

Table QW/QB-422
Base Metal P-Numbers

(23)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous										
A or SA-36	...	...	58 (400)	1	1	11.1	100	C-Mn-Si	Plate, bar & shapes	...
A or SA-53	E, A	K02504	48 (330)	1	1	1.1	100	C	Resistance welded pipe	...
A or SA-53	S, A	K02504	48 (330)	1	1	1.1	100	C	Smls. pipe	...
A or SA-53	E, B	K03005	60 (415)	1	1	11.1	100	C-Mn	Resistance welded pipe	...
A or SA-53	F	K03005	48 (330)	1	1	11.1	100	C	Furnace welded pipe	...
A or SA-53	S, B	K03005	60 (415)	1	1	11.1	100	C-Mn	Smls. pipe	...
A or SA-105	...	K03504	70 (485)	1	2	11.1	100	C	Flanges & fittings	...
A or SA-106	A	K02501	48 (330)	1	1	1.1	100	C-Si	Smls. pipe	...
A or SA-106	B	K03006	60 (415)	1	1	11.1	100	C-Mn-Si	Smls. pipe	...
A or SA-106	C	K03501	70 (485)	1	2	11.1	100	C-Mn-Si	Smls. pipe	...
A108	1015	G10150	...	1	1	1.1	100	C	Bar	...
A108	1018	G10180	...	1	1	1.1	100	C	Bar	...
A108	1020	G10200	...	1	1	1.1	100	C	Bar	...
A108	8620	G86200	...	3	3	4.1	100	0.5Ni-0.5Cr-Mo	Bar	...
A or SA-134	SA283 A	K01400	45 (310)	1	1	1.1	100	C	Welded pipe	...
A or SA-134	SA285 A	K01700	45 (310)	1	1	1.1	100	C	Welded pipe	...
A or SA-134	SA283 B	K01702	50 (345)	1	1	1.1	100	C	Welded pipe	...
A or SA-134	SA285 B	K02200	50 (345)	1	1	1.1	100	C	Welded pipe	...
A or SA-134	SA283 C	K02401	55 (380)	1	1	1.1	100	C	Welded pipe	...
A or SA-134	SA283 D	K02702	60 (415)	1	1	11.1	100	C	Welded pipe	...
A or SA-134	SA285 C	K02801	55 (380)	1	1	11.1	100	C	Welded pipe	...
A or SA-135	A	K02509	48 (330)	1	1	1.1	100	C	E.R.W. pipe	...
A or SA-135	B	K03018	60 (415)	1	1	11.1	100	C	E.R.W. pipe	...
A139	A	K02508	48 (330)	1	1	1.1	100	C	Welded pipe	...
A139	B	K03003	60 (415)	1	1	11.1	100	C	Welded pipe	...
A139	C	K03004	60 (415)	1	1	11.1	100	C	Welded pipe	...
A139	D	K03010	60 (415)	1	1	11.1	100	C	Welded pipe	...

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Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A139	E	K03012	66 (455)	1	1	11.1	100	C	Welded pipe	...
A167	302B	S30215	75 (515)	8	1	8.1	130	18Cr-8Ni-2Si	Plate, sheet & strip	...
A167	308	S30800	75 (515)	8	2	8.2	130	20Cr-10Ni	Plate, sheet & strip	...
A167	309	S30900	75 (515)	8	2	8.2	130	23Cr-12Ni	Plate, sheet & strip	...
A167	310	S31000	75 (515)	8	2	8.2	130	25Cr-20Ni	Plate, sheet & strip	...
A or SA-178	A	K01200	47 (325)	1	1	1.1	100	C	E.R.W. tube	...
A or SA-178	D	K02709	70 (485)	1	2	11.1	100	C-Mn-Si	E.R.W. tube	...
A or SA-178	C	K03503	60 (415)	1	1	11.1	100	C	E.R.W. tube	...
A or SA-179	...	K01200	47 (325)	1	1	1.1	100	C	Smls. tube	...
A or SA-181	Cl. 60	K03502	60 (415)	1	1	11.1	100	C-Si	Pipe flange & fittings	...
A or SA-181	Cl. 70	K03502	70 (485)	1	2	11.1	100	C-Si	Pipe flange & fittings	...
A or SA-182	F12, Cl. 1	K11562	60 (415)	4	1	5.1	110	1Cr-0.5Mo	Forgings	...
A or SA-182	F12, Cl. 2	K11564	70 (485)	4	1	5.1	110	1Cr-0.5Mo	Forgings	...
A or SA-182	F11, Cl. 2	K11572	70 (485)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Forgings	...
A or SA-182	F11, Cl. 3	K11572	75 (515)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Forgings	...
A or SA-182	F11, Cl. 1	K11597	60 (415)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Forgings	...
A or SA-182	F2	K12122	70 (485)	3	2	4.2	100	0.5Cr-0.5Mo	Forgings	...
A or SA-182	F1	K12822	70 (485)	3	2	1.1	100	C-0.5Mo	Forgings	...
A or SA-182	F22, Cl. 1	K21590	60 (415)	5A	1	5.2	110	2.25Cr-1Mo	Forgings	...
A or SA-182	F22, Cl. 3	K21590	75 (515)	5A	1	5.2	110	2.25Cr-1Mo	Forgings	...
A or SA-182	FR	K22035	63 (435)	9A	1	9.1	100	2Ni-1Cu	Forgings	...
A or SA-182	F3VCb	K31390	85 (585)	5C	1	6.2	110	3Cr-1Mo-0.25V-Cb-Ca	Forgings	...
A or SA-182	F21	K31545	75 (515)	5A	1	5.2	110	3Cr-1Mo	Forgings	...
A or SA-182	F3V	K31830	85 (585)	5C	1	6.2	120	3Cr-1Mo-V-Ti-B	Forgings	...
A or SA-182	F22V	K31835	85 (585)	5C	1	6.2	110	2.25Cr-1Mo-V	Forgings	...
A or SA-182	F5	K41545	70 (485)	5B	1	5.3	110	5Cr-0.5Mo	Forgings	...
A or SA-182	F5a	K42544	90 (620)	5B	1	5.3	110	5Cr-0.5Mo	Forgings	...
A or SA-182	F91	K90901	90 (620)	15E	1	6.4	110	9Cr-1Mo-V	Forgings	...
A or SA-182	F9	K90941	85 (585)	5B	1	5.4	110	9Cr-1Mo	Forgings	...

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				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-182	F92	K92460	90 (620)	15E	1	6.4	110	9Cr-2W	Forgings	...
A or SA-182	...	N08367	95 (655)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Forgings	...
A or SA-182	F904L	N08904	71 (490)	45	...	8.2	420	44Fe-25Ni-21Cr-Mo	Forgings	...
