1Mo-V
A/SA	234	WPB	K03006	1	1	11.1	C-Mn-Si
A/SA	234	WPC	K03501	1	2	11.1	C-Mn-Si
A/SA	234	WPR	K22035	9A	1	9.1	2Ni-1Cu
A	240	S32205	S32205	10H	1	10.1	22Cr-5Ni-3Mo-N
A	240	S34565	S34565	8	4	8.2	24Cr-17Ni-6Mn-4.5Mo-N
A/SA	240	—	S20400	8	3	8.3	16Cr-9Mn-2Ni-N

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	240	—	S31277	45	—	8.2	27Ni-22Cr-7Mo-Mn-Cu
A/SA	240	S21800	S21800	8	3	8.1	18Cr-8Ni-4Si-N
A/SA	240	S30600	S30600	8	1	8.1	18Cr-15Ni-4Si
A/SA	240	S30601	S30601	8	1	8.1	17.5Cr-17.5Ni-5.3Si
A/SA	240	S30815	S30815	8	2	8.2	21Cr-11Ni-N
A/SA	240	S31200	S31200	10H	1	10.2	25Cr-6Ni-Mo-N
A/SA	240	S31254	S31254	8	4	8.2	20Cr-18Ni-6Mo
A/SA	240	S31260	S31260	10H	1	10.2	25Cr-6.5Ni-3Mo-N
A/SA	240	S31277	S31277	45	—	8.2	27Ni-22Cr-7Mo-Mn-Cu
A/SA	240	S31725	S31725	8	4	8.1	19Cr-15Ni-4Mo
A/SA	240	S31726	S31726	8	4	8.1	19Cr-15.5Ni-4Mo
A/SA	240	S31753	S31753	8	1	8.1	18Cr-13Ni-3Mo-N
A/SA	240	S31803	S31803	10H	1	10.1	22Cr-5Ni-3Mo-N
A/SA	240	S32550	S32550	10H	1	10.2	25Cr-5Ni-3Mo-2Cu
A/SA	240	S32615	S32615	8	1	8.1	18Cr-20Ni-5.5Si
A/SA	240	S32750	S32750	10H	1	10.2	25Cr-7Ni-4Mo-N
A/SA	240	S32760	S32760	10H	1	10.2	25Cr-8Ni-3Mo-W-Cu-N
A/SA	240	S32906	S32906	10H	1	10.2	29Cr-6.5Ni-2Mo-N
A/SA	240	S32950	S32950	10H	1	10.2	26Cr-4Ni-Mo-N
A/SA	240	S41500	S41500	6	4	7.2	13Cr-4.5Ni-Mo
A/SA	240	S44400	S44400	7	2	7.1	18Cr-2Mo
A/SA	240	S44635	S44635	10I	1	7.1	25Cr-4Ni-4Mo-Ti
A/SA	240	S44660	S44660	10K	1	7.1	26Cr-3Ni-3Mo
A/SA	240	S44700	S44700	10J	1	7.1	29Cr-4Mo
A/SA	240	S44800	S44800	10K	1	7.1	29Cr-4Mo-2Ni
A/SA	240	Type 201-1	S20100	8	3	8.3	17Cr-4Ni-6Mn
A/SA	240	Type 201-2	S20100	8	3	8.3	17Cr-4Ni-6Mn
A/SA	240	Type 201LN	S20153	8	3	8.3	16Cr-4Ni-6Mn
A/SA	240	Type 202	S20200	8	3	8.3	18Cr-5Ni-9Mn
A/SA	240	Type 301	S30100	8	1	8.1	17Cr-7Ni
A/SA	240	Type 302	S30200	8	1	8.1	18Cr-8Ni
A/SA	240	Type 304	S30400	8	1	8.1	18Cr-8Ni
A/SA	240	Type 304H	S30409	8	1	8.1	18Cr-8Ni
A/SA	240	Type 304L	S30403	8	1	8.1	18Cr-8Ni

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	240	Type 304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	240	Type 304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	240	Type 305	S30500	8	1	8.1	18Cr-11Ni
A/SA	240	Type 309Cb	S30940	8	2	8.2	23Cr-12Ni-Cb
A/SA	240	Type 309H	S30909	8	2	8.2	23Cr-12Ni
A/SA	240	Type 309HCb	S30941	8	2	8.2	23Cr-12Ni-Cb
A/SA	240	Type 309S	S30908	8	2	8.2	23Cr-12Ni
A/SA	240	Type 310Cb	S31040	8	2	8.2	25Cr-20Ni-Cb
A/SA	240	Type 310H	S31009	8	2	8.2	25Cr-20Ni
A/SA	240	Type 310HCb	S31041	8	2	8.2	25Cr-20Ni-Cb
A/SA	240	Type 310MoLN	S31050	8	2	8.2	25Cr-22Ni-2Mo-N
A/SA	240	Type 310S	S31008	8	2	8.2	25Cr-20Ni
A/SA	240	Type 316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	240	Type 316Cb	S31640	8	1	8.1	16Cr-12Ni-2Mo-Cb
A/SA	240	Type 316H	S31609	8	1	8.1	16Cr-12Ni-2Mo
A/SA	240	Type 316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	240	Type 316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	240	Type 316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	240	Type 316Ti	S31635	8	1	8.1	16Cr-12Ni-2Mo-Ti
A/SA	240	Type 317	S31700	8	1	8.1	18Cr-13Ni-3Mo
A/SA	240	Type 317L	S31703	8	1	8.1	18Cr-13Ni-3Mo
A/SA	240	Type 321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	240	Type 321H	S32109	8	1	8.1	18Cr-10Ni-Ti
A/SA	240	Type 347H	S34709	8	1	8.1	18Cr-10Ni-Cb
A/SA	240	Type 348	S34800	8	1	8.1	18Cr-10Ni-Cb
A/SA	240	Type 348H	S34809	8	1	8.1	18Cr-10Ni-Cb
A/SA	240	Type 405	S40500	7	1	7.1	12Cr-1Al
A/SA	240	Type 409	S40910	7	1	7.1	11Cr-Ti
A/SA	240	Type 409	S40930	7	1	7.1	11Cr-Ti
A/SA	240	Type 409	S40920	7	1	7.1	11Cr-Ti
A/SA	240	Type 410	S41000	6	1	7.2	13Cr
A/SA	240	Type 410S	S41008	7	1	7.1	13Cr
A/SA	240	Type 429	S42900	6	2	7.2	15Cr
A/SA	240	Type 430	S43000	7	2	7.1	17Cr

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	240	Type 439	S43035	7	2	7.1	18Cr-Ti
A/SA	240	Type XM-15	S38100	8	1	8.1	18Cr-18Ni-2Si
A/SA	240	Type XM-17	S21600	8	3	8.3	19Cr-8Mn-6Ni-Mo-N
A/SA	240	Type XM-18	S21603	8	3	8.3	19Cr-8Mn-6Ni-Mo-N
A/SA	240	Type XM-19	S20910	8	3	8.3	22Cr-13Ni-5Mn
A/SA	240	Type XM-21	S30452	8	1	8.1	18Cr-8Ni-N
A/SA	240	Type XM-27	S44627	10I	1	7.1	27Cr-1Mo
A/SA	240	Type XM-29	S24000	8	3	8.3	18Cr-3Ni-12Mn
A/SA	240	Type XM-33	S44626	10I	1	7.1	27Cr-1Mo-Ti
A/SA	249	—	S31277	45	—	8.2	27Ni-22Cr-7Mo-Mn-Cu
A/SA	249	S30815	S30815	8	2	8.2	21Cr-11Ni-N
A/SA	249	S31254	S31254	8	4	8.2	20Cr-18Ni-6Mo
A/SA	249	S31277	S31277	45	—	8.2	27Ni-22Cr-7Mo-Mn-Cu
A/SA	249	S31725	S31725	8	4	8.1	19Cr-15Ni-4Mo
A/SA	249	S31726	S31726	8	4	8.1	19Cr-15.5Ni-4Mo
A/SA	249	TP 201	S20100	8	3	8.3	17Cr-4Ni-6Mn
A/SA	249	TP 202	S20200	8	3	8.3	18Cr-5Ni-9Mn
A/SA	249	TP XM-15	S38100	8	1	8.1	18Cr-18Ni-2Si
A/SA	249	TP XM-19	S20910	8	3	8.3	22Cr-13Ni-5Mn
A/SA	249	TP XM-29	S24000	8	3	8.3	18Cr-3Ni-12Mn
A/SA	249	TP304H	S30409	8	1	8.1	18Cr-8Ni
A/SA	249	TP304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	249	TP304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	249	TP304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	249	TP309Cb	S30940	8	2	8.2	23Cr-12Ni-Cb
A/SA	249	TP309H	S30909	8	2	8.2	23Cr-12Ni
A/SA	249	TP309HCb	S30941	8	2	8.2	23Cr-12Ni-Cb
A/SA	249	TP309S	S30908	8	2	8.2	23Cr-12Ni
A/SA	249	TP310Cb	S31040	8	2	8.2	25Cr-20Ni-Cb
A/SA	249	TP310H	S31009	8	2	8.2	25Cr-20Ni
A/SA	249	TP310HCb	S31041	8	2	8.2	25Cr-20Ni-Cb
A/SA	249	TP310MoLN	S31050	8	2	8.2	25Cr-22Ni-2Mo-N
A/SA	249	TP310S	S31008	8	2	8.2	25Cr-20Ni
A/SA	249	TP316	S31600	8	1	8.1	16Cr-12Ni-2Mo

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	249	TP316H	S31609	8	1	8.1	16Cr-12Ni-2Mo
A/SA	249	TP316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	249	TP316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	249	TP316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	249	TP317	S31700	8	1	8.1	18Cr-13Ni-3Mo
A/SA	249	TP317L	S31703	8	1	8.1	18Cr-13Ni-3Mo
A/SA	249	TP321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	249	TP321H	S32109	8	1	8.1	18Cr-10Ni-Ti
A/SA	249	TP347	S34700	8	1	8.1	18Cr-10Ni-Cb
A/SA	249	TP347H	S34709	8	1	8.1	18Cr-10Ni-Cb
A/SA	249	TP348	S34800	8	1	8.1	18Cr-10Ni-Cb
A/SA	249	TP348H	S34809	8	1	8.1	18Cr-10Ni-Cb
A/SA	250	T1	K11522	3	1	1.1	C-0.5Mo
A/SA	250	T11	K11597	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	250	T12	K11564	4	1	5.1	1Cr-0.5Mo
A/SA	250	T1a	K12023	3	1	1.1	C-0.5Mo
A/SA	250	T1b	K11422	3	1	1.1	C-0.5Mo
A/SA	250	T2	K11547	3	1	4.2	0.5Cr-0.5Mo
A/SA	250	T22	K21590	5A	1	5.2	2.25Cr-1Mo
A/SA	266	1	K03506	1	1	11.1	C-Si
A/SA	266	2	K03506	1	2	11.1	C-Si
A/SA	266	3	K05001	1	2	11.2	C-Si
A/SA	266	4	K03017	1	2	11.1	C-Mn-Si
A/SA	268	18Cr-2Mo	S44400	7	2	7.1	18Cr-2Mo
A/SA	268	25-4-4	S44635	10I	1	7.1	25Cr-4Ni-4Mo-Ti
A/SA	268	26-3-3	S44660	10K	1	7.1	26Cr-3Ni-3Mo
A/SA	268	29-4	S44700	10J	1	7.1	29Cr-4Mo
A/SA	268	29-4-2	S44800	10K	1	7.1	29Cr-4Mo-2Ni
A/SA	268	S40800	S40800	7	1	7.1	12Cr-Ti
A/SA	268	S41500	S41500	6	4	7.2	13Cr-4.5Ni-Mo
A/SA	268	S44735	S44735	10J	1	7.1	29Cr-4Mo-Ti
A/SA	268	TP 446-1	S44600	10I	1	7.1	27Cr
A/SA	268	TP 446-2	S44600	10I	1	7.1	27Cr
A/SA	268	TP XM-27	S44627	10I	1	7.1	27Cr-1Mo

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	268	TP XM-33	S44626	10I	1	7.1	27Cr-1Mo-Ti
A/SA	268	TP405	S40500	7	1	7.1	12Cr-1Al
A/SA	268	TP409	S40900	7	1	7.1	11Cr-Ti
A/SA	268	TP410	S41000	6	1	7.2	13Cr
A/SA	268	TP429	S42900	6	2	7.2	15Cr
A/SA	268	TP430	S43000	7	2	7.1	17Cr
A/SA	268	TP430Ti	S43036	7	1	7.1	18Cr-Ti-Cb
A/SA	268	TP439	S43035	7	2	7.1	18Cr-Ti
A	269	TP304	S30400	8	1	8.1	18Cr-8Ni
A	269	TP304L	S30403	8	1	8.1	18Cr-8Ni
A	269	TP316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A	269	TP316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A	271	TP304	S30400	8	1	8.1	18Cr-8Ni
A	276	S32205	S32205	10H	1	10.1	22Cr-5Ni-3Mo-N
A	276	TP304	S30400	8	1	8.1	18Cr-8Ni
A	276	TP304L	S30403	8	1	8.1	18Cr-8Ni
A	276	TP316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A	276	TP316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	283	A	K01400	1	1	1.1	C
A/SA	283	B	K01702	1	1	1.1	C
A/SA	283	C	K02401	1	1	1.1	C
A/SA	283	D	K02702	1	1	1.1	C
A/SA	285	A	K01700	1	1	1.1	C
A/SA	285	B	K02200	1	1	1.1	C
A/SA	285	C	K02801	1	1	11.1	C
A/SA	299	—	K02803	1	2	11.1	C-Mn-Si
A/SA	302	A	K12021	3	2	1.1	Mn-0.5Mo
A/SA	302	B	K12022	3	3	1.2	Mn-0.5Mo
A	312	S34565	S34565	8	4	8.2	24Cr-17Ni-6Mn-4.5Mo-N
A/SA	312	—	S31277	45	—	8.2	27Ni-22Cr-7Mo-Mn-Cu
A/SA	312	S30600	S30600	8	1	8.1	18Cr-15Ni-4Si
A/SA	312	S30601	S30601	8	1	8.1	17.5Cr-17.5Ni-5.3Si
A/SA	312	S30815	S30815	8	2	8.2	21Cr-11Ni-N
A/SA	312	S31254	S31254	8	4	8.2	20Cr-18Ni-6Mo

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	312	S31277	S31277	45	—	8.2	27Ni-22Cr-7Mo-Mn-Cu
A/SA	312	S31725	S31725	8	4	8.1	19Cr-15Ni-4Mo
A/SA	312	S31726	S31726	8	4	8.1	19Cr-15.5Ni-4Mo
A/SA	312	S32615	S32615	8	1	8.1	18Cr-20Ni-5.5Si
A/SA	312	TP XM-11	S21904	8	3	8.3	21Cr-6Ni-9Mn
A/SA	312	TP XM-15	S38100	8	1	8.1	18Cr-18Ni-2Si
A/SA	312	TP XM-19	S20910	8	3	8.3	22Cr-13Ni-5Mn
A/SA	312	TP XM-29	S24000	8	3	8.3	18Cr-3Ni-12Mn
A/SA	312	TP304	S30400	8	1	8.1	18Cr-8Ni
A/SA	312	TP304H	S30409	8	1	8.1	18Cr-8Ni
A/SA	312	TP304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	312	TP304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	312	TP304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	312	TP309Cb	S30940	8	2	8.2	23Cr-12Ni-Cb
A/SA	312	TP309H	S30909	8	2	8.2	23Cr-12Ni
A/SA	312	TP309HCb	S30941	8	2	8.2	23Cr-12Ni-Cb
A/SA	312	TP309S	S30908	8	2	8.2	23Cr-12Ni
A/SA	312	TP310Cb	S31040	8	2	8.2	25Cr-20Ni-Cb
A/SA	312	TP310H	S31009	8	2	8.2	25Cr-20Ni
A/SA	312	TP310HCb	S31041	8	2	8.2	25Cr-20Ni-Cb
A/SA	312	TP310MoLN	S31050	8	2	8.2	25Cr-22Ni-2Mo-N
A/SA	312	TP310S	S31008	8	2	8.2	25Cr-20Ni
A/SA	312	TP316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	312	TP316H	S31609	8	1	8.1	16Cr-12Ni-2Mo
A/SA	312	TP316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	312	TP316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	312	TP316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	312	TP317	S31700	8	1	8.1	18Cr-13Ni-3Mo
A/SA	312	TP317L	S31703	8	1	8.1	18Cr-13Ni-3Mo
A/SA	312	TP321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	312	TP321H	S32109	8	1	8.1	18Cr-10Ni-Ti
A/SA	312	TP347	S34700	8	1	8.1	18Cr-10Ni-Cb
A/SA	312	TP347H	S34709	8	1	8.1	18Cr-10Ni-Cb
A/SA	312	TP348	S34800	8	1	8.1	18Cr-10Ni-Cb

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	312	TP348H	S34809	8	1	8.1	18Cr-10Ni-Cb
A/SA	333	1	K03008	1	1	11.1	C-Mn
A/SA	333	10	—	1	3	11.1	C-Mn-Si
A/SA	333	3	K31918	9B	1	9.2	3.5Ni
A/SA	333	4	K11267	4	2	4.1	0.75Cr-0.75Ni-Cu-Al
A/SA	333	6	K03006	1	1	11.1	C-Mn-Si
A/SA	333	7	K21903	9A	1	9.1	2.5Ni
A/SA	333	8	K81340	11A	1	9.3	9Ni
A/SA	333	9	K22035	9A	1	9.1	2Ni-1Cu
A/SA	334	1	K03008	1	1	11.1	C-Mn
A/SA	334	3	K31918	9B	1	9.2	3.5Ni
A/SA	334	6	K03006	1	1	11.1	C-Mn-Si
A/SA	334	7	K21903	9A	1	9.1	2.5Ni
A/SA	334	8	K81340	11A	1	9.3	9Ni
A/SA	334	9	K22035	9A	1	9.1	2Ni-1Cu
A/SA	335	P1	K11522	3	1	1.1	C-0.5Mo
A/SA	335	P11	K11597	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	335	P12	K11562	4	1	5.1	1Cr-0.5Mo
A/SA	335	P2	K11547	3	1	4.2	0.5Cr-0.5Mo
A/SA	335	P21	K31545	5A	1	5.2	3Cr-1Mo
A/SA	335	P22	K21590	5A	1	5.2	2.25Cr-1Mo
A/SA	335	P5	K41545	5B	1	5.3	5Cr-0.5Mo
A/SA	335	P5b	K51545	5B	1	5.3	5Cr-0.5Mo-Si
A/SA	335	P5c	K41245	5B	1	5.3	5Cr-0.5Mo-Ti
A/SA	335	P9	K90941	5B	1	5.4	9Cr-1Mo
A/SA	335	P91	K90901	5B	2	6.4	9Cr-1Mo-V
A/SA	336	F1	K12520	3	2	1.1	C-0.5Mo
A/SA	336	F11, Cl. 1	K11597	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	336	F11, Cl. 2	K11572	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	336	F11, Cl. 3	K11572	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	336	F12	K11564	4	1	5.1	1Cr-0.5Mo
A/SA	336	F21, Cl. 1	K31545	5A	1	5.2	3Cr-1Mo
A/SA	336	F21, Cl. 3	K31545	5A	1	5.2	3Cr-1Mo
A/SA	336	F22, Cl. 1	K21590	5A	1	5.2	2.25Cr-1Mo

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	336	F22, Cl. 3	K21590	5A	1	5.2	2.25Cr-1Mo
A/SA	336	F22V	K31835	5C	1	6.2	2.25Cr-1Mo-V
A/SA	336	F3Cb	—	5C	1	6.2	3Cr-1Mo-0.25V-Cb-Ca
A/SA	336	F3V	K31830	5C	1	6.2	3Cr-1Mo-V-Ti-B
A/SA	336	F5	K41545	5B	1	5.3	5Cr-0.5Mo
A/SA	336	F5A	K42544	5B	1	5.3	5Cr-0.5Mo
A/SA	336	F6	S41000	6	3	7.2	13Cr
A/SA	336	F9	K90941	5B	1	5.4	9Cr-1Mo
A/SA	336	F91	K90901	5B	2	6.4	9Cr-1Mo-V
A/SA	350	LF1	K03009	1	1	11.1	C-Mn-Si
A/SA	350	LF2	K03011	1	2	11.1	C-Mn-Si
A/SA	350	LF3	K32025	9B	1	9.2	3.5Ni
A/SA	350	LF5, Cl. 1	K13050	9A	1	9.1	1.5Ni
A/SA	350	LF5, Cl. 2	K13050	9A	1	9.1	1.5Ni
A/SA	350	LF9	K22036	9A	1	9.1	2Ni-1Cu
A	351	CA15	—	6	3	7.2	13Cr
A	351	CE20N	—	8	2	8.2	25Cr-8Ni-N
A	351	CF10MC	J92971	8	1	8.1	16Cr-14Ni-2Mo
A	351	CH10	J93401	8	2	8.2	25Cr-12Ni
A	351	HK30	J94203	8	2	8.2	25Cr-20Ni-0.5Mo
A	351	HK40	J94204	8	2	8.2	25Cr-20Ni-0.5Mo
A	351	HT30	N08603	45	—	45	35Ni-15Cr-0.5Mo
A/SA	351	CD3MWCuN	J93380	10H	1	10.2	25Cr-8Ni-3Mo-W-Cu-N
A/SA	351	CF10	J92590	8	1	8.1	19Cr-9Ni-0.5Mo
A/SA	351	CF10M	J92901	8	1	8.1	19Cr-9Ni-2Mo
A/SA	351	CF3	J92500	8	1	8.1	18Cr-8Ni
A/SA	351	CF3A	J92500	8	1	8.1	18Cr-8Ni
A/SA	351	CF3M	J92800	8	1	8.1	18Cr-12Ni-2Mo
A/SA	351	CF8	J92600	8	1	8.1	18Cr-8Ni
A/SA	351	CF8A	J92600	8	1	8.1	18Cr-8Ni
A/SA	351	CF8C	J92710	8	1	8.1	18Cr-10Ni-Cb
A/SA	351	CF8M	J92900	8	1	8.1	18Cr-12Ni-2Mo
A/SA	351	CG6MMN	J93790	8	3	8.3	22Cr-12Ni-5Mn
A/SA	351	CG8M	J93000	8	1	8.1	19Cr-10Ni-3Mo

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	351	CH20	J93402	8	2	8.2	25Cr-12Ni
A/SA	351	CH8	J93400	8	2	8.2	25Cr-12Ni
A/SA	351	CK20	J94202	8	2	8.2	25Cr-20Ni
A/SA	351	CK3MCuN	J93254	8	4	8.2	20Cr-18Ni-6Mo
A/SA	351	CN3MN	J94651	45	—	8.2	46Fe-24Ni-21Cr-6Mo-Cu
A/SA	351	CN7M	N08007	45	—	8.2	28Ni-19Cr-Cu-Mo
A/SA	351	CT15C	N08151	45	—	45	32Ni-45Fe-20Cr-Cb
A/SA	352	CA6NM	J91540	6	4	7.2	13Cr-4Ni
A/SA	352	LC1	J12522	3	1	1.1	C-0.5Mo
A/SA	352	LC2	J22500	9A	1	9.1	2.5Ni
A/SA	352	LC2-1	J42215	11A	5	9.2	3Ni-1.5Cr-0.5Mo
A/SA	352	LC3	J31550	9B	1	9.3	3.5Ni
A/SA	352	LC4	J41500	9C	1	9.3	4.5Ni
A/SA	352	LCA	J02504	1	1	11.1	C-Si
A/SA	352	LCB	J03003	1	1	1.1	C-Si
A/SA	352	LCC	J02505	1	2	11.1	C-Mn-Si
A/SA	353	—	K81340	11A	1	9.3	9Ni
A	356	1	J03502	1	2	11.1	C-Si
A	356	10	J22090	5A	1	5.2	2.25Cr-1Mo
A	356	12A	J80490	5B	2	6.4	9Cr-1Mo-V
A	356	6	J12073	4	1	5.1	1.25Cr-0.5Mo
A/SA	358	304	S30400	8	1	8.1	18Cr-8Ni
A/SA	358	304H	S30409	8	1	8.1	18Cr-8Ni
A/SA	358	304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	358	304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	358	304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	358	309Cb	S30940	8	2	8.2	23Cr-12Ni-Cb
A/SA	358	309S	S30908	8	2	8.2	23Cr-12Ni
A/SA	358	310Cb	S31040	8	2	8.2	25Cr-20Ni-Cb
A/SA	358	310S	S31008	8	2	8.2	25Cr-20Ni
A/SA	358	316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	358	316H	S31609	8	1	8.1	16Cr-12Ni-2Mo
A/SA	358	316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	358	316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	358	316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	358	321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	358	347	S34700	8	1	8.1	18Cr-10Ni-Cb
A/SA	358	348	S34800	8	1	8.1	18Cr-10Ni-Cb
A/SA	358	S30815	S30815	8	2	8.2	21Cr-11Ni-N
A/SA	358	S31254	S31254	8	4	8.2	20Cr-18Ni-6Mo
A/SA	358	S31725	S31725	8	4	8.1	19Cr-15Ni-4Mo
A/SA	358	S31726	S31726	8	4	8.1	19Cr-15.5Ni-4Mo
A/SA	358	XM-19	S20910	8	3	8.3	22Cr-13Ni-5Mn
A/SA	358	XM-29	S24000	8	3	8.3	18Cr-3Ni-12Mn
A/SA	369	FP1	K11522	3	1	1.1	C-0.5Mo
A/SA	369	FP11	K11597	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	369	FP12	K11562	4	1	5.1	1Cr-0.5Mo
A/SA	369	FP2	K11547	3	1	4.2	0.5Cr-0.5Mo
A/SA	369	FP21	K31545	5A	1	5.2	3Cr-1Mo
A/SA	369	FP22	K21590	5A	1	5.2	2.25Cr-1Mo
A/SA	369	FP5	K41545	5B	1	5.3	5Cr-0.5Mo
A/SA	369	FP9	K90941	5B	1	5.4	9Cr-1Mo
A/SA	369	FP91	K90901	5B	2	6.4	9Cr-1Mo-V
A/SA	369	FPA	K02501	1	1	1.1	C-Si
A/SA	369	FPB	K03006	1	1	1.1	C-Mn-Si
A/SA	372	A	K03002	1	1	11.1	C-Si
A/SA	372	B	K04001	1	2	11.1	C-Mn-Si
A/SA	376	16-8-2H	S16800	8	1	8.1	16Cr-8Ni-2Mo
A/SA	376	S31725	S31725	8	4	8.1	19Cr-15Ni-4Mo
A/SA	376	S31726	S31726	8	4	8.1	19Cr-15.5Ni-4Mo
A/SA	376	TP304	S30400	8	1	8.1	18Cr-8Ni
A/SA	376	TP304H	S30409	8	1	8.1	18Cr-8Ni
A/SA	376	TP304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	376	TP304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	376	TP316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	376	TP316H	S31609	8	1	8.1	16Cr-12Ni-2Mo
A/SA	376	TP316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	376	TP316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	376	TP321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	376	TP321H	S32109	8	1	8.1	18Cr-10Ni-Ti
A/SA	376	TP347	S34700	8	1	8.1	18Cr-10Ni-Cb
A/SA	376	TP347H	S34709	8	1	8.1	18Cr-10Ni-Cb
A/SA	376	TP348	S34800	8	1	8.1	18Cr-10Ni-Cb
A	381	Y35	K03013	1	1	1.1	C
A	381	Y42	—	1	1	1.2	C
A	381	Y46	—	1	1	1.2	C
A	381	Y48	—	1	1	1.2	C
A	381	Y50	—	1	1	1.2	C
A	381	Y52	—	1	2	1.2	C
A	381	Y56	—	1	2	1.3	C
A	381	Y60	—	1	2	1.3	C
A/SA	387	11, Cl. 1	K11789	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	387	11, Cl. 2	K11789	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	387	12, Cl. 1	K11757	4	1	5.1	1Cr-0.5Mo
A/SA	387	12, Cl. 2	K11757	4	1	5.1	1Cr-0.5Mo
A/SA	387	21, Cl. 1	K31545	5A	1	5.2	3Cr-1Mo
A/SA	387	21, Cl. 2	K31545	5A	1	5.2	3Cr-1Mo
A/SA	387	22, Cl. 1	K21590	5A	1	5.2	2.25Cr-1Mo
A/SA	387	22, Cl. 2	K21590	5A	1	5.2	2.25Cr-1Mo
A/SA	387	5, Cl. 1	K41545	5B	1	5.3	5Cr-0.5Mo
A/SA	387	5, Cl. 2	K41545	5B	1	5.3	5Cr-0.5Mo
A/SA	387	Gr. 2, Cl. 1	K12143	3	1	4.2	0.5Cr-0.5Mo
A/SA	387	Gr. 2, Cl. 2	K12143	3	2	4.2	0.5Cr-0.5Mo
A/SA	387	Gr. 91, Cl. 2	K90901	5B	2	5.4	9Cr-1Mo-V
A	403	S34565	S34565	8	4	8.2	24Cr-17Ni-6Mn-4.5Mo-N
A/SA	403	—	S31254	8	4	8.2	20Cr-18Ni-6Mo
A/SA	403	WP 304	S30400	8	1	8.1	18Cr-8Ni
A/SA	403	WP 304H	S30409	8	1	8.1	18Cr-8Ni
A/SA	403	WP 304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	403	WP 304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	403	WP 304N	S30451	8	1	8.1	18Cr-8Ni-N

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	403	WP 309	S30900	8	2	8.2	23Cr-12Ni
A/SA	403	WP 310S	S31008	8	2	8.2	25Cr-20Ni
A/SA	403	WP 316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	403	WP 316H	S31609	8	1	8.1	16Cr-12Ni-2Mo
A/SA	403	WP 316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	403	WP 316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	403	WP 316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	403	WP 317	S31700	8	1	8.1	18Cr-13Ni-3Mo
A/SA	403	WP 317L	S31703	8	1	8.1	18Cr-13Ni-3Mo
A/SA	403	WP 321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	403	WP 321H	S32109	8	1	8.1	18Cr-10Ni-Ti
A/SA	403	WP 347	S34700	8	1	8.1	18Cr-10Ni-Cb
A/SA	403	WP 347H	S34709	8	1	8.1	18Cr-10Ni-Cb
A/SA	403	WP 348	S34800	8	1	8.1	18Cr-10Ni-Cb
A/SA	403	WP 348H	S34809	8	1	8.1	18Cr-10Ni-Cb
A/SA	403	WPXM-19	S20910	8	3	8.3	22Cr-13Ni-5Mn
A/SA	409	S30815	S30815	8	2	8.2	21Cr-11Ni-N
A/SA	409	S31254	S31254	8	4	8.2	20Cr-18Ni-6Mo
A/SA	409	S31725	S31725	8	4	8.1	19Cr-15Ni-4Mo
A/SA	409	S31726	S31726	8	4	8.1	19Cr-15.5Ni-4Mo
A/SA	409	TP 304	S30400	8	1	8.1	18Cr-8Ni
A/SA	409	TP 304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	409	TP 316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	409	TP 316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	409	TP 317	S31700	8	1	8.1	18Cr-13Ni-3Mo
A/SA	409	TP 321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	409	TP 347	S34700	8	1	8.1	18Cr-10Ni-Cb
A/SA	409	TP 348	S34800	8	1	8.1	18Cr-10Ni-Cb
A/SA	409	TP309Cb	S30940	8	2	8.2	23Cr-12Ni-Cb
A/SA	409	TP309S	S30908	8	2	8.2	23Cr-12Ni
A/SA	409	TP310Cb	S31040	8	2	8.2	25Cr-20Ni-Cb
A/SA	409	TP310S	S31008	8	2	8.2	25Cr-20Ni
A/SA	414	A	K01501	1	1	1.1	C
A/SA	414	B	K02201	1	1	1.1	C