A or SA-182	FXM-19	S20910	100 (690)	8	3	8.3	130	22Cr-13Ni-5Mn	Forgings	...
A or SA-182	FXM-11	S21904	90 (620)	8	3	8.3	130	21Cr-6Ni-9Mn	Forgings	...
A or SA-182	F304	S30400	70 (485)	8	1	8.1	130	18Cr-8Ni	Forgings	>5 (125)
A or SA-182	F304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Forgings	≤5 (125)
A or SA-182	F304L	S30403	65 (450)	8	1	8.1	130	18Cr-8Ni	Forgings	>5 (125)
A or SA-182	F304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Forgings	≤5 (125)
A or SA-182	F304H	S30409	70 (485)	8	1	8.1	130	18Cr-8Ni	Forgings	>5 (125)
A or SA-182	F304H	S30409	75 (515)	8	1	8.1	130	18Cr-8Ni	Forgings	≤5 (125)
A or SA-182	F304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Forgings	...
A or SA-182	F304LN	S30453	70 (485)	8	1	8.1	130	18Cr-8Ni-N	Forgings	>5 (125)
A or SA-182	F304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N	Forgings	≤5 (125)
A or SA-182	F46	S30600	78 (540)	8	1	8.1	130	18Cr-15Ni-4Si	Forgings	...
A or SA-182	F45	S30815	87 (600)	8	2	8.2	130	21Cr-11Ni-N	Forgings	...
A or SA-182	F310	S31000	70 (485)	8	2	8.2	130	25Cr-20Ni	Forgings	>5 (125)
A or SA-182	F310	S31000	75 (515)	8	2	8.2	130	25Cr-20Ni	Forgings	≤5 (125)
A or SA-182	F310H	S31009	70 (485)	8	2	8.2	130	25Cr-20Ni	Forgings	>5 (125)
A or SA-182	F310H	S31009	75 (515)	8	2	8.2	130	25Cr-20Ni	Forgings	≤5 (125)
A or SA-182	F310MoLN	S31050	78 (540)	8	2	8.2	130	25Cr-22Ni-2Mo-N	Forgings	...
A or SA-182	F50	S31200	100 (690)	10H	1	10.2	145	25Cr-6Ni-Mo-N	Forgings	...
A or SA-182	F44	S31254	94 (650)	8	4	8.2	130	20Cr-18Ni-6Mo	Forgings	...
A or SA-182	F58	S31266	109 (750)	45	...	8.2	420	24Cr-22Ni-6Mo-3Mn- Cu-W-N	Forgings	...
A or SA-182	F316	S31600	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Forgings	>5 (125)
A or SA-182	F316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Forgings	≤5 (125)
A or SA-182	F316L	S31603	65 (450)	8	1	8.1	130	16Cr-12Ni-2Mo	Forgings	>5 (125)
A or SA-182	F316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Forgings	≤5 (125)
A or SA-182	F316H	S31609	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Forgings	>5 (125)
A or SA-182	F316H	S31609	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Forgings	≤5 (125)
A or SA-182	F316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Forgings	...

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				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-182	F316LN	S31653	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Forgings	>5 (125)
A or SA-182	F316LN	S31653	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Forgings	≤5 (125)
A or SA-182	F317	S31700	70 (485)	8	1	8.1	130	18Cr-13Ni-3Mo	Forgings	>5 (125)
A or SA-182	F317	S31700	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Forgings	≤5 (125)
A or SA-182	F317L	S31703	65 (450)	8	1	8.1	130	18Cr-13Ni-3Mo	Forgings	>5 (125)
A or SA-182	F317L	S31703	70 (485)	8	1	8.1	130	18Cr-13Ni-3Mo	Forgings	≤5 (125)
A or SA-182	F51	S31803	90 (620)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Forgings	...
A or SA-182	...	S32053	93 (640)	8	4	8.2	130	23Cr-25Ni-5.5Mo-N	Forgings	...
A or SA-182	F321	S32100	70 (485)	8	1	8.1	140	18Cr-10Ni-Ti	Forgings	>5 (125)
A or SA-182	F321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Forgings	≤5 (125)
A or SA-182	F321H	S32109	70 (485)	8	1	8.1	140	18Cr-10Ni-Ti	Forgings	>5 (125)
A or SA-182	F321H	S32109	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Forgings	≤5 (125)
A or SA-182	...	S32202	94 (650)	10H	1	10.3	145	22Cr-2Ni-Mo-N	Forgings	...
A or SA-182	F60	S32205	95 (655)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Forgings	...
A or SA-182	...	S32506	90 (620)	10H	1	10.2	145	25Cr-6Ni-Mo-N	Forgings	...
A or SA-182	F53	S32750	116 (800)	10H	1	10.2	145	25Cr-7Ni-4Mo-N	Forgings	...
A or SA-182	F55	S32760	109 (750)	10H	1	10.2	145	25Cr-8Ni-3Mo-W-Cu-N	Forgings	...
A or SA-182	F10	S33100	80 (550)	8	2	8.1	130	20Ni-8Cr	Forgings	...
A or SA-182	F49	S34565	115 (795)	8	4	8.3	130	24Cr-17Ni-6Mn-4.5Mo-N	Forgings	...
A or SA-182	F347	S34700	70 (485)	8	1	8.1	130	18Cr-10Ni-Cb	Forgings	>5 (125)
A or SA-182	F347	S34700	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Forgings	≤5 (125)
A or SA-182	F347H	S34709	70 (485)	8	1	8.1	130	18Cr-10Ni-Cb	Forgings	>5 (125)
A or SA-182	F347H	S34709	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Forgings	≤5 (125)
A or SA-182	F348	S34800	70 (485)	8	1	8.1	130	18Cr-10Ni-Cb	Forgings	>5 (125)
A or SA-182	F348	S34800	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Forgings	≤5 (125)
A or SA-182	F348H	S34809	70 (485)	8	1	8.1	130	18Cr-10Ni-Cb	Forgings	>5 (125)
A or SA-182	F348H	S34809	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Forgings	≤5 (125)
A or SA-182	F54	S39274	116 (800)	10H	1	10.2	145	25Cr-7Ni-3Mo-2W-Cu-N	Forgings	...
A or SA-182	F6a, Cl. 1	S41000	70 (485)	6	1	7.2	150	13Cr	Forgings	...
A or SA-182	F6a, Cl. 2	S41000	85 (585)	6	3	7.2	150	13Cr	Forgings	...
A or SA-182	F6a, Cl. 3	S41000	110 (760)	6	3	7.2	150	13Cr	Forgings	...

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				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-182	F6a, Cl. 4	S41000	130 (895)	6	3	7.2	150	13Cr	Forgings	...
A or SA-182	F6b	S41026	110 (760)	6	3	7.2	150	13Cr-0.5Mo	Forgings	...