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	414	C	K02503	1	1	1.1	C
A/SA	414	D	K02505	1	1	1.1	C-Mn
A/SA	414	E	K02704	1	1	11.1	C-Mn
A/SA	414	F	K03102	1	2	11.1	C-Mn
A/SA	414	G	K03103	1	2	11.1	C-Mn
A/SA	420	WPL3	K31918	9B	1	9.2	3.5Ni
A/SA	420	WPL6	K03006	1	1	11.1	C-Mn-Si
A/SA	420	WPL8	K81340	11A	1	9.3	9Ni
A/SA	420	WPL9	K22035	9A	1	9.1	2Ni-1Cu
A/SA	423	1	K11535	4	2	5.1	0.75Cr-0.5Ni-Cu
A/SA	423	2	K11540	4	2	5.1	0.75Ni-0.5Cu-Mo
A/SA	426	CP1	J12521	3	1	1.1	C-0.5Mo
A/SA	426	CP11	J12072	4	1	5.1	1.25Cr-0.5Mo
A/SA	426	CP12	J11562	4	1	5.1	1Cr-0.5Mo
A/SA	426	CP15	J11522	3	1	1.1	C-0.5Mo-Si
A/SA	426	CP2	J11547	3	1	4.2	0.5Cr-0.5Mo
A/SA	426	CP21	J31545	5A	1	5.2	3Cr-1Mo
A/SA	426	CP22	J21890	5A	1	5.2	2.25Cr-1Mo
A/SA	426	CP5	J42045	5B	1	5.3	5Cr-0.5Mo
A/SA	426	CP5b	J51545	5B	1	5.3	5Cr-1.5Si-0.5Mo
A/SA	426	CP9	J82090	5B	1	5.4	9Cr-1Mo
A/SA	426	CPCA15	J91150	6	3	7.2	13Cr
A	451	CPE20N	—	8	2	8.2	25Cr-8Ni-N
A	451	CPF10MC	J92971	8	1	8.1	16Cr-14Ni-2Mo
A/SA	451	CPF3	J92500	8	1	8.1	18Cr-8Ni
A/SA	451	CPF3A	J92500	8	1	8.1	18Cr-8Ni
A/SA	451	CPF3M	J92800	8	1	8.1	16Cr-12Ni-2Mo
A/SA	451	CPF8	J92600	8	1	8.1	18Cr-8Ni
A/SA	451	CPF8A	J92600	8	1	8.1	18Cr-8Ni
A/SA	451	CPF8C	J92710	8	1	8.1	18Cr-10Ni-Cb
A/SA	451	CPF8M	J92900	8	1	8.1	18Cr-12Ni-2Mo
A/SA	451	CPH20	J93402	8	2	8.2	25Cr-12Ni
A/SA	451	CPH8	J93400	8	2	8.2	25Cr-12Ni
A/SA	451	CPK20	J94202	8	2	8.2	25Cr-20Ni

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	455	—	K03300	1	2	11.2	C-Mn-Si
A/SA	455	—	K03300	1	2	11.2	C-Mn-Si
A/SA	455	—	K03300	1	2	11.2	C-Mn-Si
A/SA	479	—	S31803	10H	1	10.1	22Cr-5Ni-3Mo-N
A/SA	479	—	S31277	45	—	8.2	27Ni-22Cr-7Mo-Mn-Cu
A/SA	479	302	S30200	8	1	8.1	18Cr-8Ni
A/SA	479	304	S30400	8	1	8.1	18Cr-8Ni
A/SA	479	304H	S30409	8	1	8.1	18Cr-8Ni
A/SA	479	304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	479	304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	479	304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	479	309Cb	S30940	8	2	8.2	23Cr-12Ni-Cb
A/SA	479	309S	S30908	8	2	8.2	23Cr-12Ni
A/SA	479	310Cb	S31040	8	2	8.2	25Cr-20Ni-Cb
A/SA	479	310S	S31008	8	2	8.2	25Cr-20Ni
A/SA	479	316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	479	316Cb	S31640	8	1	8.1	16Cr-12Ni-2Mo-Cb
A/SA	479	316H	S31609	8	1	8.1	16Cr-12Ni-2Mo
A/SA	479	316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	479	316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	479	316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	479	316Ti	S31635	8	1	8.1	16Cr-12Ni-2Mo-Ti
A/SA	479	321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	479	321H	S32109	8	1	8.1	18Cr-10Ni-Ti
A/SA	479	347	S34700	8	1	8.1	18Cr-10Ni-Cb
A/SA	479	347H	S34709	8	1	8.1	18Cr-10Ni-Cb
A/SA	479	348	S34800	8	1	8.1	18Cr-10Ni-Cb
A/SA	479	348H	S34809	8	1	8.1	18Cr-10Ni-Cb
A/SA	479	403	S40300	6	1	7.1	12Cr
A/SA	479	405	S40500	7	1	7.1	12Cr-1Al
A/SA	479	410	S41000	6	1	7.2	13Cr
A/SA	479	414	S41400	6	4	7.2	12.5Cr-2Ni-Si
A/SA	479	430	S43000	7	2	7.1	17Cr
A/SA	479	439	S43035	7	2	7.1	18Cr-Ti

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	479	S21800	S21800	8	3	8.1	18Cr-8Ni-4Si-N
A/SA	479	S30600	S30600	8	1	8.1	18Cr-15Ni-4Si
A/SA	479	S30601	S30601	8	1	8.1	17.5Cr-17.5Ni-5.3Si
A/SA	479	S30815	S30815	8	2	8.2	21Cr-11Ni-N
A/SA	479	S31254	S31254	8	4	8.2	20Cr-18Ni-6Mo
A/SA	479	S31277	S31277	45	—	8.2	27Ni-22Cr-7Mo-Mn-Cu
A/SA	479	S31725	S31725	8	4	8.1	19Cr-15Ni-4Mo
A/SA	479	S31726	S31726	8	4	8.1	19Cr-15.5Ni-4Mo
A/SA	479	S32550	S32550	10H	1	10.2	25Cr-5Ni-3Mo-2Cu
A/SA	479	S32615	S32615	8	1	8.1	18Cr-20Ni-5.5Si
A/SA	479	S41500	S41500	6	4	7.2	13Cr-4.5Ni-Mo
A/SA	479	S44400	S44400	7	2	7.1	18Cr-2Mo
A/SA	479	S44700	S44700	10J	1	7.1	29Cr-4Mo
A/SA	479	S44800	S44800	10K	1	7.1	29Cr-4Mo-2Ni
A/SA	479	XM-11	S21904	8	3	8.3	21Cr-6Ni-9Mn
A/SA	479	XM-17	S21600	8	3	8.3	19Cr-8Mn-6Ni-Mo-N
A/SA	479	XM-18	S21603	8	3	8.3	19Cr-8Mn-6Ni-Mo-N
A/SA	479	XM-19	S20910	8	3	8.3	22Cr-13Ni-5Mn
A/SA	479	XM-27	S44627	10I	1	7.1	27Cr-1Mo
A/SA	479	XM-29	S24000	8	3	8.3	18Cr-3Ni-12Mn
A/SA	487	CA15, Cl. B	J91171	6	3	7.2	13Cr
A/SA	487	CA15, Cl. C	J91150	6	3	7.2	13Cr
A/SA	487	CA15, Cl. D	J91171	6	3	7.2	13Cr
A/SA	487	CA15M, Cl. A	J91151	6	3	7.2	13Cr-Mo
A/SA	487	CA6NM, Cl. A	J91540	6	4	7.2	13Cr-4Ni
A/SA	487	CA6NM, Cl. B	J91540	6	4	7.2	13Cr-4Ni
A/SA	487	Gr. 1, Cl. A	J13002	10A	1	2.1	Mn-V
A/SA	487	Gr. 1, Cl. B	J13002	10A	1	2.1	Mn-V
A/SA	487	Gr. 16, Cl. A	J31200	1	2	1.1	Low C-Mn-Ni
A/SA	487	Gr. 2, Cl. A	J13005	3	3	2.1	Mn-0.25Mo-V
A/SA	487	Gr. 2, Cl. B	J13005	3	3	2.1	Mn-0.25Mo-V
A/SA	487	Gr. 4, Cl. A	J13047	3	3	3.1	0.5Ni-0.5Cr-0.25Mo-V
A/SA	487	Gr. 4, Cl. B	J13047	11A	3	3.1	0.5Ni-0.5Cr-0.25Mo-V
A/SA	487	Gr. 4, Cl. E	J13047	11A	3	3.1	0.5Ni-0.5Cr-0.25Mo-V

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	487	Gr. 8, Cl. A	J22091	5C	1	5.2	2.25Cr-1Mo
A/SA	487	Gr. 8, Cl. B	J22091	5C	4	5.2	2.25Cr-1Mo
A/SA	487	Gr. 8, Cl. C	J22091	5C	4	5.2	2.25Cr-1Mo
A	494	CW-6M	N30107	44	—	44	56Ni-19Mo-18Cr-2Fe
A/SA	494	CX2MW	N26022	43	—	44	59Ni-22Cr-14Mo-4Fe-3W
A	500	A	—	1	1	11.1	C
A	500	B	K03000	1	1	11.1	C
A	500	C	K02705	1	1	11.1	C
A	501	—	K03000	1	1	11.1	C
A/SA	508	1	K13502	1	2	11.1	C
A/SA	508	1A	K13502	1	2	11.1	C
A/SA	508	2, Cl. 1	K12766	3	3	3.1	0.75Ni-0.5Mo-0.3Cr-V
A/SA	508	2, Cl. 2	K12766	3	3	3.1	0.75Ni-0.5Mo-0.3Cr-V
A/SA	508	22, Cl. 3	K21590	5C	1	5.2	2.25Cr-1Mo
A/SA	508	3, Cl. 1	K12042	3	3	3.1	0.75Ni-0.5Mo-Cr-V
A/SA	508	3, Cl. 2	K12042	3	3	3.1	0.75Ni-0.5Mo-Cr-V
A/SA	508	3V	K31830	5C	1	6.2	3Cr-1Mo-V-Ti-B
A/SA	508	3VCb	—	5C	1	6.2	3Cr-1Mo-0.25V-Cb-Ca
A/SA	508	4N, Cl. 1	K22375	11A	5	3.1	3.5Ni-1.75Cr-0.5Mo-V
A/SA	508	4N, Cl. 2	K22375	11B	10	3.1	3.5Ni-1.75Cr-0.5Mo-V
A/SA	508	4N, Cl. 3	K22375	3	3	3.1	3.5Ni-1.75Cr-0.5Mo-V
A/SA	508	5, Cl. 1	K42365	11A	5	3.1	3.5Ni-1.75Cr-0.5Mo-V
A/SA	508	5, Cl. 2	K42365	11B	10	3.1	3.5Ni-1.75Cr-0.5Mo-V
A	513	1015 CW	G10150	1	1	1.1	C
A	513	1020 CW	G10200	1	2	1.1	C
A	513	1025 CW	G10250	1	2	1.2	C
A	513	1026 CW	G10260	1	3	11.1	C
A/SA	513	1008	G10080	1	1	1.1	C
A/SA	513	1010	G10100	1	1	1.1	C
A/SA	513	1015	G10150	1	1	1.1	C
A	514	A	K11856	11B	1	3.1	0.5Cr-0.25Mo-Si
A	514	B	K11630	11B	4	3.1	0.5Cr-0.2Mo-V
A	514	E	K21604	11B	2	3.1	1.75Cr-0.5Mo-Cu
A	514	F	K11576	11B	3	3.1	0.75Ni-0.5Cr-0.5Mo-V

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A	514	J	K11625	11B	6	3.1	C-0.5Mo
A	514	P	K21650	11B	8	3.1	1.25Ni-1Cr-0.5Mo
A	514	Q	—	11B	9	3.1	1.3Ni-1.3Cr-0.5Mo-V
A/SA	515	60	K02401	1	1	1.1	C
A/SA	515	65	K02800	1	1	11.1	C-Si
A/SA	515	70	K03101	1	2	11.1	C-Si
A/SA	516	55	K01800	1	1	1.1	C-Si
A/SA	516	60	K02100	1	1	1.1	C-Mn-Si
A/SA	516	65	K02403	1	1	1.1	C-Mn-Si
A/SA	516	70	K02700	1	2	11.1	C-Mn-Si
A/SA	517	A	K11856	11B	1	3.1	0.5Cr-0.25Mo-Si
A/SA	517	B	K11630	11B	4	3.1	0.5Cr-0.2Mo-V
A/SA	517	E	K21604	11B	2	3.1	1.75Cr-0.5Mo-Cu
A/SA	517	F	K11576	11B	3	3.1	0.75Ni-0.5Cr-0.5Mo-V
A/SA	517	J	K11625	11B	6	3.1	C-0.5Mo
A/SA	517	P	K21650	11B	8	3.1	1.25Ni-1Cr-0.5Mo
A	519	1018 CW	G10180	1	2	1.1	C
A	519	1018 HR	G10180	1	1	1.1	C
A	519	1020 CW	G10200	1	2	1.1	C
A	519	1020 HR	G10200	1	1	1.1	C
A	519	1022 CW	G10220	1	2	1.1	C
A	519	1022 HR	G10220	1	1	1.1	C
A	519	1025 CW	G10250	1	2	1.2	C
A	519	1025 HR	G10250	1	1	1.1	C
A	519	1026 CW	G10260	1	2	11.1	C
A	519	1026 HR	G10260	1	1	11.1	C
A	521	Cl. CC	—	1	1	11.1	C
A	521	Cl. CE	—	1	2	11.1	C
A/SA	522	Type I	K81340	11A	1	9.3	9Ni
A/SA	522	Type II	K71340	11A	1	9.3	8Ni
A/SA	524	I	K02104	1	1	1.1	C-Mn-Si
A/SA	524	II	K02104	1	1	1.1	C-Mn-Si
A	529	50	—	1	2	11.1	C-Mn
A	529	55	—	1	2	11.1	C-Mn

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	533	Type A, Cl. 1	K12521	3	3	3.1	Mn-0.5Mo
A/SA	533	Type A, Cl. 2	K12521	3	3	3.1	Mn-0.5Mo
A/SA	533	Type A, Cl. 3	K12521	11A	4	3.1	Mn-0.5Mo
A/SA	533	Type B, Cl. 1	K12539	3	3	3.1	Mn-0.5Mo-0.5Ni
A/SA	533	Type B, Cl. 2	K12539	3	3	3.1	Mn-0.5Mo-0.5Ni
A/SA	533	Type B, Cl. 3	K12539	11A	4	3.2	Mn-0.5Mo-0.5Ni
A/SA	533	Type C, Cl. 1	K12554	3	3	3.1	Mn-0.5Mo-0.75Ni
A/SA	533	Type C, Cl. 2	K12554	3	3	3.1	Mn-0.5Mo-0.75Ni
A/SA	533	Type C, Cl. 3	K12554	11A	4	3.2	Mn-0.5Mo-0.75Ni
A/SA	533	Type D, Cl. 1	K12529	3	3	3.1	Mn-0.5Mo-0.25Ni
A/SA	533	Type D, Cl. 2	K12529	3	3	3.1	Mn-0.5Mo-0.25Ni
A/SA	533	Type D, Cl. 3	K12529	11A	4	3.1	Mn-0.5Mo-0.25Ni
A/SA	537	Cl. 1	K12437	1	2	1.2	C-Mn-Si
A/SA	537	Cl. 2	K12437	1	3	1.2	C-Mn-Si
A/SA	537	Cl. 3	K12437	1	3	1.2	C-Mn-Si
A/SA	541	1	K03506	1	2	11.1	C-Si
A/SA	541	11, Cl. 4	K11572	4	1	5.2	1.25Cr-0.5Mo-Si
A/SA	541	1A	K03020	1	2	11.1	C-Mn-Si
A/SA	541	2, Cl. 1	K12765	3	3	4.2	0.75Ni-0.5Mo-0.3Cr-V
A/SA	541	2, Cl. 2	K12765	3	3	4.2	0.75Ni-0.5Mo-0.3Cr-V
A/SA	541	22, Cl. 3	K21390	5C	1	5.2	2.25Cr-1Mo
A/SA	541	22, Cl. 4	K21390	5C	4	5.2	2.25Cr-1Mo
A/SA	541	22, Cl. 5	K21390	5C	5	5.2	2.25Cr-1Mo
A/SA	541	22V	K31835	5C	1	5.2	2.25Cr-1Mo-V
A/SA	541	3, Cl. 1	K12045	3	3	4.1	0.5Ni-0.5Mo-V
A/SA	541	3, Cl. 2	K12045	3	3	4.1	0.5Ni-0.5Mo-V
A/SA	541	3V	K31830	5C	1	6.2	3Cr-1Mo-V-Ti-B
A/SA	541	3VCb	—	5C	1	6.2	3Cr-1Mo-0.25V-Cb-Ca
A/SA	542	A, Cl. 1	K21590	5C	4	5.2	2.25Cr-1Mo
A/SA	542	A, Cl. 2	K21590	5C	5	5.2	2.25Cr-1Mo
A/SA	542	A, Cl. 3	K21590	5C	3	5.2	2.25Cr-1Mo
A/SA	542	A, Cl. 4	K21590	5C	1	5.2	2.25Cr-1Mo
A/SA	542	A, Cl. 4a	K21590	5C	1	5.2	2.25Cr-1Mo
A/SA	542	B, Cl. 1	K21590	5C	4	5.2	2.25Cr-1Mo

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	542	B, Cl. 2	K21590	5C	5	5.2	2.25Cr-1Mo
A/SA	542	B, Cl. 3	K21590	5C	3	5.2	2.25Cr-1Mo
A/SA	542	B, Cl. 4	K21590	5C	1	5.2	2.25Cr-1Mo
A/SA	542	B, Cl. 4a	K21590	5C	1	5.2	2.25Cr-1Mo
A/SA	542	C, Cl. 1	K31830	5C	4	6.2	3Cr-1Mo-V-Ti-B
A/SA	542	C, Cl. 2	K31830	5C	5	6.2	3Cr-1Mo-V-Ti-B
A/SA	542	C, Cl. 3	K31830	5C	3	6.2	3Cr-1Mo-V-Ti-B
A/SA	542	C, Cl. 4	K31830	5C	1	6.2	3Cr-1Mo-V-Ti-B
A/SA	542	C, Cl. 4a	K31830	5C	1	6.2	3Cr-1Mo-V-Ti-B
A/SA	542	D, Cl. 4a	K31835	5C	1	6.3	2.25Cr-1Mo-V
A/SA	542	E, Cl. 4a	—	5C	1	6.2	3Cr-1Mo-0.25V-Cb-Ca
A/SA	543	B, Cl. 1	K42339	11A	5	3.1	3Ni-1.75Cr-0.5Mo
A/SA	543	B, Cl. 2	K42339	11B	10	3.1	3Ni-1.75Cr-0.5Mo
A/SA	543	B, Cl. 3	K42339	3	3	3.1	3Ni-1.75Cr-0.5Mo
A/SA	543	C, Cl. 1	—	11A	5	3.1	2.75Ni-1.5Cr-0.5Mo
A/SA	543	C, Cl. 2	—	11B	10	3.1	2.75Ni-1.5Cr-0.5Mo
A/SA	543	C, Cl. 3	—	3	3	3.1	2.75Ni-1.5Cr-0.5Mo
A/SA	553	I	K81340	11A	1	9.3	9Ni
A/SA	553	II	K71340	11A	1	9.3	8Ni
A/SA	556	A2	K01807	1	1	1.1	C
A/SA	556	B2	K02707	1	1	11.1	C-Si
A/SA	556	C2	K03006	1	2	11.1	C-Mn-Si
A/SA	557	A2	K01807	1	1	1.1	C
A/SA	557	B2	K03007	1	1	11.1	C
A/SA	557	C2	K03505	1	2	11.1	C-Mn
A/SA	562	—	K11224	1	1	1.1	C-Mn-Ti
A	570	30	K02502	1	1	1.1	C
A	570	33	K02502	1	1	1.1	C
A	570	36	K02502	1	1	1.1	C
A	570	40	K02502	1	1	1.1	C
A	570	45	K02507	1	1	1.1	C
A	570	50	K02507	1	1	1.1	C
A	572	42	—	1	1	1.2	C-Mn-Si
A	572	50	—	1	1	1.2	C-Mn-Si

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A	572	55	—	1	2	1.3	C-Mn-Si-Cb-V
A	572	60	—	1	2	11.1	C-Mn-Si
A	572	65	—	1	3	11.1	C-Mn-Si-Cb-V
A	573	58	—	1	1	11.1	C
A	573	65	—	1	1	11.1	C
A	573	70	—	1	2	11.1	C
A	575	M1008	—	1	1	1.1	C
A	575	M1010	—	1	1	1.1	C
A	575	M1012	—	1	1	1.1	C
A	575	M1015	—	1	1	1.1	C
A	575	M1017	—	1	1	1.1	C
A	575	M1020	—	1	1	11.1	C
A	575	M1023	—	1	1	11.1	C
A	575	M1025	—	1	1	11.1	C
A	576	G10080	—	1	1	1.1	C
A	576	G10100	—	1	1	1.1	C
A	576	G10120	—	1	1	1.1	C
A	576	G10150	—	1	1	1.1	C
A	576	G10160	—	1	1	1.1	C
A	576	G10170	—	1	1	1.1	C
A	576	G10180	—	1	1	1.1	C
A	576	G10190	—	1	1	1.1	C
A	576	G10200	—	1	1	1.1	C
A	576	G10210	—	1	1	11.1	C
A	576	G10220	—	1	1	11.1	C
A	576	G10230	—	1	1	11.1	C
A	576	G10250	—	1	1	11.1	C
A/SA	587	—	K11500	1	1	1.1	C
A	588	A, a	K11430	3	1	1.4	Mn-0.5Cr-0.3Cu-Si-V
A	588	A, b	K11430	3	1	1.4	Mn-0.5Cr-0.3Cu-Si-V
A	588	A, c	K11430	3	1	1.4	Mn-0.5Cr-0.3Cu-Si-V
A	588	B, a	K12043	3	1	1.4	Mn-0.6Cr-0.3Cu-Si-V
A	588	B, b	K12043	3	1	1.4	Mn-0.6Cr-0.3Cu-Si-V
A	588	B, c	K12043	3	1	1.4	Mn-0.6Cr-0.3Cu-Si-V

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	592	A	K11856	11B	1	3.1	0.5Cr-0.25Mo-Si
A/SA	592	F	K11576	11B	3	3.1	0.75Ni-0.5Cr-0.5Mo-V
A	606	—	—	1	2	1.2	C-Mn
A	611	A	G10170	1	1	1.1	C
A	611	B	G10170	1	1	1.1	C
A	611	C	G10170	1	1	1.1	C
A/SA	612	—	K02900	10C	1	1.3	C-Mn-Si
A	618	I, b	—	1	2	1.2	C-Mn
A	618	II, a	K12609	1	2	1.2	Mn-Cu-V
A	618	II, b	K12609	1	2	1.2	Mn-Cu-V
A	618	III	K12700	1	1	1.2	Mn-V
A	633	A	K01802	1	1	1.1	Mn-Cb
A	633	Ca	K12000	1	2	1.1	Mn-Cb
A	633	Cb	K12000	1	1	1.1	Mn-Cb
A	633	Da	K12037	1	2	1.1	C-Mn-Si
A	633	Db	K12037	1	1	1.1	C-Mn-Si
A	633	E	K12202	1	3	4.1	C-Mn-Si-V
A/SA	645	—	K41583	11A	2	9.2	5Ni-0.25Mo
A/SA	660	WCA	J02504	1	1	11.1	C-Si
A/SA	660	WCB	J03003	1	2	1.1	C-Si
A/SA	660	WCC	J02505	1	2	11.1	C-Mn-Si
A/SA	662	A	K01701	1	1	1.1	C-Mn-Si
A/SA	662	B	K02203	1	1	1.1	C-Mn-Si
A/SA	662	C	K02007	1	2	1.1	C-Mn-Si
A	663	—	—	1	1	1.1	C
A/SA	666	201-1	S20100	8	3	8.3	17Cr-4Ni-6Mn
A/SA	666	201-2	S20100	8	3	8.3	17Cr-4Ni-6Mn
A/SA	666	302	S30200	8	1	8.1	18Cr-8Ni
A/SA	666	304	S30400	8	1	8.1	18Cr-8Ni
A/SA	666	304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	666	304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	666	304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	666	316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	666	316L	S31603	8	1	8.1	16Cr-12Ni-2Mo

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A/SA	666	316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	666	XM-11	S21904	8	3	8.3	21Cr-6Ni-9Mn
A	668	Cl. B	G10200	1	1	1.1	C
A	668	Cl. C	G10250	1	1	1.1	C
A	668	Cl. D	G10300	1	2	11.1	C-Mn
A	668	Cl. Fa	—	1	3	11.1	C-Mn
A	668	Cl. Fb	—	1	3	11.1	C-Mn
A	668	Cl. Ka	—	4	3	3.1	C
A	668	Cl. Kb	—	4	3	3.1	C
A	668	Cl. La	—	4	3	3.2	C
A	668	Cl. Lb	—	4	3	3.2	C
A	668	Cl. Lc	—	4	3	3.1	C
A/SA	671	CA55	K02801	1	1	11.1	C
A/SA	671	CB60	K02401	1	1	1.1	C
A/SA	671	CB65	K02800	1	1	11.1	C-Si
A/SA	671	CB70	K03101	1	2	11.1	C-Si
A/SA	671	CC60	K02100	1	1	1.1	C-Mn-Si
A/SA	671	CC65	K02403	1	1	1.1	C-Mn-Si
A/SA	671	CC70	K02700	1	2	11.1	C-Mn-Si
A/SA	671	CD70	K12437	1	2	1.2	C-Mn-Si
A/SA	671	CD80	K12437	1	3	1.2	C-Mn-Si
A/SA	671	CE55	K02202	1	1	11.1	C
A/SA	671	CE60	K02402	1	1	11.1	C-Mn-Si
A/SA	671	CK75	K02803	1	2	11.1	C-Mn-Si
A/SA	672	A45	K01700	1	1	1.1	C
A/SA	672	A50	K02200	1	1	1.1	C
A/SA	672	A55	K02801	1	1	11.1	C
A/SA	672	B55	K02001	1	1	1.1	C-Si
A/SA	672	B60	K02401	1	1	1.1	C
A/SA	672	B65	K02800	1	1	11.1	C-Si
A/SA	672	B70	K03101	1	2	11.1	C-Si
A/SA	672	C55	K01800	1	1	1.1	C-Si
A/SA	672	C60	K02100	1	1	1.1	C-Mn-Si
A/SA	672	C65	K02403	1	1	1.1	C-Mn-Si

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	672	C70	K02700	1	2	11.1	C-Mn-Si
A/SA	672	D70	K12437	1	2	1.2	C-Mn-Si
A/SA	672	D80	K12437	1	3	1.2	C-Mn-Si
A/SA	672	E55	K02202	1	1	11.1	C
A/SA	672	E60	K02402	1	1	11.1	C-Mn-Si
A/SA	672	H75	K12021	3	2	1.1	Mn-0.5Mo
A/SA	672	H80	K12022	3	3	1.2	Mn-0.5Mo
A/SA	672	J100	K12521	11A	4	3.2	Mn-0.5Mo
A/SA	672	J80	—	3	3	3.1	Mn-0.5Mo-0.75Ni
A/SA	672	J90	—	3	3	3.1	Mn-0.5Mo-0.75Ni
A/SA	672	L65	K11820	3	1	1.1	C-0.5Mo
A/SA	672	L70	K12020	3	2	1.2	C-0.5Mo
A/SA	672	L75	K12320	3	2	1.2	C-0.5Mo
A/SA	672	N75	K02803	1	2	11.1	C-Mn-Si
A/SA	675	45	—	1	1	1.1	C
A/SA	675	50	—	1	1	1.1	C
A/SA	675	55	—	1	1	1.1	C
A/SA	675	60	—	1	1	1.1	C
A/SA	675	65	—	1	1	1.1	C
A/SA	675	70	—	1	2	1.1	C
A/SA	688	TP304	S30400	8	1	8.1	18Cr-8Ni
A/SA	688	TP304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	688	TP304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	688	TP304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	688	TP316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	688	TP316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	688	TP316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	688	TP316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	688	XM-29	S24000	8	3	8.3	18Cr-3Ni-12Mn
A	691	9CR, Cl. 2	—	5B	2	6.4	9Cr-1Mo-V
A/SA	691	0.5Cr, Cl. 1	K12143	3	1	4.2	0.5Cr-0.5Mo
A/SA	691	0.5Cr, Cl. 2	K12143	3	2	4.2	0.5Cr-0.5Mo
A/SA	691	1.25CR, Cl. 1	K11789	4	1	5.1	1.25Cr-0.5Mo-Si
A/SA	691	1.25CR, Cl. 2	K11789	4	1	5.1	1.25Cr-0.5Mo-Si

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	691	1CR, Cl. 1	K11757	4	1	5.1	1Cr-0.5Mo
A/SA	691	1CR, Cl. 2	K11757	4	1	5.1	1Cr-0.5Mo
A/SA	691	2.25CR, Cl. 1	K21590	5A	1	5.2	2.25Cr-1Mo
A/SA	691	2.25CR, Cl. 2	K21590	5A	1	5.2	2.25Cr-1Mo
A/SA	691	3CR, Cl. 1	K31545	5A	1	5.2	3Cr-1Mo
A/SA	691	3CR, Cl. 2	K31545	5A	1	5.2	3Cr-1Mo
A/SA	691	5CR, Cl. 1	K41545	5B	1	5.3	5Cr-0.5Mo
A/SA	691	5CR, Cl. 2	K41545	5B	1	5.3	5Cr-0.5Mo
A/SA	691	CM-65	K11820	3	1	1.1	C-0.5Mo
A/SA	691	CM-70	K12020	3	2	1.2	C-0.5Mo
A/SA	691	CM-75	K12320	3	2	1.2	C-0.5Mo
A/SA	691	CMS-75	K02803	1	2	11.1	C-Mn-Si
A/SA	691	CMSH-70	K12437	1	2	1.2	C-Mn-Si
A/SA	691	CMSH-80	K12437	1	3	1.2	C-Mn-Si
A	694	F42	K03014	1	1	11.1	C-Mn
A	694	F46	K03014	1	1	11.1	C-Mn
A	694	F52	K03014	1	1	11.1	C-Mn
A	694	F56	K03014	1	2	11.1	C-Mn
A	694	F60	K03014	1	2	11.1	C-Mn
A	694	F65	K03014	1	2	11.1	C-Mn
A	694	F70	K03014	1	3	11.1	C-Mn
A/SA	695	Type B, Gr. 35	K03504	1	1	11.1	C
A/SA	695	Type B, Gr. 40	K03504	1	2	11.1	C
A/SA	696	B	K03200	1	1	11.1	C-Mn-Si
A/SA	696	C	K03200	1	2	11.1	C-Mn-Si
A	707	L1, Cl. 1	K02302	1	1	1.2	C-Mn
A	707	L1, Cl. 2	K02302	1	1	1.2	C-Mn
A	707	L2, Cl. 1	K03301	1	1	11.1	C-Mn
A	707	L2, Cl. 2	K03301	1	1	11.1	C-Mn
A	707	L2, Cl. 3	K03301	1	2	11.1	C-Mn
A	707	L3, Cl. 1	K12510	1	1	1.2	C-Mn-V-N
A	707	L3, Cl. 2	K12510	1	1	1.2	C-Mn-V-N
A	707	L3, Cl. 3	K12510	1	2	1.3	C-Mn-V-N
A	709	36	—	1	1	1.1	C-Mn