A or SA-182	F6NM	S41500	115 (795)	6	4	7.2	150	13Cr-4.5Ni-Mo	Forgings	...
A or SA-182	F429	S42900	60 (415)	6	2	7.2	150	15Cr	Forgings	...
A or SA-182	F430	S43000	60 (415)	7	2	7.1	150	17Cr	Forgings	...
A or SA-182	FXM-27Cb	S44627	60 (415)	10I	1	7.1	150	27Cr-1Mo	Forgings	...
A or SA-192	...	K01201	47 (325)	1	1	1.1	100	C-Si	Smls. tube	...
A199	T11	K11597	60 (415)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Smls. tube	...
A199	T22	K21590	60 (415)	5A	1	5.2	110	2.25Cr-1Mo	Smls. tube	...
A199	T21	K31545	60 (415)	5A	1	...	110	3Cr-1Mo	Smls. tube	...
A199	T5	K41545	60 (415)	5B	1	5.3	110	5Cr-0.5Mo	Smls. tube	...
A199	T9	K81590	60 (415)	5B	1	5.4	110	9Cr-1Mo	Smls. tube	...
A or SA-203	F	...	75 (515)	9B	1	9.2	100	3.5Ni	Plate	>2 (50)
A or SA-203	F	...	80 (550)	9B	1	9.2	100	3.5Ni	Plate	≤2 (50)
A or SA-203	A	K21703	65 (450)	9A	1	9.1	100	2.25Ni	Plate	...
A or SA-203	B	K22103	70 (485)	9A	1	9.1	100	2.25Ni	Plate	...
A or SA-203	D	K31718	65 (450)	9B	1	9.2	100	3.5Ni	Plate	...
A or SA-203	E	K32018	70 (485)	9B	1	9.2	100	3.5Ni	Plate	...
A or SA-204	A	K11820	65 (450)	3	1	1.1	100	C-0.5Mo	Plate	...
A or SA-204	B	K12020	70 (485)	3	2	1.1	100	C-0.5Mo	Plate	...
A or SA-204	C	K12320	75 (515)	3	2	1.2	100	C-0.5Mo	Plate	...
A or SA-209	T1b	K11422	53 (365)	3	1	1.1	100	C-0.5Mo	Smls. tube	...
A or SA-209	T1	K11522	55 (380)	3	1	1.1	100	C-0.5Mo	Smls. tube	...
A or SA-209	T1a	K12023	60 (415)	3	1	1.1	100	C-0.5Mo	Smls. tube	...
A or SA-210	A-1	K02707	60 (415)	1	1	11.1	100	C-Si	Smls. tube	...
A or SA-210	C	K03501	70 (485)	1	2	11.1	100	C-Mn-Si	Smls. tube	...
A211	A570-30	K02502	49 (340)	1	1	1.1	100	C	Welded pipe	...

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				P- No.	Group No.	ISO 15608 Group					
Ferrous (Cont'd)											
A211	A570-33	K02502	52 (360)	1	1	1.1	100	C		Welded pipe	...
A211	A570-40	K02502	55 (380)	1	1	1.1	100	C		Welded pipe	...
A or SA-213	T2	K11547	60 (415)	3	1	4.2	100	0.5Cr-0.5Mo		Smls. tube	...
A or SA-213	T12	K11562	60 (415)	4	1	5.1	110	1Cr-0.5Mo		Smls. tube	...
A or SA-213	T11	K11597	60 (415)	4	1	5.1	110	1.25Cr-0.5Mo-Si		Smls. tube	...
A or SA-213	T17	K12047	60 (415)	10B	1	4.1	110	1Cr-V		Smls. tube	...
A or SA-213	T22	K21590	60 (415)	5A	1	5.2	110	2.25Cr-1Mo		Smls. tube	...
A or SA-213	T21	K31545	60 (415)	5A	1	5.2	110	3Cr-1Mo		Smls. tube	...
A or SA-213	T5c	K41245	60 (415)	5B	1	5.3	120	5Cr-0.5Mo-Ti		Smls. tube	...
A or SA-213	T5	K41545	60 (415)	5B	1	5.3	110	5Cr-0.5Mo		Smls. tube	...
A or SA-213	T5b	K51545	60 (415)	5B	1	5.3	110	5Cr-0.5Mo-Si		Smls. tube	...
A or SA-213	T91	K90901	85 (585)	15E	1	6.4	110	9Cr-1Mo-V		Smls. tube	...
A or SA-213	T9	K90941	60 (415)	5B	1	5.4	110	9Cr-1Mo		Smls. tube	...
A or SA-213	T92	K92460	90 (620)	15E	1	6.4	110	9Cr-2W		Smls. tube	...
A or SA-213	TP201	S20100	95 (655)	8	3	8.3	130	17Cr-4Ni-6Mn		Smls. tube	...
A or SA-213	TP202	S20200	90 (620)	8	3	8.3	130	18Cr-5Ni-9Mn		Smls. tube	...
A or SA-213	XM-19	S20910	100 (690)	8	3	8.3	130	22Cr-13Ni-5Mn		Smls. tube	...
A or SA-213	TP304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni		Smls. tube	...
A or SA-213	TP304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni		Smls. tube	...
A or SA-213	TP304H	S30409	75 (515)	8	1	8.1	130	18Cr-8Ni		Smls. tube	...
A or SA-213	...	S30432	86 (595)	8	1	8.1	130	18Cr-9Ni-3Cu-Cb-N		Smls. tube	...
A or SA-213	TP304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N		Smls. tube	...
A or SA-213	TP304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N		Smls. tube	...
A or SA-213	S30815	S30815	87 (600)	8	2	8.2	130	21Cr-11Ni-N		Smls. tube	...
A or SA-213	TP309S	S30908	75 (515)	8	2	8.2	130	23Cr-12Ni		Smls. tube	...
A or SA-213	TP309H	S30909	75 (515)	8	2	8.2	130	23Cr-12Ni		Smls. tube	...
A or SA-213	TP309Cb	S30940	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb		Smls. tube	...
A or SA-213	TP309HCb	S30941	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb		Smls. tube	...
A or SA-213	...	S31002	73 (505)	8	2	8.2	130	25Cr-20Ni-N		Smls. tube	...
A or SA-213	TP310S	S31008	75 (515)	8	2	8.2	130	25Cr-20Ni		Smls. tube	...
A or SA-213	TP310H	S31009	75 (515)	8	2	8.2	130	25Cr-20Ni		Smls. tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-213	TP310Cb	S31040	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Smls. tube	...
A or SA-213	TP310HCb	S31041	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Smls. tube	...
A or SA-213	TP310HCbN	S31042	95 (655)	8	3	8.2	130	25Cr-20Ni-Cb-N	Smls. tube	...
A or SA-213	...	S31043	95 (655)	8	3	8.2	130	25Cr-20Ni-Cb-Ta-N	Smls. tube	...
A or SA-213	TP310MoLN	S31050	78 (540)	8	2	8.2	130	25Cr-22Ni-2Mo-N	Smls. tube	>0.25 (6)
A or SA-213	TP310MoLN	S31050	84 (580)	8	2	8.2	130	25Cr-22Ni-2Mo-N	Smls. tube	≤0.25 (6)
A or SA-213	...	S31254	95 (655)	8	4	8.2	130	20Cr-18Ni-6Mo	Smls. tube	>0.187 (5)
A or SA-213	...	S31254	98 (675)	8	4	8.2	130	20Cr-18Ni-6Mo	Smls. tube	≤0.187 (5)
A or SA-213	TP316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Smls. tube	...
A or SA-213	TP316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Smls. tube	...
A or SA-213	TP316H	S31609	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Smls. tube	...
A or SA-213	TP316Ti	S31635	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-Ti	Smls. tube	...
A or SA-213	TP316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Smls. tube	...
A or SA-213	TP316LN	S31653	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Smls. tube	...
A or SA-213	TP317	S31700	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Smls. tube	...
A or SA-213	TP317L	S31703	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Smls. tube	...
A or SA-213	TP317LM	S31725	75 (515)	8	4	8.1	130	19Cr-15Ni-4Mo	Smls. tube	...
A or SA-213	TP317LMN	S31726	80 (550)	8	4	8.1	130	19Cr-15.5Ni-4Mo	Smls. tube	...
A or SA-213	TP321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Smls. tube	...
A or SA-213	TP321H	S32109	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Smls. tube	...
A or SA-213	S32615	S32615	80 (550)	8	1	8.1	130	18Cr-20Ni-5.5Si	Smls. tube	...
A or SA-213	S34565	S34565	115 (795)	8	4	8.3	130	24Cr-17Ni-6Mn-4.5Mo-N	Smls. tube	...
A or SA-213	TP347	S34700	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Smls. tube	...
A or SA-213	TP347H	S34709	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Smls. tube	...
A or SA-213	TP347HFG	S34710	80 (550)	8	1	8.1	130	18Cr-10Ni-Cb	Smls. tube	...
A or SA-213	TP347LN	S34751	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb-N	Smls. tube	...
A or SA-213	TP348	S34800	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Smls. tube	...
A or SA-213	TP348H	S34809	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Smls. tube	...
A or SA-213	XM-15	S38100	75 (515)	8	1	8.1	130	18Cr-18Ni-2Si	Smls. tube	...
A or SA-213	...	S38815	78 (540)	8	1	8.1	130	14Cr-16Ni-6Si-Cu-Mo	Smls. tube	...
A or SA-214	...	K01807	47 (325)	1	1	1.1	100	C	E.R.W. tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-216	WCA	J02502	60 (415)	1	1	1.1	100	C-Si	Castings	...
A or SA-216	WCC	J02503	70 (485)	1	2	1.1	100	C-Mn-Si	Castings	...
A or SA-216	WCB	J03002	70 (485)	1	2	1.1	100	C-Si	Castings	...
A or SA-217	WC6	J12072	70 (485)	4	1	5.1	110	1.25Cr-0.5Mo	Castings	...
A or SA-217	WC4	J12082	70 (485)	4	1	9.1	100	1Ni-0.5Cr-0.5Mo	Castings	...
A or SA-217	WC1	J12524	65 (450)	3	1	1.1	100	C-0.5Mo	Castings	...
A or SA-217	WC9	J21890	70 (485)	5A	1	5.2	110	2.25Cr-1Mo	Castings	...
A or SA-217	WC5	J22000	70 (485)	4	1	4.2	100	0.75Ni-1Mo-0.75Cr	Castings	...
A or SA-217	C5	J42045	90 (620)	5B	1	5.3	110	5Cr-0.5Mo	Castings	...
A or SA-217	C12	J82090	90 (620)	5B	1	5.4	110	9Cr-1Mo	Castings	...
A or SA-217	C12A	J84090	85 (585)	15E	1	6.4	110	9Cr-1Mo-V	Castings	...
A or SA-217	CA15	J91150	90 (620)	6	3	7.2	150	13Cr	Castings	...
A or SA-225	D	K12004	75 (515)	10A	1	2.1	100	Mn-0.5Ni-V	Plate	>3 (75)
A or SA-225	D	K12004	80 (550)	10A	1	2.1	100	Mn-0.5Ni-V	Plate	≤3 (75)
A or SA-225	C	K12524	105 (725)	10A	1	4.1	100	Mn-0.5Ni-V	Plate	...
A or SA-234	WP11, Cl. 1	...	60 (415)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Piping fittings	...
A or SA-234	WP11, Cl. 3	...	75 (515)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Piping fittings	...
A or SA-234	WPB	K03006	60 (415)	1	1	11.1	100	C-Mn-Si	Piping fittings	...
A or SA-234	WPC	K03501	70 (485)	1	2	11.1	100	C-Mn-Si	Piping fittings	...
A or SA-234	WP12, Cl. 1	K12062	60 (415)	4	1	5.1	110	1Cr-0.5Mo	Piping fittings	...
A or SA-234	WP12, Cl. 2	K12062	70 (485)	4	1	5.1	110	1Cr-0.5Mo	Piping fittings	...
A or SA-234	WP1	K12821	55 (380)	3	1	11.2	100	C-0.5Mo	Piping fittings	...
A or SA-234	WP22, Cl. 1	K21590	60 (415)	5A	1	5.2	110	2.25Cr-1Mo	Piping fittings	...
A or SA-234	WP22, Cl. 3	K21590	75 (515)	5A	1	5.2	110	2.25Cr-1Mo	Piping fittings	...
A or SA-234	WPR	K22035	63 (435)	9A	1	9.1	100	2Ni-1Cu	Piping fittings	...
A or SA-234	WP5, Cl. 1	K41545	60 (415)	5B	1	5.3	110	5Cr-0.5Mo	Piping fittings	...
A or SA-234	WP5, Cl. 3	K41545	75 (515)	5B	1	5.3	110	5Cr-0.5Mo	Piping fittings	...
A or SA-234	WP91	K90901	85 (585)	15E	1	6.4	110	9Cr-1Mo-V	Piping fittings	...
A or SA-234	WP9, Cl. 1	K90941	60 (415)	5B	1	5.4	110	9Cr-1Mo	Piping fittings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-234	WP9, Cl. 3	K90941	75 (515)	5B	1	5.4	110	9Cr-1Mo	Piping fittings	...
A or SA-234	WP92	K92460	90 (620)	15E	1	6.4	110	9Cr-2W	Piping fittings	...