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A	709	36	—	1	1	11.1	C-Mn
A	709	50	—	1	1	1.2	C-Mn
A	709	50S	—	—	—	1.2	C-Mn
A	709	50W	—	1	2	4.2	C-Mn
A	709	HPS70W	—	11B	11	4.2	C-Mn
A	710	A, Cl. 1	—	12C	1	3.3	Low C-Ni-Cu-Cr-Mo-Cb
A	710	A, Cl. 2	—	12A	1	3.3	Low C-Ni-Cu-Cr-Mo-Cb
A	710	A, Cl. 3	—	12B	1	3.3	Low C-Ni-Cu-Cr-Mo-Cb
A	714	Gr. V	K22035	9A	1	9.1	2Ni-1Cu
A	714	Gr. V, Tp. E	K22035	9A	1	9.1	2Ni-1Cu
A/SA	724	A	K11831	1	4	3.1	C-Mn-Si
A/SA	724	B	K12031	1	4	3.1	C-Mn-Si
A/SA	724	C	K12037	1	4	1.1	C-Mn-Si
A/SA	727	—	K02506	1	1	11.1	C-Mn-Si
A/SA	731	18Cr-2Mo	S44400	7	2	7.1	18Cr-2Mo
A/SA	731	S41500	S41500	6	4	7.2	13Cr-4.5Ni-Mo
A/SA	731	S44660	S44660	10K	1	7.1	26Cr-3Ni-3Mo
A/SA	731	S44700	S44700	10J	1	7.1	29Cr-4Mo
A/SA	731	S44800	S44800	10K	1	7.1	29Cr-4Mo-2Ni
A/SA	731	TP439	S43035	7	2	7.1	18Cr-Ti
A/SA	731	TPXM-27	S44627	10I	1	7.1	27Cr-1Mo
A/SA	731	TPXM-33	S44626	10I	1	7.1	27Cr-1Mo-Ti
A/SA	737	B	K12001	1	2	11.1	C-Mn-Si-Cb
A/SA	737	C	K12202	1	3	4.1	C-Mn-Si-V
A/SA	738	A	K12447	1	2	11.1	C-Mn-Si
A/SA	738	B	K12007	1	3	11.1	C-Mn-Si-Cb
A/SA	738	C	K02008	1	3	11.1	C-Mn-Si
A/SA	739	B11	K11797	4	1	5.1	1.25Cr-0.5Mo
A/SA	739	B22	K21390	5A	1	5.2	2.25Cr-1Mo
A/SA	765	I	K03046	1	1	11.1	C-Mn-Si
A/SA	765	II	K03047	1	2	11.1	C-Mn-Si
A/SA	765	III	K32026	9B	1	9.2	3.5Ni
A/SA	765	IV	K02009	1	3	1.1	C-Mn-Si
A	789	S32205	S32205	10H	1	10.1	22Cr-5Ni-3Mo-N

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	789	S31200	S31200	10H	1	10.2	25Cr-6Ni-Mo-N
A/SA	789	S31260	S31260	10H	1	10.2	25Cr-6.5Ni-3Mo-N
A/SA	789	S31500	S31500	10H	1	10.1	18Cr-5Ni-3Mo-N
A/SA	789	S31803	S31803	10H	1	10.1	22Cr-5Ni-3Mo-N
A/SA	789	S32304	S32304	10H	1	10.1	23Cr-4Ni-Mo-Cu-N
A/SA	789	S32550	S32550	10H	1	10.2	25Cr-5Ni-3Mo-2Cu
A/SA	789	S32750	S32750	10H	1	10.2	25Cr-7Ni-4Mo-N
A/SA	789	S32760	S32760	10H	1	10.2	25Cr-8Ni-3Mo-W-Cu-N
A/SA	789	S32900	S32900	10H	1	10.2	26Cr-4Ni-Mo
A/SA	789	S32906	S32906	10H	1	10.2	29Cr-6.5Ni-2Mo-N
A/SA	789	S32950	S32950	10H	1	10.2	26Cr-4Ni-Mo-N
A/SA	789	S39274	S39274	10H	1	10.2	25Cr-7Ni-3Mo-2W-Cu-N
A	790	S32205	S32205	10H	1	10.1	22Cr-5Ni-3Mo-N
A/SA	790	S31200	S31200	10H	1	10.2	25Cr-6Ni-Mo-N
A/SA	790	S31260	S31260	10H	1	10.2	25Cr-6.5Ni-3Mo-N
A/SA	790	S31500	S31500	10H	1	10.1	18Cr-5Ni-3Mo-N
A/SA	790	S31803	S31803	10H	1	10.1	22Cr-5Ni-3Mo-N
A/SA	790	S32304	S32304	10H	1	10.1	23Cr-4Ni-Mo-Cu-N
A/SA	790	S32550	S32550	10H	1	10.2	25Cr-5Ni-3Mo-2Cu
A/SA	790	S32750	S32750	10H	1	10.2	25Cr-7Ni-4Mo-N
A/SA	790	S32760	S32760	10H	1	10.2	25Cr-8Ni-3Mo-W-Cu-N
A/SA	790	S32900	S32900	10H	1	10.2	26Cr-4Ni-Mo
A/SA	790	S32906	S32906	10H	1	10.2	29Cr-6.5Ni-2Mo-N
A/SA	790	S32950	S32950	10H	1	10.2	26Cr-4Ni-Mo-N
A/SA	790	S39274	S39274	10H	1	10.2	25Cr-7Ni-3Mo-2W-Cu-N
A/SA	803	26-3-3	S44660	10K	1	7.1	26Cr-3Ni-3Mo
A/SA	803	TP439	S43035	7	2	7.1	18Cr-Ti
A	808	—	K11852	1	1	1.4	C-Mn-Cb-V
A/SA	813	S30815	S30815	8	2	8.2	21Cr-11Ni-N
A/SA	813	S31254	S31254	8	4	8.2	20Cr-18Ni-6Mo
A/SA	813	TP XM-11	S21904	8	3	8.3	21Cr-6Ni-9Mn
A/SA	813	TP XM-15	S38100	8	1	8.1	18Cr-18Ni-2Si
A/SA	813	TP XM-19	S20910	8	3	8.3	22Cr-13Ni-5Mn
A/SA	813	TP XM-29	S24000	8	3	8.3	18Cr-3Ni-12Mn

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	813	TP304	S30400	8	1	8.1	18Cr-8Ni
A/SA	813	TP304H	S30409	8	1	8.1	18Cr-8Ni
A/SA	813	TP304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	813	TP304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	813	TP304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	813	TP309Cb	S30940	8	2	8.2	23Cr-12Ni-Cb
A/SA	813	TP309S	S30908	8	2	8.2	23Cr-12Ni
A/SA	813	TP310Cb	S31040	8	2	8.2	25Cr-20Ni-Cb
A/SA	813	TP310S	S31008	8	2	8.2	25Cr-20Ni
A/SA	813	TP316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	813	TP316H	S31609	8	1	8.1	16Cr-12Ni-2Mo
A/SA	813	TP316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	813	TP316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	813	TP316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	813	TP317	S31700	8	1	8.1	18Cr-13Ni-3Mo
A/SA	813	TP317L	S31703	8	1	8.1	18Cr-13Ni-3Mo
A/SA	813	TP321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	813	TP321H	S32109	8	1	8.1	18Cr-10Ni-Ti
A/SA	813	TP347	S34700	8	1	8.1	18Cr-10Ni-Cb
A/SA	813	TP347H	S34709	8	1	8.1	18Cr-10Ni-Cb
A/SA	813	TP348	S34800	8	1	8.1	18Cr-10Ni-Cb
A/SA	813	TP348H	S34809	8	1	8.1	18Cr-10Ni-Cb
A/SA	814	S30815	S30815	8	2	8.2	21Cr-11Ni-N
A/SA	814	S31254	S31254	8	4	8.2	20Cr-18Ni-6Mo
A/SA	814	TP XM-11	S21904	8	3	8.3	21Cr-6Ni-9Mn
A/SA	814	TP XM-15	S38100	8	1	8.1	18Cr-18Ni-2Si
A/SA	814	TP XM-19	S20910	8	3	8.3	22Cr-13Ni-5Mn
A/SA	814	TP XM-29	S24000	8	3	8.3	18Cr-3Ni-12Mn
A/SA	814	TP304	S30400	8	1	8.1	18Cr-8Ni
A/SA	814	TP304H	S30409	8	1	8.1	18Cr-8Ni
A/SA	814	TP304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	814	TP304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	814	TP304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	814	TP309Cb	S30940	8	2	8.2	23Cr-12Ni-Cb

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	814	TP309S	S30908	8	2	8.2	23Cr-12Ni
A/SA	814	TP310Cb	S31040	8	2	8.2	25Cr-20Ni-Cb
A/SA	814	TP310S	S31008	8	2	8.2	25Cr-20Ni
A/SA	814	TP316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	814	TP316H	S31609	8	1	8.1	16Cr-12Ni-2Mo
A/SA	814	TP316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	814	TP316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	814	TP316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	814	TP317	S31700	8	1	8.1	18Cr-13Ni-3Mo
A/SA	814	TP317L	S31703	8	1	8.1	18Cr-13Ni-3Mo
A/SA	814	TP321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	814	TP321H	S32109	8	1	8.1	18Cr-10Ni-Ti
A/SA	814	TP347	S34700	8	1	8.1	18Cr-10Ni-Cb
A/SA	814	TP347H	S34709	8	1	8.1	18Cr-10Ni-Cb
A/SA	814	TP348	S34800	8	1	8.1	18Cr-10Ni-Cb
A/SA	814	TP348H	S34809	8	1	8.1	18Cr-10Ni-Cb
A	815	S32205	S32205	10H	1	10.1	22Cr-5Ni-3Mo-N
A/SA	815	S31803	S31803	10H	1	10.1	22Cr-5Ni-3Mo-N
A/SA	815	S32760	S32760	10H	1	10.2	25Cr-8Ni-3Mo-W-Cu-N
A/SA	815	S41500	S41500	6	4	7.2	13Cr-4.5Ni-Mo
A/SA	832	21V	K31830	5C	1	6.2	3Cr-1Mo-V-Ti-B
A/SA	832	22V	K31835	5C	1	6.2	2.25Cr-1Mo-V
A/SA	832	23V	—	5C	1	6.2	3Cr-1Mo-0.25V-Cb-Ca
A/SA	836	—	—	1	1	1.1	C-Si-Ti
A	871	60	—	3	2	4.2	C-Mn-Ni-Cr-Cu-V
A	871	65	—	3	3	4.2	C-Mn-Ni-Cr-Cu-V
A	890	CD3MWCuN	J93380	10H	1	10.2	25Cr-8Ni-3Mo-W-Cu-N
A	913	50	—	1	2	1.2	C-Mn-Ni-Cr-Cb-V
A	913	60	—	1	3	3.1	C-Mn-Ni-Cr-Cb-V
A	913	65	—	1	3	3.1	C-Mn-Ni-Cr-Cb-V
A	928	—	S32760	10H	1	10.2	25Cr-8Ni-3Mo-W-Cu-N
A	928	S32205	S32205	10H	1	10.1	22Cr-5Ni-3Mo-N
A/SA	965	F304	S30400	8	1	8.1	18Cr-8Ni
A/SA	965	F304H	S30409	8	1	8.1	18Cr-8Ni

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
A/SA	965	F304L	S30403	8	1	8.1	18Cr-8Ni
A/SA	965	F304LN	S30453	8	1	8.1	18Cr-8Ni-N
A/SA	965	F304N	S30451	8	1	8.1	18Cr-8Ni-N
A/SA	965	F310	S31000	8	2	8.2	25Cr-20Ni
A/SA	965	F316	S31600	8	1	8.1	16Cr-12Ni-2Mo
A/SA	965	F316H	S31609	8	1	8.1	16Cr-12Ni-2Mo
A/SA	965	F316L	S31603	8	1	8.1	16Cr-12Ni-2Mo
A/SA	965	F316LN	S31653	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	965	F316N	S31651	8	1	8.1	16Cr-12Ni-2Mo-N
A/SA	965	F321	S32100	8	1	8.1	18Cr-10Ni-Ti
A/SA	965	F321H	S32109	8	1	8.1	18Cr-10Ni-Ti
A/SA	965	F347	S34700	8	1	8.1	18Cr-10Ni-Cb
A/SA	965	F347H	S34709	8	1	8.1	18Cr-10Ni-Cb
A/SA	965	F348	S34800	8	1	8.1	18Cr-10Ni-Cb
A/SA	965	F348H	S34809	8	1	8.1	18Cr-10Ni-Cb
A/SA	965	F46	S30600	8	1	8.1	18Cr-15Ni-4Si
A/SA	965	FXM-11	S21904	8	3	8.3	21Cr-6Ni-9Mn
A/SA	965	FXM-19	S20910	8	3	8.3	22Cr-13Ni-5Mn
A	992	—	—	1	1	1.1	C-Mn-Si
A/SA	995	1B	J93372	10H	1	10.2	25Cr-5Ni-3Mo-2Cu
A/SA	995	2A	J93345	10H	1	10.2	24Cr-10Ni-Mo-N
A	1008	DS Type B	—	1	1	1.1	C
A	1008	HSLAS 45 Cl.	—	—	—	1.2	C
A	1008	HSLAS 50 Cl.	—	—	—	1.2	C
A	1008	HSLAS 55 Cl.	—	—	—	1.3	C
A	1008	HSLAS-F 50	—	—	—	1.2	C
A	1008	SS 30	—	1	1	1.1	C
A	1008	SS 33 Type 1	—	1	1	1.1	C
A	1008	SS 40 Type 1	—	1	1	1.1	C
A/SA	1008	CS Type A	—	1	1	1.1	C
A/SA	1008	CS Type B	—	1	1	1.1	C
A	1011	CS Type B	—	1	1	1.1	C
A	1011	DS Type B	—	1	1	1.1	C
A	1011	HSLAS 45 Cl.	—	1	1	1.2	C

Table 1 (continued)

ASTM/ASME Specification	No.	Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
				P or M No.	Group No.		
A	1011	HSLAS 50 Cl.	—	1	1	1.2	C
A	1011	HSLAS 55 Cl.	—	1	2	1.3	C
A	1011	HSLAS 55 Cl.	—	1	1	1.3	C
A	1011	HSLAS-F 50	—	—	—	1.2	C
A	1011	SS 30	—	1	1	1.1	C
A	1011	SS 33	—	1	1	1.1	C
A	1011	SS 36 Type 1	—	1	1	1.1	C
A	1011	SS 40	—	1	1	1.1	C
A	1011	SS 45	—	1	1	1.2	C
A	1011	SS 50	—	1	1	1.2	C
A	1011	SS 55	—	1	2	1.3	C
A	1018	HSLAS 45 Cl.	—	—	—	1.2	C
A	1018	HSLAS 50 Cl.	—	—	—	1.2	C
A	1018	HSLAS 55 Cl.	—	—	—	1.3	C
A	1018	HSLAS 60 Cl.	—	—	—	1.3	C
A	1018	HSLAS-F 50	—	—	—	1.2	C
A	1018	HSLAS-F 60	—	—	—	1.3	C
A	1018	SS 30	—	—	—	1.1	C
A	1018	SS 33	—	—	—	1.1	C
A	1018	SS 36	—	—	—	1.1	C
A	1018	SS 40	—	—	—	1.1	C
ABS	ABS	A	K02300	1	1	1.1	C
ABS	ABS	AH32	K11846	1	1	1.2	C-Mn-Si
ABS	ABS	AH36	K11852	1	2	1.2	C-Mn-Si
ABS	ABS	B	K02102	1	1	1.1	C-Mn-Si
ABS	ABS	CS	—	—	—	1.1	C-Mn-Si
ABS	ABS	D	K02101	1	1	1.1	C-Si
ABS	ABS	DH32	K11846	1	1	1.2	C-Mn-Si
ABS	ABS	DH36	K11852	1	2	1.2	C-Mn-Si
ABS	ABS	DS	—	—	—	1.1	C-Mn-Si
ABS	ABS	E	K01801	1	1	1.1	C-Si
ABS	ABS	EH32	K11846	1	1	1.2	C-Mn-Si
ABS	ABS	EH36	K11852	1	2	1.2	C-Mn-Si
API	2H	42	—	1	1	1.2	C-Mn
API	2H	50	—	1	2	1.2	C-Mn

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
API	2MT1	—	—	—	—	1.2	C-Mn
API	2W	42	—	—	—	1.2	C-Mn
API	2W	50	—	—	—	1.2	C-Mn
API	2W	50T	—	—	—	1.2	C-Mn
API	2W	60	—	—	—	1.3	C-Mn
API	2Y	42	—	1	1	1.2	C-Mn
API	2Y	50	—	1	1	1.2	C-Mn
API	2Y	50T	—	1	2	1.2	C-Mn
API	2Y	60	—	—	—	1.3	C-Mn
API	5L	A	—	1	1	1.1	C-Mn
API	5L	B	—	1	1	1.1	C-Mn
API	5L	A25, Cl. I	—	1	1	1.1	C-Mn
API	5L	A25, Cl. II	—	1	1	1.1	C-Mn
API	5L	X42	—	1	1	1.2	C-Mn
API	5L	X46	—	1	1	1.2	C-Mn
API	5L	X52	—	1	1	1.2	C-Mn
API	5L	X56	—	1	2	1.3	C-Mn
API	5L	X60	—	1	2	1.3	C-Mn
API	5L	X65	—	1	2	1.3	C-Mn
API	5L	X70	—	1	3	1.3	C-Mn
API	5L	X80	—	1	4	1.3	C-Mn
MSS	MSS	WPHY-42	—	1	1	1.1	C-Mn
MSS	MSS	WPHY-46	—	1	1	1.1	C-Mn
MSS	MSS	WPHY-52	—	1	1	1.1	C-Mn
MSS	MSS	WPHY-56	—	1	2	1.1	C-Mn
MSS	MSS	WPHY-60	—	1	2	1.1	C-Mn
MSS	MSS	WPHY-65	—	1	2	1.1	C-Mn
MSS	MSS	WPHY-70	—	1	3	1.1	C-Mn
AS	1548	5-490	—	1	2	1.1	C
AS	1548	7-430	—	1	1	1.1	C
AS	1548	7-460	—	1	1	1.1	C
AS	1548	7-490	—	1	2	1.1	C
AS/NZS	1594	HA1	—	1	—	1.1	C
AS/NZS	1594	HA200	—	1	—	1.1	C