A or SA-240	...	N08367	95 (655)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Plate	≥0.187 (5)
A or SA-240	...	N08367	100 (690)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Sheet & strip	<0.187 (5)
A or SA-240	904L	N08904	71 (490)	45	...	8.2	420	44Fe-25Ni-21Cr-Mo	Plate, sheet & strip	...
A or SA-240	201-1	S20100	75 (515)	8	3	8.3	130	17Cr-4Ni-6Mn	Plate, sheet & strip	...
A or SA-240	201-2	S20100	95 (655)	8	3	8.3	130	17Cr-4Ni-6Mn	Plate, sheet & strip	...
A or SA-240	201LN	S20153	95 (655)	8	3	8.3	130	16Cr-4Ni-6Mn	Plate, sheet & strip	...
A or SA-240	202	S20200	90 (620)	8	3	8.3	130	18Cr-5Ni-9Mn	Plate, sheet & strip	...
A or SA-240	...	S20400	95 (655)	8	3	8.3	130	16Cr-9Mn-2Ni-N	Plate, sheet & strip	...
A or SA-240	XM-19	S20910	100 (690)	8	3	8.3	130	22Cr-13Ni-5Mn	Plate	≥0.187 (5)
A or SA-240	XM-19	S20910	105 (725)	8	3	8.3	130	22Cr-13Ni-5Mn	Sheet & strip	<0.187 (5)
A or SA-240	XM-17	S21600	90 (620)	8	3	8.3	130	19Cr-8Mn-6Ni-Mo-N	Plate	≥0.187 (5)
A or SA-240	XM-17	S21600	100 (690)	8	3	8.3	130	19Cr-8Mn-6Ni-Mo-N	Sheet & strip	<0.187 (5)
A or SA-240	XM-18	S21603	90 (620)	8	3	8.3	130	19Cr-8Mn-6Ni-Mo-N	Plate	≥0.187 (5)
A or SA-240	XM-18	S21603	100 (690)	8	3	8.3	130	19Cr-8Mn-6Ni-Mo-N	Sheet & strip	<0.187 (5)
A or SA-240	S21800	S21800	95 (655)	8	3	8.1	130	18Cr-8Ni-8Mn-4Si-N	Plate, sheet & strip	...
A or SA-240	XM-29	S24000	100 (690)	8	3	8.3	130	18Cr-3Ni-12Mn	Plate, sheet & strip	...
A or SA-240	301	S30100	75 (515)	8	1	8.1	130	17Cr-7Ni	Plate, sheet & strip	...
A or SA-240	302	S30200	75 (515)	8	1	8.1	130	18Cr-8Ni	Plate, sheet & strip	...
A or SA-240	304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Plate, sheet & strip	...
A or SA-240	304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Plate, sheet & strip	...
A or SA-240	304H	S30409	75 (515)	8	1	8.1	130	18Cr-8Ni	Plate, sheet & strip	...
A or SA-240	304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Plate, sheet & strip	...
A or SA-240	XM-21	S30452	85 (585)	8	1	8.1	130	18Cr-8Ni-N	Plate	≥0.187 (5)
A or SA-240	XM-21	S30452	90 (620)	8	1	8.1	130	18Cr-8Ni-N	Sheet & strip	<0.187 (5)
A or SA-240	304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N	Plate, sheet & strip	...
A or SA-240	305	S30500	70 (485)	8	1	8.1	130	18Cr-11Ni	Plate, sheet & strip	...
A or SA-240	S30600	S30600	78 (540)	8	1	8.1	130	18Cr-15Ni-4Si	Plate, sheet & strip	...
A or SA-240	S30601	S30601	78 (540)	8	1	8.1	130	17.5Cr-17.5Ni-5.3Si	Plate, sheet & strip	...
A or SA-240	S30815	S30815	87 (600)	8	2	8.2	130	21Cr-11Ni-N	Plate, sheet & strip	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-240	309S	S30908	75 (515)	8	2	8.2	130	23Cr-12Ni	Plate, sheet & strip	...
A or SA-240	309H	S30909	75 (515)	8	2	8.2	130	23Cr-12Ni	Plate, sheet & strip	...
A or SA-240	309Cb	S30940	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb	Plate, sheet & strip	...
A or SA-240	309HCb	S30941	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb	Plate, sheet & strip	...
A or SA-240	310S	S31008	75 (515)	8	2	8.2	130	25Cr-20Ni	Plate, sheet & strip	...
A or SA-240	310H	S31009	75 (515)	8	2	8.2	130	25Cr-20Ni	Plate, sheet & strip	...
A or SA-240	310Cb	S31040	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Plate, sheet & strip	...
A or SA-240	310HCb	S31041	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Plate, sheet & strip	...
A or SA-240	310MoLN	S31050	78 (540)	8	2	8.2	130	25Cr-22Ni-2Mo-N	Plate	>0.25 (6)
A or SA-240	310MoLN	S31050	84 (580)	8	2	8.2	130	25Cr-22Ni-2Mo-N	Sheet & strip	≤0.25 (6)
A or SA-240	S31200	S31200	100 (690)	10H	1	10.2	145	25Cr-6Ni-Mo-N	Plate, sheet & strip	...
A or SA-240	S31254	S31254	95 (655)	8	4	8.2	130	20Cr-18Ni-6Mo	Plate	≥0.187 (5)
A or SA-240	S31254	S31254	100 (690)	8	4	8.2	130	20Cr-18Ni-6Mo	Sheet & strip	<0.187 (5)
A or SA-240	S31260	S31260	100 (690)	10H	1	10.2	145	25Cr-6.5Ni-3Mo-N	Plate, sheet & strip	...
A or SA-240	...	S31266	109 (750)	45	...	8.2	420	24Cr-22Ni-6Mo-3Mn- Cu-W-N	Plate, sheet & strip	...
A or SA-240	S31277	S31277	112 (770)	45	...	8.2	420	27Ni-22Cr-7Mo-Mn-Cu	Plate, sheet & strip	...
A or SA-240	316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Plate, sheet & strip	...
A or SA-240	316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Plate, sheet & strip	...
A or SA-240	316H	S31609	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Plate, sheet & strip	...
A or SA-240	316Ti	S31635	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-Ti	Plate, sheet & strip	...
A or SA-240	316Cb	S31640	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-Cb	Plate, sheet & strip	...
A or SA-240	316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Plate, sheet & strip	...
A or SA-240	316LN	S31653	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Plate, sheet & strip	...
A or SA-240	...	S31655	92 (635)	8	3	8.2	130	20.5Cr-8.8Ni-Mo-N	Plate, sheet & strip	...
A or SA-240	317	S31700	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Plate, sheet & strip	...
A or SA-240	317L	S31703	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Plate, sheet & strip	...
A or SA-240	S31725	S31725	75 (515)	8	4	8.1	130	19Cr-15Ni-4Mo	Plate, sheet & strip	...