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
AS/NZS	1594	HA250	—	1	—	1.1	C
AS/NZS	1594	HA250/1	—	1	—	1.1	C
AS/NZS	1594	HA3	—	1	—	1.1	C
AS/NZS	1594	HA300	—	1	—	1.2	C-Mn
AS/NZS	1594	HA300/1	—	1	—	1.2	C-Mn
AS/NZS	1594	HA350	—	—	—	1.2	C-Mn
AS/NZS	1594	HA400	—	—	—	2.1	C-Mn
AS/NZS	1594	HA4N	—	1	—	1.1	C
AS/NZS	1594	HU250	—	1	—	1.1	C-Mn
AS/NZS	1594	HU300	—	1	—	1.2	C-Mn
AS/NZS	1594	HU300/1	—	1	—	1.2	C-Mn
AS/NZS	1594	HW350	—	—	—	1.4	C-Mn-Cr-Ni-Cu
AS/NZS	1594	XF300	—	—	—	1.2	C-Mn
AS/NZS	1594	XF400	—	—	—	2.1	C-Mn
AS/NZS	1594	XF500	—	—	—	2.2	C-Mn
AS	3597	500	—	—	—	3.1	C-Mn-1Cr0.25Mo
AS	3597	600	—	—	—	3.1	C-Mn-1Cr0.25Mo
AS	3597	700	—	—	—	3.1	C-Mn-1Cr0.25Mo
AS	3597	700PV	—	11B	—	3.1	C-Mn-1Cr0.25Mo
AS/NZS	3678	200	—	1	—	1.1	C
AS/NZS	3678	250	—	1	—	1.1	C-Mn
AS/NZS	3678	300	—	1	—	1.2	C-Mn
AS/NZS	3678	350	—	1	—	1.2	C-Mn
AS/NZS	3678	400	—	—	—	2.1	C-Mn
AS/NZS	3678	450	—	—	—	2.1	C-Mn
AS/NZS	3678	A1006	—	—	—	1	C
AS/NZS	3678	A1010	—	—	—	1	C
AS/NZS	3678	K1042	—	—	—	11.2	C-Mn
AS/NZS	3678	WR350	—	—	—	1.4	C-Mn-Cr-Ni-Cu
AS/NZS	3678	XK1016	—	—	—	1	C-Mn
AS/NZS	3678	XK1515	—	—	—	1	C-Mn
AS/NZS	3679	250	—	1	—	1.1	C-Mn
AS/NZS	3679	350	—	1	—	1.2	C-Mn
AS/NZS	3679	400	—	—	—	2.1	C-Mn

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
CSA	G30.18	400W	—	1A	4	11.1	C
CSA	G30.18	500W	—	1A	4	11.1	C
CSA	G40.21	260W	—	1	1	1.1	C
CSA	G40.21	260WT	—	1	1	1.1	C
CSA	G40.21	300W	—	1	1	1.2	C-Mn-Cb-V
CSA	G40.21	300WT	—	1	1	1.2	C-Mn-Cb-V
CSA	G40.21	350A	—	1	2	1.4	C-Mn
CSA	G40.21	350AT	—	1	2	1.4	C-Mn
CSA	G40.21	350W	—	1	2	1.2	C-Mn
CSA	G40.21	350WT	—	1	2	1.2	C-Mn
CSA	G40.21	380W	—	1	2	1.3	C-Mn-Si-Cb-V
CSA	G40.21	380WT	—	1	2	1.3	C-Mn-Si-Cb-V
CSA	G40.21	400A	—	1	2	1.4	C-Mn-Si-Cb-V
CSA	G40.21	400AT	—	1	2	1.4	C-Mn-Si-Cb-V
CSA	G40.21	400W	—	1	2	1.3	C-Mn-Si-Cb-V
CSA	G40.21	400WT	—	1	2	1.3	C-Mn-Si-Cb-V
CSA	G40.21	480A	—	1	3	1.4	C-Mn-Si-Cb-V
CSA	G40.21	480AT	—	1	3	1.4	C-Mn-Si-Cb-V
CSA	G40.21	480W	—	1	3	1.3	C-Mn-Si-Cb-V
CSA	G40.21	480WT	—	1	3	1.3	C-Mn-Si-Cb-V
CSA	G40.21	550A	—	1	2	1.4	C-Mn-Cb-V
CSA	G40.21	550AT	—	1	2	1.4	C-Mn-Cb-V
CSA	G40.21	550W	—	1	2	1.3	C-Mn-Cb-V
CSA	G40.21	550WT	—	1	2	1.3	C-Mn-Cb-V
CSA	Z245.1	172	—	1	1	11.1	C
CSA	Z245.1	207	—	1	1	11.1	C
CSA	Z245.1	241	—	1	1	11.1	C
CSA	Z245.1	290	—	1	1	11.1	C
CSA	Z245.1	317	—	1	2	11.1	C-Mn
CSA	Z245.1	359	—	1	2	11.1	C-Mn
CSA	Z245.1	386	—	1	2	11.1	C-Mn
CSA	Z245.1	414	—	1	3	11.1	C-Mn
CSA	Z245.1	448	—	1	3	11.1	C-Mn
CSA	Z245.1	483	—	1	3	11.1	C-Mn

Table 1 (continued)

ASTM/ASME		Type or grade	UNS No.	ASME/AWS		ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.			P or M No.	Group No.		
CSA	Z245.1	550	—	1	4	11.1	C-Mn
CSA	Z245.11	207	—	1	1	11.1	C-Mn-Si
CSA	Z245.11	241	—	1	1	11.1	C-Mn-Si
CSA	Z245.11	290	—	1	1	11.1	C-Mn-Si
CSA	Z245.11	317	—	1	2	11.1	C-Mn-Si
CSA	Z245.11	359	—	1	2	11.1	C-Mn-Si
CSA	Z245.11	386	—	1	2	11.1	C-Mn-Si
CSA	Z245.11	414	—	1	3	11.1	C-Mn-Si
CSA	Z245.11	448	—	1	3	11.1	C-Mn-Si
CSA	Z245.11	483	—	1	3	11.1	C-Mn-Si
CSA	Z245.11	550	—	1	4	11.1	C-Mn-Si
CSA	Z245.12	248	—	1	1	11.1	C-Mn-Si
CSA	Z245.12	290	—	1	1	11.1	C-Mn-Si
CSA	Z245.12	317	—	1	2	11.1	C-Mn-Si
CSA	Z245.12	359	—	1	2	11.1	C-Mn-Si
CSA	Z245.12	386	—	1	2	11.1	C-Mn-Si
CSA	Z245.12	414	—	1	3	11.1	C-Mn-Si
CSA	Z245.12	448	—	1	3	11.1	C-Mn-Si
CSA	Z245.12	483	—	1	3	11.1	C-Mn-Si

Table 2 — American grouping system for non-ferrous material

ASTM/ASME		UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
Specification	No.				
B	26	A03560	21	24.1	Al-Si
B	26	A24430	21	24.1	Al-Si
B/SB	42	C10200	31	31	99.95Cu-P
B/SB	42	C12000	31	31	99.9Cu-P
B/SB	42	C12200	31	31	99.9Cu-P
B/SB	43	C23000	32	32.1	85Cu-15Zn
B	68	C10200	31	31	99.95Cu-P
B	68	C12000	31	31	99.9Cu-P
B	68	C12200	31	31	99.9Cu-P
B/SB	75	C10200	31	31	99.95Cu-P
B/SB	75	C12000	31	31	99.9Cu-P
B/SB	75	C12200	31	31	99.9Cu-P
B	88	C10200	31	31	99.95Cu-P
B	88	C12000	31	31	99.9Cu-P
B	88	C12200	31	31	99.9Cu-P
B/SB	96	C65500	33	37	97Cu-3Si
B/SB	98	C65100	33	37	98.5Cu-1.5Si
B/SB	98	C65500	33	37	97Cu-3Si
B/SB	98	C66100	33	37	94Cu-3Si
B/SB	111	C10200	31	31	99.95Cu-P
B/SB	111	C12000	31	31	99.9Cu-P
B/SB	111	C12200	31	31	99.9Cu-P
B/SB	111	C14200	31	31	99.4Cu-As-P
B/SB	111	C19200	31	31	99.7Cu + Fe-P
B/SB	111	C23000	32	32.1	85Cu-15Zn
B/SB	111	C28000	32	32.1	60Cu-40Zn
B/SB	111	C44300	32	32.2	71Cu-28Zn-1Sn-0.06As
B/SB	111	C44400	32	32.2	71Cu-28Zn-1Sn-0.06Sb
B/SB	111	C44500	32	32.2	71Cu-28Zn-1Sn-0.06P
B/SB	111	C60800	35	35	95Cu-5Al
B/SB	111	C68700	32	32.2	78Cu-20Zn-2Al
B/SB	111	C70400	34	34	95Cu-5Ni
B/SB	111	C70600	34	34	90Cu-10Ni
B/SB	111	C71000	34	34	80Cu-20Ni
B/SB	111	C71500	34	34	70Cu-30Ni

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	111	C72200	34	34	80Cu-16Ni-0.75Fe-0.5Cr
B/SB	127	N04400	42	42	67Ni-30Cu
B/SB	135	C23000	32	32.1	85Cu-15Zn
B	148	C95300	35	35	89Cu-10Al-1Fe
B	148	C95500	35	35	82Cu-11Al-4Fe-3Mn
B	148	C95600	35	35	90Cu-7Al-3Si
B/SB	148	C95200	35	35	88Cu-9Al-3Fe
B/SB	148	C95400	35	35	85Cu-11Al-4Fe
B/SB	150	C61400	35	35	90Cu-7Al-3Fe
B/SB	150	C62300	35	35	88Cu-9Al-3Fe
B/SB	150	C63000	35	35	81Cu-10Al-5Ni-3Fe
B/SB	150	C64200	35	35	91Cu-7Al-2Si
B/SB	151	C70600	34	34	90Cu-10Ni
B/SB	152	C10200	31	31	99.95Cu-P
B/SB	152	C10400	31	31	99.95Cu + Ag
B/SB	152	C10500	31	31	99.95Cu + Ag
B/SB	152	C10700	31	31	99.95Cu + Ag
B/SB	152	C11000	31	31	99.90Cu
B/SB	152	C12200	31	31	99.9Cu-P
B/SB	152	C12300	31	31	99.9Cu-P
B/SB	152	C14200	31	31	99.4Cu-As-P
B/SB	160	N02200	41	41	99.0Ni
B/SB	160	N02201	41	41	99.0Ni-Low C
B/SB	161	N02200	41	41	99.0Ni
B/SB	161	N02201	41	41	99.0Ni-Low C
B/SB	162	N02200	41	41	99.0Ni
B/SB	162	N02201	41	41	99.0Ni-Low C
B/SB	163	N02200	41	41	99.0Ni
B/SB	163	N02201	41	41	99.0Ni-Low C
B/SB	163	N04400	42	42	67Ni-30Cu
B/SB	163	N06600	43	43	72Ni-15Cr-8Fe
B/SB	163	N06601	43	43	60Ni-23Cr-12Fe-Al
B/SB	163	N06690	43	43	58Ni-29Cr-9Fe
B/SB	163	N08120	45	45	37Ni-33Fe-25Cr
B/SB	163	N08800	45	45	33Ni-42Fe-21Cr

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	163	N08801	45	45	32Ni-45Fe-20.5Cr-Ti
B/SB	163	N08810	45	45	33Ni-42Fe-21Cr
B/SB	163	N08811	45	45	33Ni-42Fe-21Cr-Al-Ti
B/SB	163	N08825	45	45	42Ni-21.5Cr-3Mo-2.3Cu
B/SB	164	N04400	42	42	67Ni-30Cu
B/SB	164	N04405	42	42	67Ni-30Cu
B/SB	165	N04400	42	42	67Ni-30Cu
B/SB	166	N06045	46	45	46Ni-27Cr-23Fe-2.75Si
B/SB	166	N06600	43	43	72Ni-15Cr-8Fe
B/SB	166	N06601	43	43	60Ni-23Cr-12Fe-Al
B/SB	166	N06617	43	46	52Ni-22Cr-13Co-9Mo
B/SB	166	N06690	43	43	58Ni-29Cr-9Fe
B/SB	167	N06045	46	45	46Ni-27Cr-23Fe-2.75Si
B/SB	167	N06600	43	43	72Ni-15Cr-8Fe
B/SB	167	N06601	43	43	60Ni-23Cr-12Fe-Al
B/SB	167	N06617	43	46	52Ni-22Cr-13Co-9Mo
B/SB	167	N06690	43	43	58Ni-29Cr-9Fe
B/SB	168	N06045	46	45	46Ni-27Cr-23Fe-2.75Si
B/SB	168	N06600	43	43	72Ni-15Cr-8Fe
B/SB	168	N06601	43	43	60Ni-23Cr-12Fe-Al
B/SB	168	N06617	43	46	52Ni-22Cr-13Co-9Mo
B/SB	168	N06690	43	43	58Ni-29Cr-9Fe
B/SB	169	C61400	35	35	90Cu-7Al-3Fe
B/SB	171	C36500	32	32.2	60Cu-39Zn-Pb
B/SB	171	C44300	32	32.2	71Cu-28Zn-1Sn-0.06As
B/SB	171	C44400	32	32.2	71Cu-28Zn-1Sn-0.06Sb
B/SB	171	C44500	32	32.2	71Cu-28Zn-1Sn-0.06P
B/SB	171	C46400	32	32.2	60Cu-39Zn-Sn
B/SB	171	C46500	32	32.2	60Cu-39Zn-As
B/SB	171	C61400	35	35	90Cu-7Al-3Fe
B/SB	171	C63000	35	35	81Cu-10Al-5Ni-3Fe
B/SB	171	C70600	34	34	90Cu-10Ni
B/SB	171	C71500	34	34	70Cu-30Ni
B/SB	187	C10200	31	31	99.95Cu-P
B/SB	187	C11000	31	31	99.9Cu

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B	209	A95050	21	22.1	Al-1.5Mg
B/SB	209	A91060	21	21	99.6Al
B/SB	209	A91100	21	21	99.0Al-Cu
B/SB	209	A93003	21	22.1	Al-Mn-Cu
B/SB	209	A93004	22	22.2	Al-Mn-Mg
B/SB	209	A95052	22	22.3	Al-2.5Mg
B/SB	209	A95083	25	22.4	Al-4.4Mg-Mn
B/SB	209	A95086	25	22.4	Al-4.0Mg-Mn
B/SB	209	A95154	22	22.4	Al-3.5Mg
B/SB	209	A95254	22	22.4	Al-3.5Mg
B/SB	209	A95454	22	22.3	Al-2.7Mg-Mn
B/SB	209	A95456	25	22.4	Al-5.1Mg-Mn
B/SB	209	A95652	22	22.3	Al-2.5Mg
B/SB	209	A96061	23	23.1	Al-Mg-Si-Cu
B	210	A95083	25	22.4	Al-4.4Mg-Mn
B	210	A95086	25	22.4	Al-4.0Mg-Mn
B	210	A95456	25	22.4	Al-5.1Mg-Mn
B/SB	210	A91060	21	21	99.60Al
B/SB	210	A93003	21	22.1	Al-Mn-Cu
B/SB	210	A95052	22	22.3	Al-2.5Mg
B/SB	210	A95154	22	22.4	Al-3.5Mg
B/SB	210	A96061	23	23.1	Al-Mg-Si-Cu
B/SB	210	A96063	23	23.1	Al-Mg-Si
B/SB	211	A96061	23	23.1	Al-Mg-Si-Cu
B/SB	221	A91060	21	21	99.60Al
B/SB	221	A91100	21	21	99.0Al-Cu
B/SB	221	A93003	21	22.1	Al-Mn-Cu
B/SB	221	A95083	25	22.4	Al-4.4Mg-Mn
B/SB	221	A95154	22	22.4	Al-3.5Mg
B/SB	221	A95454	22	22.3	Al-2.7Mg-Mn
B/SB	221	A95456	25	22.4	Al-5.1Mg-Mn
B/SB	221	A96061	23	23.1	Al-Mg-Si-Cu
B/SB	221	A96063	23	23.1	Al-Mg-Si
B/SB	234	A91060	21	21	99.60Al
B/SB	234	A93003	21	22.1	Al-Mn-Cu