A or SA-240	S31726	S31726	80 (550)	8	4	8.1	130	19Cr-15.5Ni-4Mo	Plate, sheet & strip	...
A or SA-240	S31753	S31753	80 (550)	8	1	8.1	130	18Cr-13Ni-3Mo-N	Plate, sheet & strip	...
A or SA-240	S31803	S31803	90 (620)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Plate, sheet & strip	...
A or SA-240	...	S32003	90 (620)	10H	1	10.3	145	21Cr-3.5Ni-Mo-N	Plate, sheet & strip	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding				Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group					
Ferrous (Cont'd)											
A or SA-240	...	S32053	93 (640)	8	4	8.2	130	23Cr-25Ni-5.5Mo-N	Plate, sheet & strip	...	
A or SA-240	321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Plate, sheet & strip	...	
A or SA-240	...	S32101	94 (650)	10H	1	10.3	145	21Cr-5Mn-1.5Ni-Cu-N	Plate	>0.187 (5)	
A or SA-240	...	S32101	101 (700)	10H	1	10.3	145	21Cr-5Mn-1.5Ni-Cu-N	Sheet & strip	≤0.187 (5)	
A or SA-240	321H	S32109	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Plate, sheet & strip	...	
A or SA-240	...	S32202	94 (650)	10H	1	10.3	145	22Cr-2Ni-Mo-N	Plate, sheet & strip	...	
A or SA-240	2205	S32205	95 (655)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Plate, sheet & strip	...	
A or SA-240	...	S32304	87 (600)	10H	1	10.1	145	23Cr-4Ni-Mo-Cu-N	Plate, sheet & strip	...	
A or SA-240	...	S32506	90 (620)	10H	1	10.2	145	25Cr-6Ni-Mo-N	Plate, sheet & strip	...	
A or SA-240	S32550	S32550	110 (760)	10H	1	10.2	145	25Cr-5Ni-3Mo-2Cu	Plate, sheet & strip	...	
A or SA-240	S32615	S32615	80 (550)	8	1	8.1	130	18Cr-20Ni-5.5Si	Plate, sheet & strip	...	
A or SA-240	...	S32654	109 (750)	8	4	8.2	130	24Cr-22Ni-7Mo-3Mn	Plate, sheet & strip	...	
A or SA-240	S32750	S32750	116 (800)	10H	1	10.2	145	25Cr-7Ni-4Mo-N	Plate, sheet & strip	...	
A or SA-240	S32760	S32760	108 (745)	10H	1	10.2	145	25Cr-8Ni-3Mo-W-Cu-N	Plate, sheet & strip	...	
A or SA-240	329	S32900	90 (620)	10H	1	10.2	145	26Cr-4Ni-Mo	Plate, sheet & strip	...	
A or SA-240	S32906	S32906	109 (750)	10H	1	10.2	145	29Cr-6.5Ni-2Mo-N	Plate	≥0.40 (10)	
A or SA-240	S32906	S32906	116 (800)	10H	1	10.2	145	29Cr-6.5Ni-2Mo-N	Plate, sheet & strip	<0.40 (10)	
A or SA-240	S32950	S32950	100 (690)	10H	1	10.2	145	26Cr-4Ni-Mo-N	Plate, sheet & strip	...	
A or SA-240	S34565	S34565	115 (795)	8	4	8.3	130	24Cr-17Ni-6Mn-4.5Mo-N	Plate, sheet & strip	...	
A or SA-240	347	S34700	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Plate, sheet & strip	...	
A or SA-240	347H	S34709	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Plate, sheet & strip	...	
A or SA-240	348	S34800	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Plate, sheet & strip	...	
A or SA-240	348H	S34809	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Plate, sheet & strip	...	
A or SA-240	XM-15	S38100	75 (515)	8	1	8.1	130	18Cr-18Ni-2Si	Plate, sheet & strip	...	
A or SA-240	...	S38815	78 (540)	8	1	8.1	130	14Cr-16Ni-6Si-Cu-Mo	Plate, sheet & strip	...	
A or SA-240	405	S40500	60 (415)	7	1	7.1	160	12Cr-Al	Plate, sheet & strip	...	
A or SA-240	409	S40910	55 (380)	7	1	7.1	150	11Cr-Ti	Plate, sheet & strip	...	
A or SA-240	409	S40920	55 (380)	7	1	7.1	150	11Cr-Ti	Plate, sheet & strip	...	
A or SA-240	409	S40930	55 (380)	7	1	7.1	150	11Cr-Ti	Plate, sheet & strip	...	
A or SA-240	410	S41000	65 (450)	6	1	7.2	150	13Cr	Plate, sheet & strip	...	
A or SA-240	410S	S41008	60 (415)	7	1	7.2	150	13Cr	Plate, sheet & strip	...	

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-240	S41500	S41500	115 (795)	6	4	7.2	150	13Cr-4.5Ni-Mo	Plate, sheet & strip	...
A or SA-240	429	S42900	65 (450)	6	2	7.2	150	15Cr	Plate, sheet & strip	...
A or SA-240	430	S43000	65 (450)	7	2	7.1	150	17Cr	Plate, sheet & strip	...
A or SA-240	439	S43035	60 (415)	7	2	7.1	150	18Cr-Ti	Plate, sheet & strip	...
A or SA-240	S43932	S43932	60 (415)	7	2	7.1	150	18Cr-Ti-Cb	Plate, sheet & strip	...
A or SA-240	S43940	S43940	62 (425)	7	2	7.1	150	18Cr-Ti-Cb	Plate, sheet & strip	...
A or SA-240	...	S44100	60 (415)	7	2	7.1	150	18Cr-Cb-Ti	Plate, sheet & strip	...
A or SA-240	S44400	S44400	60 (415)	7	2	7.1	150	18Cr-2Mo	Plate, sheet & strip	...
A or SA-240	XM-33	S44626	68 (470)	10I	1	7.1	150	27Cr-1Mo-Ti	Plate, sheet & strip	...
A or SA-240	XM-27	S44627	65 (450)	10I	1	7.1	150	27Cr-1Mo	Plate, sheet & strip	...
A or SA-240	S44635	S44635	90 (620)	10I	1	7.1	150	25Cr-4Ni-4Mo-Ti	Plate, sheet & strip	...
A or SA-240	S44660	S44660	85 (585)	10K	1	7.1	150	26Cr-3Ni-3Mo	Plate, sheet & strip	...
A or SA-240	S44700	S44700	80 (550)	10J	1	7.1	150	29Cr-4Mo	Plate, sheet & strip	...
A or SA-240	S44800	S44800	80 (550)	10K	1	7.1	150	29Cr-4Mo-2Ni	Plate, sheet & strip	...