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	234	A95052	22	22.3	Al-2.5Mg
B/SB	234	A95454	22	22.3	Al-2.7Mg-Mn
B/SB	234	A96061	23	23.1	Al-Mg-Si-Cu
B/SB	241	A91060	21	21	99.60Al
B/SB	241	A91100	21	21	99.0Al-Cu
B/SB	241	A93003	21	22.1	Al-Mn-Cu
B/SB	241	A95052	22	22.3	Al-2.5Mg
B/SB	241	A95083	25	22.4	Al-4.4Mg-Mn
B/SB	241	A95086	25	22.4	Al-4.0Mg-Mn
B/SB	241	A95454	22	22.3	Al-2.7Mg-Mn
B/SB	241	A95456	25	22.4	Al-5.1Mg-Mn
B/SB	241	A96061	23	23.1	Al-Mg-Si-Cu
B/SB	241	A96063	23	23.1	Al-Mg-Si
B/SB	247	A93003	21	22.1	Al-Mn-Cu
B/SB	247	A95083	25	22.4	Al-4.4Mg-Mn
B/SB	247	A96061	23	23.1	Al-Mg-Si-Cu
B/SB	265	R50250	51	51	Ti
B/SB	265	R50400	51	51	Ti
B/SB	265	R50550	52	52	Ti
B/SB	265	R52250	51	51	Ti-Pd
B/SB	265	R52252	51	51	Ti-Pd
B/SB	265	R52254	51	51	Ti-Ru
B/SB	265	R52400	51	51	Ti-Pd
B/SB	265	R52402	51	51	Ti-Pd
B/SB	265	R52404	51	51	Ti-Ru
B/SB	265	R53400	52	52	Ti-0.3Mo-0.8Ni
B/SB	265	R56320	53	53	Ti-3Al-2.5V
B/SB	271	C95200	35	35	88Cu-9Al-3Fe
B/SB	271	C95400	35	35	85Cu-11Al-4Fe
B	280	C12000	31	31	99.9Cu-P
B	280	C12200	31	31	99.9Cu-P
B	283	C11000	31	31	99.9Cu
B	283	C46400	32	32.2	60Cu-39Zn-Sn
B	283	C65500	33	31	97Cu-3Si
B	283	C67500	32	32.2	59Cu-39Zn-Fe-Sn

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B	302	C12000	31	31	99.9Cu-P
B	302	C12200	31	31	99.9Cu-P
B/SB	308	A96061	23	23.1	Al-Mg-Si-Cu
B/SB	315	C65500	33	33	97Cu-3Si
B/SB	333	N10001	44	44	62Ni-28Mo-5Fe
B/SB	333	N10629	44	44	66Ni-28Mo-3Fe-1.3Cr-0.25Al
B/SB	333	N10665	44	44	65Ni-28Mo-2Fe
B/SB	333	N10675	44	44	65Ni-29.5Mo-2Fe-2Cr
B/SB	335	N10001	44	44	62Ni-28Mo-5Fe
B/SB	335	N10629	44	44	66Ni-28Mo-3Fe-1.3Cr-0.25Al
B/SB	335	N10665	44	44	65Ni-28Mo-2Fe
B/SB	335	N10675	44	44	65Ni-29.5Mo-2Fe-2Cr
B/SB	338	R50250	51	51	Ti
B/SB	338	R50400	51	51	Ti
B/SB	338	R50550	52	52	Ti
B/SB	338	R52400	51	51	Ti-Pd
B/SB	338	R52402	51	51	Ti-Pd
B/SB	338	R52404	51	51	Ti-Ru
B/SB	338	R53400	52	52	Ti-0.3Mo-0.8Ni
B/SB	338	R56320	53	53	Ti-3Al-2.5V
B	345	A91060	21	21	99.6Al
B	345	A93003	21	22.1	Al-Mn-Cu
B	345	A95083	25	22.4	Al-4.4Mg-Mn
B	345	A95086	25	22.4	Al-4.0Mg-Mn
B	345	A96061	23	23.1	Al-Mg-Si-Cu
B	345	A96063	23	23.1	Al-Mg-Si
B/SB	348	R50250	51	51	Ti
B/SB	348	R50400	51	51	Ti
B/SB	348	R50550	52	52	Ti
B/SB	348	R52400	51	51	Ti-Pd
B/SB	348	R52402	51	51	Ti-Pd
B/SB	348	R52404	51	51	Ti-Ru
B/SB	348	R53400	52	52	Ti-0.3Mo-0.8Ni
B/SB	348	R56320	53	53	Ti-3Al-2.5V
B/SB	359	C12200	31	31	99.9Cu-P

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	359	C44300	32	32.2	71Cu-28Zn-1Sn-0.06As
B/SB	359	C44400	32	32.2	71Cu-28Zn-1Sn-0.06Sb
B/SB	359	C44500	32	32.2	71Cu-28Zn-1Sn-0.06P
B/SB	359	C70600	34	34	90Cu-10Ni
B/SB	359	C71000	34	34	80Cu-20Ni
B/SB	359	C71500	34	34	70Cu-30Ni
B	361	A91060	21	21	99.6Al
B	361	A91100	21	21	99.0Al-Cu
B	361	A93003	21	22.1	Al-Mn-Cu
B	361	A95083	25	22.4	Al-4.4Mg-Mn
B	361	A95154	22	22.3	Al-3.5Mg
B	361	A96061	23	23.1	Al-Mg-Si-Cu
B	361	A96063	23	23.1	Al-Mg-Si
B/SB	363	R50250	51	51	Ti
B/SB	363	R50400	51	51	Ti
B/SB	363	R50550	52	52	Ti
B/SB	363	R52400	51	51	Ti-Pd
B/SB	363	R52404	51	51	Ti-Ru
B/SB	363	R53400	52	52	Ti-0.3Mo-0.8Ni
B/SB	363	R56320	53	53	Ti-3Al-2.5V
B	366	N08926	45	8.2	25Ni-20Cr-6Mo-Cu-N
B/SB	366	N02200	41	41	99.0Ni
B/SB	366	N02201	41	41	99.0Ni-Low C
B/SB	366	N04400	42	42	67Ni-30Cu
B/SB	366	N06002	43	43	47Ni-22Cr-18Fe-9Mo
B/SB	366	N06007	45	43	47Ni-22Cr-19Fe-6Mo
B/SB	366	N06022	43	44	55Ni-21Cr-13.5Mo
B/SB	366	N06030	45	45	40Ni-29Cr-15Fe-5Mo
B/SB	366	N06045	46	45	46Ni-27Cr-23Fe-2.75Si
B/SB	366	N06059	43	43	59Ni-23Cr-16Mo
B/SB	366	N06200	43	43	59Ni-23Cr-16Mo-1.6Cu
B/SB	366	N06230	43	43	53Ni-22Cr-14W-Co-Fe-Mo
B/SB	366	N06455	43	43	61Ni-15Mo-16Cr
B/SB	366	N06600	43	43	72Ni-15Cr-8Fe
B/SB	366	N06625	43	43	60Ni-22Cr-9Mo-3.5Cb

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	366	N06985	45	45	47Ni-22Cr-20Fe-7Mo
B/SB	366	N08020	45	45	35Ni-35Fe-20Cr-Cb
B/SB	366	N08031	45	45	31Ni-31Fe-27Cr-7Mo
B/SB	366	N08120	45	45	37Ni-33Fe-25Cr
B/SB	366	N08330	46	45	35Ni-19Cr-1.25Si
B/SB	366	N08367	45	8.2	46Fe-24Ni-21Cr-6Mo-Cu-N
B/SB	366	N08800	45	45	33Ni-42Fe-21Cr
B/SB	366	N08825	45	45	42Ni-21.5Cr-3Mo-2.3Cu
B/SB	366	N08925	45	8.2	25Ni-20Cr-6Mo-Cu-N
B/SB	366	N10001	44	44	62Ni-28Mo-5Fe
B/SB	366	N10003	44	44	70Ni-16Mo-7Cr-5Fe
B/SB	366	N10242	44	44	62Ni-25Mo-8Cr-2Fe
B/SB	366	N10276	43	43	54Ni-16Mo-15Cr
B/SB	366	N10629	44	44	66Ni-28Mo-3Fe-1.3Cr-0.2
B/SB	366	N10665	44	44	65Ni-28Mo-2Fe
B/SB	366	N10675	44	44	65Ni-29.5Mo-2Fe-2Cr
B/SB	366	N12160	46	46	37Ni-30Co-28Cr-2.7Si
B/SB	366	R20033	45	45	33Cr-31Ni-32Fe-1.5Mo-0.6C
B/SB	366	R30556	45	45	21Ni-30Fe-22Cr-18Co-3M
B/SB	367	R50400	51	51	Ti
B/SB	367	R50550	52	52	Ti
B/SB	369	C96200	34	34	87.5Cu-10Ni-Fe-Mn
B/SB	381	R50250	51	51	Ti
B/SB	381	R50400	51	51	Ti
B/SB	381	R50550	52	52	Ti
B/SB	381	R52400	51	51	Ti-Pd
B/SB	381	R52402	51	51	Ti-Pd
B/SB	381	R52404	51	51	Ti-Ru
B/SB	381	R53400	52	52	Ti-0.3Mo-0.8Ni
B/SB	381	R56320	53	53	Ti-3Al-2.5V
B/SB	395	C10200	31	31	99.95Cu-P
B/SB	395	C12000	31	31	99.9Cu-P
B/SB	395	C12200	31	31	99.9Cu-P
B/SB	395	C14200	31	31	99.4Cu-As-P
B/SB	395	C19200	31	31	99.7Cu-Fe-P

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	395	C23000	32	32.1	85Cu-15Zn
B/SB	395	C44300	32	32.2	71Cu-28Zn-1Sn-0.06As
B/SB	395	C44400	32	32.2	71Cu-28Zn-1Sn-0.06Sb
B/SB	395	C44500	32	32.2	71Cu-28Zn-1Sn-0.06P
B/SB	395	C60800	35	35	95Cu-5Al
B/SB	395	C68700	32	32.2	78Cu-20Zn-2Al
B/SB	395	C70600	34	34	90Cu-10Ni
B/SB	395	C71000	34	34	80Cu-20Ni
B/SB	395	C71500	34	34	70Cu-30Ni
B/SB	407	N08120	45	45	37Ni-33Fe-25Cr
B/SB	407	N08800	45	45	33Ni-42Fe-21Cr
B/SB	407	N08801	45	45	32Ni-45Fe-20.5Cr-Ti
B/SB	407	N08810	45	45	33Ni-42Fe-21Cr
B/SB	407	N08811	45	45	33Ni-42Fe-21Cr-Al-Ti
B/SB	408	N08120	45	45	37Ni-33Fe-25Cr
B/SB	408	N08800	45	45	33Ni-42Fe-21Cr
B/SB	408	N08810	45	45	33Ni-42Fe-21Cr
B/SB	408	N08811	45	45	33Ni-42Fe-21Cr-Al-Ti
B/SB	409	N08120	45	45	37Ni-33Fe-25Cr
B/SB	409	N08800	45	45	33Ni-42Fe-21Cr
B/SB	409	N08810	45	45	33Ni-42Fe-21Cr
B/SB	409	N08811	45	45	33Ni-42Fe-21Cr-Al-Ti
B/SB	423	N08825	45	45	42Ni-21.5Cr-3Mo-2.3Cu
B/SB	424	N08825	45	45	42Ni-21.5Cr-3Mo-2.3Cu
B/SB	425	N08825	45	45	42Ni-21.5Cr-3Mo-2.3Cu
B/SB	434	N10003	44	44	70Ni-16Mo-7Cr-5Fe
B/SB	434	N10242	44	44	62Ni-25Mo-8Cr-2Fe
B/SB	435	N06002	43	43	47Ni-22Cr-9Mo-18Fe
B/SB	435	N06230	43	43	53Ni-22Cr-14W-Co-Fe-Mo
B/SB	435	N12160	46	46	37Ni-30Co-28Cr-2.7Si
B/SB	435	R30556	45	45	21Ni-30Fe-22Cr-18Co-3M
B/SB	443	N06625	43	43	60Ni-22Cr-9Mo-3.5Cb
B/SB	444	N06625	43	43	60Ni-22Cr-9Mo-3.5Cb
B/SB	446	N06625	43	43	60Ni-22Cr-9Mo-3.5Cb
B/SB	462	N06022	43	44	55Ni-21Cr-13.5Mo

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	462	N06030	45	45	40Ni-29Cr-15Fe-5Mo
B/SB	462	N06045	46	45	46Ni-27Cr-23Fe-2.75Si
B/SB	462	N06059	43	43	59Ni-23Cr-16Mo
B/SB	462	N06200	43	43	59Ni-23Cr-16Mo-1.6Cu
B/SB	462	N06686	43	43	58Ni-21Cr-16Mo-3.5N
B/SB	462	N08020	45	45	35Ni-35Fe-20Cr-Cb
B/SB	462	N08031	45	45	31Ni-33Fe-22Cr-6.5Mo-C
B/SB	462	N08367	45	8.2	46Fe-24Ni-21Cr-6Mo-Cu-N
B/SB	462	N10276	43	43	54Ni-16Mo-15Cr
B/SB	462	N10629	44	44	66Ni-28Mo-3Fe-1.3Cr-0.2
B/SB	462	N10665	44	44	65Ni-28Mo-2Fe
B/SB	462	N10675	44	44	65Ni-29.5Mo-2Fe-2Cr
B/SB	462	R20033	45	45	33Cr-31Ni-32Fe-1.5Mo-0.0
B/SB	463	N08020	45	45	35Ni-35Fe-20Cr-Cb
B/SB	463	N08024	45	45	37Ni-33Fe-23Cr-4Mo
B/SB	463	N08026	45	45	35Ni-30Fe-24Cr-6Mo-3Cu
B/SB	464	N08020	45	45	35Ni-35Fe-20Cr-Cb
B/SB	464	N08024	45	45	37Ni-33Fe-23Cr-4Mo
B/SB	464	N08026	45	45	35Ni-30Fe-24Cr-6Mo-3Cu
B/SB	466	C70600	34	34	90Cu-10Ni
B/SB	466	C71000	34	34	80Cu-20Ni
B/SB	466	C71500	34	34	70Cu-30Ni
B/SB	467	C70600	34	34	90Cu-10Ni
B/SB	467	C71500	34	34	70Cu-30Ni
B/SB	468	N08020	45	45	35Ni-35Fe-20Cr-Cb
B/SB	468	N08024	45	45	37Ni-33Fe-23Cr-4Mo
B/SB	468	N08026	45	45	35Ni-30Fe-24Cr-6Mo-3Cu
B/SB	473	N08020	45	45	35Ni-35Fe-20Cr-Cb
B	491	A93003	21	22.1	Al-Mn-Cu
B/SB	493	R60702	61	61	99.2Zr
B/SB	493	R60705	62	62	95.5Zr + 2.5Cb
B/SB	505	C95200	35	35	88Cu-9Al-3Fe
B/SB	511	N08330	46	45	35Ni-19Cr-1.25Si
B/SB	514	N08120	45	45	37Ni-33Fe-25Cr
B/SB	514	N08800	45	45	33Ni-42Fe-21Cr