A or SA-240	...	S82012	94 (650)	10H	1	10.3	145	20Cr-1Ni-Mo-N	Plate	>0.187 (5)
A or SA-240	...	S82012	102 (705)	10H	1	10.3	145	20Cr-1Ni-Mo-N	Sheet & strip	≤0.187 (5)
A or SA-240	...	S82031	94 (650)	10H	1	10.3	145	21Cr-3Ni-1Mo-N	Plate	>0.187 (5)
A or SA-240	...	S82031	102 (705)	10H	1	10.3	145	21Cr-3Ni-1Mo-N	Sheet & strip	≤0.187 (5)
A or SA-240	...	S82441	99 (680)	10H	1	10.1	145	24Cr-4Ni-3Mn-1.5Mo-N	Plate	≥0.40 (10)
A or SA-240	...	S82441	107 (740)	10H	1	10.1	145	24Cr-4Ni-3Mn-1.5Mo-N	Plate, sheet & strip	<0.40 (10)
A or SA-249	...	N08367	95 (655)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Welded tube	>0.187 (5)
A or SA-249	...	N08367	100 (690)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Welded tube	≤0.187 (5)
A or SA-249	...	N08904	71 (490)	45	...	8.2	420	44Fe-25Ni-21Cr-Mo	Welded tube	...
A or SA-249	TP 201	S20100	95 (655)	8	3	8.3	130	17Cr-4Ni-6Mn	Welded tube	...
A or SA-249	TP 202	S20200	90 (620)	8	3	8.3	130	18Cr-5Ni-9Mn	Welded tube	...
A or SA-249	TP XM-19	S20910	100 (690)	8	3	8.3	130	22Cr-13Ni-5Mn	Welded tube	...
A or SA-249	TP XM-29	S24000	100 (690)	8	3	8.3	130	18Cr-3Ni-12Mn	Welded tube	...
A or SA-249	TP304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Welded tube	...
A or SA-249	TP304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Welded tube	...
A or SA-249	TP304H	S30409	75 (515)	8	1	8.1	130	18Cr-8Ni	Welded tube	...
A or SA-249	TP304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Welded tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-249	TP304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N	Welded tube	...
A or SA-249	S30815	S30815	87 (600)	8	2	8.2	130	21Cr-11Ni-N	Welded tube	...
A or SA-249	TP309S	S30908	75 (515)	8	2	8.2	130	23Cr-12Ni	Welded tube	...
A or SA-249	TP309H	S30909	75 (515)	8	2	8.2	130	23Cr-12Ni	Welded tube	...
A or SA-249	TP309Cb	S30940	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb	Welded tube	...
A or SA-249	TP309HCb	S30941	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb	Welded tube	...
A or SA-249	TP310S	S31008	75 (515)	8	2	8.2	130	25Cr-20Ni	Welded tube	...
A or SA-249	TP310H	S31009	75 (515)	8	2	8.2	130	25Cr-20Ni	Welded tube	...
A or SA-249	TP310Cb	S31040	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Welded tube	...
A or SA-249	TP310HCb	S31041	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Welded tube	...
A or SA-249	TP310MoLN	S31050	78 (540)	8	2	8.2	130	25Cr-22Ni-2Mo-N	Welded tube	>0.25 (6)
A or SA-249	TP310MoLN	S31050	84 (580)	8	2	8.2	130	25Cr-22Ni-2Mo-N	Welded tube	≤0.25 (6)
A or SA-249	S31254	S31254	95 (655)	8	4	8.2	130	20Cr-18Ni-6Mo	Welded tube	>0.187 (5)
A or SA-249	S31254	S31254	98 (675)	8	4	8.2	130	20Cr-18Ni-6Mo	Welded tube	≤0.187 (5)
A or SA-249	TP316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Welded tube	...
A or SA-249	TP316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Welded tube	...
A or SA-249	TP316H	S31609	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Welded tube	...
A or SA-249	TP316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Welded tube	...
A or SA-249	TP316LN	S31653	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Welded tube	...
A or SA-249	...	S31655	92 (635)	8	3	8.2	130	20.5Cr-8.8Ni-Mo-N	Welded tube	...
A or SA-249	TP317	S31700	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Welded tube	...
A or SA-249	TP317L	S31703	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Welded tube	...
A or SA-249	S31725	S31725	75 (515)	8	4	8.1	130	19Cr-15Ni-4Mo	Welded tube	...
A or SA-249	S31726	S31726	80 (550)	8	4	8.1	130	19Cr-15.5Ni-4Mo	Welded tube	...
A or SA-249	...	S32053	93 (640)	8	4	8.2	130	23Cr-25Ni-5.5Mo-N	Welded tube	...
A or SA-249	TP321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Welded tube	...
A or SA-249	TP321H	S32109	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Welded tube	...
A or SA-249	TP347	S34700	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Welded tube	...
A or SA-249	TP347H	S34709	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Welded tube	...
A or SA-249	TP348	S34800	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Welded tube	...
A or SA-249	TP348H	S34809	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Welded tube	...
A or SA-249	TP XM-15	S38100	75 (515)	8	1	8.1	130	18Cr-18Ni-2Si	Welded tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-249	...	S38815	78 (540)	8	1	8.1	130	14Cr-16Ni-6Si-Cu-Mo	Welded tube	...
A or SA-250	T1b	K11422	53 (365)	3	1	1.1	100	C-0.5Mo	E.R.W. tube	...
A or SA-250	T1	K11522	55 (380)	3	1	1.1	100	C-0.5Mo	E.R.W. tube	...
A or SA-250	T2	K11547	60 (415)	3	1	4.2	100	0.5Cr-0.5Mo	E.R.W. tube	...
A or SA-250	T12	K11562	60 (415)	4	1	5.1	110	1Cr-0.5Mo	E.R.W. tube	...
A or SA-250	T11	K11597	60 (415)	4	1	5.1	110	1.25Cr-0.5Mo-Si	E.R.W. tube	...
A or SA-250	T1a	K12023	60 (415)	3	1	1.1	100	C-0.5Mo	E.R.W. tube	...
A or SA-250	T22	K21590	60 (415)	5A	1	5.2	110	2.25Cr-1Mo	E.R.W. tube	...
A254	Cl. 1	K01001	42 (290)	...	...	NA	100	C	Cu brazed tube	...
A254	Cl. 2	K01001	42 (290)	...	...	NA	100	C	Cu brazed tube	...
A or SA-266	4	K03017	70 (485)	1	2	11.1	100	C-Mn-Si	Forgings	...
A or SA-266	1	K03506	60 (415)	1	1	11.1	100	C-Si	Forgings	...
A or SA-266	2	K03506	70 (485)	1	2	11.1	100	C-Si	Forgings	...
A or SA-266	3	K05001	75 (515)	1	2	11.2	100	C-Si	Forgings	...