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	514	N08810	45	45	33Ni-42Fe-21Cr
B/SB	515	N08120	45	45	37Ni-33Fe-25Cr
B/SB	515	N08800	45	45	33Ni-42Fe-21Cr
B/SB	515	N08810	45	45	33Ni-42Fe-21Cr
B/SB	515	N08811	45	45	33Ni-42Fe-21Cr-Al-Ti
B/SB	516	N06045	46	45	46Ni-27Cr-23Fe-2.75Si
B/SB	516	N06600	43	43	72Ni-15Cr-8Fe
B/SB	517	N06045	46	45	46Ni-27Cr-23Fe-2.75Si
B/SB	517	N06600	43	43	72Ni-15Cr-8Fe
B/SB	523	R60702	61	61	99.2Zr
B/SB	523	R60705	62	62	95.5Zr + 2.5Cb
B/SB	535	N08330	46	45	35Ni-19Cr-1.25Si
B/SB	536	N08330	46	45	35Ni-19Cr-1.25Si
B/SB	543	C12200	31	31	99.9Cu-P
B/SB	543	C19400	31	31	97.5Cu-P
B/SB	543	C23000	32	32.1	85Cu-15Zn
B/SB	543	C44300	32	32.2	71Cu-28Zn-1Sn-0.06As
B/SB	543	C44400	32	32.2	71Cu-28Zn-1Sn-0.06Sb
B/SB	543	C44500	32	32.2	71Cu-28Zn-1Sn-0.06P
B/SB	543	C68700	32	32.2	78Cu-20Zn-2Al
B/SB	543	C70400	34	34	95Cu-5Ni
B/SB	543	C70600	34	34	90Cu-10Ni
B/SB	543	C71500	34	34	70Cu-30Ni
B	547	A93003	21	22.1	Al-Mn-Cu
B	547	A95083	25	22.4	Al-4.4Mg-Mn
B	547	A95454	22	22.3	Al-2.7Mg-Mn
B	547	A96061	23	23.1	Al-Mg-Si-Cu
B/SB	550	R60702	61	61	99.2Zr
B/SB	550	R60705	62	62	95.5Zr + 2.5Cb
B/SB	551	R60702	61	61	99.2Zr
B/SB	551	R60705	62	62	95.5Zr + 2.5Cb
B/SB	564	N04400	42	42	67Ni-30Cu
B/SB	564	N06022	43	44	55Ni-21Cr-13.5Mo
B/SB	564	N06045	46	45	46Ni-27Cr-23Fe-2.75Si
B/SB	564	N06059	43	43	59Ni-23Cr-16Mo

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	564	N06200	43	43	59Ni-23Cr-16Mo-1.6Cu
B/SB	564	N06230	43	43	53Ni-22Cr-14W-Co-Fe-Mo
B/SB	564	N06600	43	43	72Ni-15Cr-8Fe
B/SB	564	N06617	43	46	52Ni-22Cr-13Co-9Mo
B/SB	564	N06625	43	43	60Ni-22Cr-9Mo-3.5Cb
B/SB	564	N06686	43	43	58Ni-21Cr-16Mo-3.5W
B/SB	564	N06690	43	43	58Ni-29Cr-9Fe
B/SB	564	N08031	45	45	31Ni-31Fe-27Cr-7Mo
B/SB	564	N08120	45	45	37Ni-33Fe-25Cr
B/SB	564	N08367	45	8.2	46Fe-24Ni-21Cr-6Mo-Cu-N
B/SB	564	N08800	45	45	33Ni-42Fe-21Cr
B/SB	564	N08810	45	45	33Ni-42Fe-21Cr
B/SB	564	N08811	45	44	33Ni-42Fe-21Cr-Al-Ti
B/SB	564	N08825	45	45	42Ni-21.5Cr-3Mo-2.3Cu
B/SB	564	N10242	44	44	62Ni-25Mo-8Cr-2Fe
B/SB	564	N10276	43	43	54Ni-16Mo-15Cr
B/SB	564	N10629	44	44	66Ni-28Mo-3Fe-1.3Cr-0.25Al
B/SB	564	N10675	44	44	65Ni-29.5Mo-2Fe-2Cr
B/SB	564	N12160	46	46	37Ni-30Co-28Cr-2.7Si
B/SB	564	R20033	45	45	33Cr-31Ni-32Fe-1.5Mo-0.6C
B/SB	572	N06002	43	43	47Ni-22Cr-9Mo-18Fe
B/SB	572	N06230	43	43	53Ni-22Cr-14W-Co-Fe-Mo
B/SB	572	N12160	46	46	37Ni-30Co-28Cr-2.7Si
B/SB	572	R30556	45	45	21Ni-30Fe-22Cr-18Co-3Mo
B/SB	573	N10003	44	44	70Ni-16Mo-7Cr-5Fe
B/SB	573	N10242	44	44	62Ni-25Mo-8Cr-2Fe
B/SB	574	N06022	43	44	55Ni-21Cr-13.5Mo
B/SB	574	N06059	43	43	59Ni-23Cr-16Mo
B/SB	574	N06200	43	43	59Ni-23Cr-16Mo-1.6Cu
B/SB	574	N06455	43	43	61Ni-16Mo-16Cr
B/SB	574	N06686	43	43	58Ni-21Cr-16Mo-3.5W
B/SB	574	N10276	43	43	54Ni-16Mo-15Cr
B/SB	575	N06022	43	44	55Ni-21Cr-13.5Mo
B/SB	575	N06059	43	43	59Ni-23Cr-16Mo
B/SB	575	N06200	43	43	59Ni-23Cr-16Mo-1.6Cu

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	575	N06455	43	43	61Ni-16Mo-16Cr
B/SB	575	N06686	43	43	58Ni-21Cr-16Mo-3.5W
B/SB	575	N10276	43	43	54Ni-16Mo-15Cr
B/SB	581	N06007	45	43	47Ni-22Cr-19Fe-6Mo
B/SB	581	N06030	45	45	40Ni-29Cr-15Fe-5Mo
B/SB	581	N06975	45	45	49Ni-25Cr-18Fe-6Mo
B/SB	581	N06985	45	45	47Ni-22Cr-20Fe-7Mo
B/SB	581	N08031	45	45	31Ni-31Fe-27Cr-7Mo
B/SB	582	N06007	45	43	47Ni-22Cr-19Fe-6Mo
B/SB	582	N06030	45	45	40Ni-29Cr-15Fe-5Mo
B/SB	582	N06975	45	45	49Ni-25Cr-18Fe-6Mo
B/SB	582	N06985	45	45	47Ni-22Cr-20Fe-7Mo
B/SB	599	N08700	45	8.2	25Ni-47Fe-21Cr-5Mo
B/SB	619	N06002	43	43	47Ni-22Cr-9Mo-18Fe
B/SB	619	N06007	45	43	47Ni-22Cr-19Fe-6Mo
B/SB	619	N06022	43	44	55Ni-21Cr-13.5Mo
B/SB	619	N06030	45	45	40Ni-29Cr-15Fe-5Mo
B/SB	619	N06059	43	43	59Ni-23Cr-16Mo
B/SB	619	N06200	43	43	59Ni-23Cr-16Mo-1.6Cu
B/SB	619	N06230	43	43	53Ni-22Cr-14W-Co-Fe-Mo
B/SB	619	N06455	43	43	61Ni-16Mo-16Cr
B/SB	619	N06686	43	43	58Ni-21Cr-16Mo-3.5W
B/SB	619	N06975	45	45	49Ni-25Cr-18Fe-6Mo
B/SB	619	N06985	45	45	47Ni-22Cr-20Fe-7Mo
B/SB	619	N08031	45	45	31Ni-31Fe-27Cr-7Mo
B/SB	619	N08320	45	8.2	26Ni-22Cr-5Mo-Ti
B/SB	619	N10001	44	44	62Ni-28Mo-5Fe
B/SB	619	N10242	44	44	62Ni-25Mo-8Cr-2Fe
B/SB	619	N10276	43	43	54Ni-16Mo-15Cr
B/SB	619	N10629	44	44	66Ni-28Mo-3Fe-1.3Cr-0.25Al
B/SB	619	N10665	44	44	65Ni-28Mo-2Fe
B/SB	619	N10675	44	44	65Ni-29.5Mo-2Fe-2Cr
B/SB	619	N12160	46	46	37Ni-30Co-28Cr-2.7Si
B/SB	619	R20033	45	45	33Cr-31Ni-32Fe-1.5Mo-0.6C
B/SB	619	R30556	45	45	21Ni-30Fe-22Cr-18Co-3Mo

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	620	N08320	45	8.2	26Ni-22Cr-5Mo-Ti
B/SB	621	N08320	45	8.2	26Ni-22Cr-5Mo-Ti
B/SB	622	N06002	43	43	47Ni-22Cr-9Mo-18Fe
B/SB	622	N06007	45	43	47Ni-22Cr-19Fe-6Mo
B/SB	622	N06022	43	44	55Ni-21Cr-13.5Mo
B/SB	622	N06030	45	45	40Ni-29Cr-15Fe-5Mo
B/SB	622	N06059	43	43	59Ni-23Cr-16Mo
B/SB	622	N06200	43	43	59Ni-23Cr-16Mo-1.6Cu
B/SB	622	N06230	43	43	53Ni-22Cr-14W-Co-Fe-Mo
B/SB	622	N06455	43	43	61Ni-16Mo-16Cr
B/SB	622	N06686	43	43	58Ni-21Cr-16Mo-3.5W
B/SB	622	N06975	45	45	49Ni-25Cr-18Fe-6Mo
B/SB	622	N06985	45	45	47Ni-22Cr-20Fe-7Mo
B/SB	622	N08031	45	45	31Ni-31Fe-27Cr-7Mo
B/SB	622	N08320	45	8.2	26Ni-22Cr-5Mo-Ti
B/SB	622	N10001	44	44	62Ni-28Mo-5Fe
B/SB	622	N10242	44	44	62Ni-25Mo-8Cr-2Fe
B/SB	622	N10276	43	43	54Ni-16Mo-15Cr
B/SB	622	N10629	44	44	66Ni-28Mo-3Fe-1.3Cr-0.25Al
B/SB	622	N10665	44	44	65Ni-28Mo-2Fe
B/SB	622	N10675	44	44	65Ni-29.5Mo-2Fe-2Cr
B/SB	622	N12160	46	46	37Ni-30Co-28Cr-2.7Si
B/SB	622	R20033	45	45	33Cr-31Ni-32Fe-1.5Mo-0.6C
B/SB	622	R30556	45	45	21Ni-30Fe-22Cr-18Co-3Mo
B	625	N08926	45	8.2	25Ni-20Cr-6Mo-Co-N
B/SB	625	N08031	45	45	31Ni-31Fe-27Cr-7Mo
B/SB	625	N08904	45	8.2	44Fe-25Ni-21Cr-Mo
B/SB	625	N08925	45	8.2	25Ni-20Cr-6Mo-Cu-N
B/SB	625	R20033	45	45	33Cr-31Ni-32Fe-1.5Mo-0.6C
B/SB	626	N06002	43	43	47Ni-22Cr-9Mo-18Fe
B/SB	626	N06007	45	43	47Ni-22Cr-19Fe-6Mo
B/SB	626	N06022	43	44	55Ni-21Cr-13.5Mo
B/SB	626	N06030	45	45	40Ni-29Cr-15Fe-5Mo
B/SB	626	N06059	43	43	59Ni-23Cr-16Mo
B/SB	626	N06200	43	43	59Ni-23Cr-16Mo-1.6Cu

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	626	N06230	43	43	53Ni-22Cr-14W-Co-Fe-Mo
B/SB	626	N06455	43	43	61Ni-16Mo-16Cr
B/SB	626	N06686	43	43	58Ni-21Cr-16Mo-3.5W
B/SB	626	N06975	45	45	49Ni-25Cr-18Fe-6Mo
B/SB	626	N06985	45	45	47Ni-22Cr-20Fe-7Mo
B/SB	626	N08031	45	45	31Ni-31Fe-27Cr-7Mo
B/SB	626	N08320	45	8.2	26Ni-22Cr-5Mo-Ti
B/SB	626	N10001	44	44	62Ni-28Mo-5Fe
B/SB	626	N10242	44	44	62Ni-25Mo-8Cr-2Fe
B/SB	626	N10276	43	43	54Ni-16Mo-15Cr
B/SB	626	N10629	44	44	66Ni-28Mo-3Fe-1.3Cr-0.2
B/SB	626	N10665	44	44	65Ni-28Mo-2Fe
B/SB	626	N10675	44	44	65Ni-29.5Mo-2Fe-2Cr
B/SB	626	N12160	46	46	37Ni-30Co-28Cr-2.7Si
B/SB	626	R20033	45	45	33Cr-31Ni-32Fe-1.5Mo-0.0
B/SB	626	R30556	45	45	21Ni-30Fe-22Cr-18Co-3M
B	649	N08926	45	8.2	25Ni-20Cr-6Mo-Cu-N
B/SB	649	N08904	45	8.2	44Fe-25Ni-21Cr-Mo
B/SB	649	N08925	45	8.2	25Ni-20Cr-6Mo-Cu-N
B/SB	649	R20033	45	45	33Cr-31Ni-32Fe-1.5Mo-0.0
B/SB	658	R60702	61	61	99.2Zr
B/SB	658	R60705	62	62	95.5Zr + 2.5Cb
B/SB	668	N08028	45	45	31Ni-31Fe-29Cr-Mo
B/SB	672	N08700	45	8.2	25Ni-47Fe-21Cr-5Mo
B	673	N08926	45	8.2	25Ni-20Cr-6Mo-Cu-N
B/SB	673	N08904	45	8.2	44Fe-25Ni-21Cr-Mo
B/SB	673	N08925	45	8.2	25Ni-20Cr-6Mo-Cu-N
B	674	N08926	45	8.2	25Ni-20Cr-6Mo-Cu-N
B/SB	674	N08904	45	8.2	44Fe-25Ni-21Cr-Mo
B/SB	674	N08925	45	8.2	25Ni-20Cr-6Mo-Cu-N
B/SB	675	N08367	45	8.2	46Fe-24Ni-21Cr-6Mo-Cu-N
B/SB	676	N08367	45	8.2	46Fe-24Ni-21Cr-6Mo-Cu-N
B	677	N08926	45	8.2	25Ni-20Cr-6Mo-Cu-N
B/SB	677	N08904	45	8.2	44Fe-25Ni-21Cr-Mo
B/SB	677	N08925	45	8.2	25Ni-20Cr-6Mo-Cu-N

Table 2 (continued)

ASTM/ASME Specification	No.	UNS No.	ASME/AWS P or M No.	ISO/TR 15608:2005 ^[1] group	Nominal composition
B/SB	688	N08367	45	8.2	46Fe-24Ni-21Cr-6Mo-Cu-N
B/SB	690	N08367	45	8.2	46Fe-24Ni-21Cr-6Mo-Cu-N
B/SB	691	N08367	45	8.2	46Fe-24Ni-21Cr-6Mo-Cu-N
B/SB	704	N06625	43	43	60Ni-22Cr-9Mo-3.5Cb
B/SB	704	N08825	45	45	42Ni-21.5Cr-3Mo-2.3Cu
B/SB	705	N06625	43	43	60Ni-22Cr-9Mo-3.5Cb
B/SB	705	N08825	45	45	42Ni-21.5Cr-3Mo-2.3Cu
B/SB	709	N08028	45	45	31Ni-31Fe-29Cr-Mo
B/SB	710	N08330	46	45	35Ni-19Cr-1.25Si
B	725	N02200	41	41	99.0Ni
B/SB	729	N08020	45	45	35Ni-35Fe-20Cr-Cb
B/SB	861	R50250	51	51	Ti
B/SB	861	R50400	51	51	Ti
B/SB	861	R50550	52	52	Ti
B/SB	861	R52400	51	51	Ti-Pd
B/SB	861	R52404	51	51	Ti-Ru
B/SB	861	R53400	52	52	Ti-0.3Mo-0.8Ni
B/SB	861	R56320	53	53	Ti-3Al-2.5V
B/SB	862	R50250	51	51	Ti
B/SB	862	R50400	51	51	Ti
B/SB	862	R50550	52	52	Ti
B/SB	862	R52400	51	51	Ti-Pd
B/SB	862	R52404	51	51	Ti-Ru
B/SB	862	R53400	52	52	Ti-0.3Mo-0.8Ni
B/SB	862	R56320	53	53	Ti-3Al-2.5V
B/SB	928	A95083	25	22.4	Al-4.4Mg-Mn
B/SB	928	A95086	25	22.4	Al-4.0Mg-Mn
B/SB	928	A95456	25	22.4	Al-5.1Mg-Mn

Bibliography

- [1] ISO/TR 15608:2005, *Welding — Guidelines for a metallic materials grouping system*