A or SA-268	TP405	S40500	60 (415)	7	1	7.1	160	12Cr-Al	Smls. & welded tube	...
A or SA-268	S40800	S40800	55 (380)	7	1	7.1	150	12Cr-Ti	Smls. & welded tube	...
A or SA-268	TP409	S40900	55 (380)	7	1	7.1	150	11Cr-Ti	Smls. & welded tube	...
A or SA-268	TP410	S41000	60 (415)	6	1	7.2	150	13Cr	Smls. & welded tube	...
A or SA-268	S41500	S41500	115 (795)	6	4	7.2	150	13Cr-4.5Ni-Mo	Smls. & welded tube	...
A or SA-268	TP429	S42900	60 (415)	6	2	7.2	150	15Cr	Smls. & welded tube	...
A or SA-268	TP430	S43000	60 (415)	7	2	7.1	150	17Cr	Smls. & welded tube	...
A or SA-268	TP439	S43035	60 (415)	7	2	7.1	150	18Cr-Ti	Smls. & welded tube	...
A or SA-268	TP430Ti	S43036	60 (415)	7	2	7.1	160	18Cr-Ti	Smls. & welded tube	...
A or SA-268	18Cr-2Mo	S44400	60 (415)	7	2	7.1	150	18Cr-2Mo	Smls. & welded tube	...
A or SA-268	TP446-1	S44600	70 (485)	10I	1	7.1	150	27Cr	Smls. & welded tube	...
A or SA-268	TP446-2	S44600	65 (450)	10I	1	7.1	150	27Cr	Smls. & welded tube	...
A or SA-268	TPXM-33	S44626	68 (470)	10I	1	7.1	150	27Cr-1Mo-Ti	Smls. & welded tube	...
A or SA-268	TPXM-27	S44627	65 (450)	10I	1	7.1	150	27Cr-1Mo	Smls. & welded tube	...
A or SA-268	25-4-4	S44635	90 (620)	10I	1	7.1	150	25Cr-4Ni-4Mo-Ti	Smls. & welded tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-268	26-3-3	S44660	85 (585)	10K	1	7.1	150	26Cr-3Ni-3Mo	Smls. & welded tube	...
A or SA-268	29-4	S44700	80 (550)	10J	1	7.1	150	29Cr-4Mo	Smls. & welded tube	...
A or SA-268	S44735	S44735	75 (515)	10J	1	7.1	150	29Cr-4Mo-Ti	Smls. & welded tube	...
A or SA-268	29-4-2	S44800	80 (550)	10K	1	7.1	150	29Cr-4Mo-2Ni	Smls. & welded tube	...
A269	TP304	S30400	...	8	1	8.1	130	18Cr-8Ni	Smls. & welded tube	...
A269	TP304L	S30403	...	8	1	8.1	130	18Cr-8Ni	Smls. & welded tube	...
A269	TP316	S31600	...	8	1	8.1	130	16Cr-12Ni-2Mo	Smls. & welded tube	...
A269	TP316L	S31603	...	8	1	8.1	130	16Cr-12Ni-2Mo	Smls. & welded tube	...
A or SA-276	304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Bars & shapes	...
A or SA-276	304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Bars & shapes	...
A or SA-276	314	S31400	...	8	2	8.2	130	24Cr-20Ni-Si	Bars & shapes	...
A or SA-276	316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Bars & shapes	...
A or SA-276	316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Bars & shapes	...
A or SA-276	410	S41000	70 (485)	6	1	7.2	150	13Cr	Bars & shapes	...
A or SA-283	A	K01400	45 (310)	1	1	1.1	100	C	Plate	...
A or SA-283	B	K01702	50 (345)	1	1	1.1	100	C	Plate	...
A or SA-283	C	K02401	55 (380)	1	1	1.1	100	C	Plate	...
A or SA-283	D	K02702	60 (415)	1	1	1.1	100	C	Plate	...
A or SA-285	A	K01700	45 (310)	1	1	1.1	100	C	Plate	...
A or SA-285	B	K02200	50 (345)	1	1	1.1	100	C	Plate	...
A or SA-285	C	K02801	55 (380)	1	1	11.1	100	C	Plate	...
A or SA-299	A	K02803	75 (515)	1	2	11.1	100	C-Mn-Si	Plate	...
A or SA-299	B	K02803	80 (550)	1	3	11.1	100	C-Mn-Si	Plate	...
A or SA-302	A	K12021	75 (515)	3	2	1.1	100	Mn-0.5Mo	Plate	...
A or SA-302	B	K12022	80 (550)	3	3	1.2	100	Mn-0.5Mo	Plate	...
A or SA-302	C	K12039	80 (550)	3	3	...	100	Mn-0.5Mo-0.5Ni	Plate	...
A or SA-302	D	K12054	80 (550)	3	3	...	100	Mn-0.5Mo-0.75Ni	Plate	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-312	N08367	N08367	95 (655)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Smls. & welded pipe	> 0.187 (5)
A or SA-312	N08367	N08367	100 (690)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Smls. & welded pipe	≤ 0.187 (5)
A or SA-312	...	N08904	71 (490)	45	...	8.2	420	44Fe-25Ni-21Cr-Mo	Smls. & welded pipe	...
A or SA-312	TP201LN	S20153	95 (655)	8	3	8.3	130	16Cr-4Ni-6Mn	Smls. & welded pipe	...
A or SA-312	TPXM-19	S20910	100 (690)	8	3	8.3	130	22Cr-13Ni-5Mn	Smls. & welded pipe	...
A or SA-312	TPXM-11	S21904	90 (620)	8	3	8.3	130	21Cr-6Ni-9Mn	Smls. & welded pipe	...
A or SA-312	TPXM-29	S24000	100 (690)	8	3	8.3	130	18Cr-3Ni-12Mn	Smls. & welded pipe	...
A or SA-312	TP304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Smls. & welded pipe	...
A or SA-312	TP304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Smls. & welded pipe	...
A or SA-312	TP304H	S30409	75 (515)	8	1	8.1	130	18Cr-8Ni	Smls. & welded pipe	...
A or SA-312	TP304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Smls. & welded pipe	...
A or SA-312	TP304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N	Smls. & welded pipe	...
A or SA-312	S30600	S30600	78 (540)	8	1	8.1	130	18Cr-15Ni-4Si	Smls. & welded pipe	...
A or SA-312	S30815	S30815	87 (600)	8	2	8.2	130	21Cr-11Ni-N	Smls. & welded pipe	...
A or SA-312	TP309S	S30908	75 (515)	8	2	8.2	130	23Cr-12Ni	Smls. & welded pipe	...
A or SA-312	TP309H	S30909	75 (515)	8	2	8.2	130	23Cr-12Ni	Smls. & welded pipe	...
A or SA-312	TP309Cb	S30940	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb	Smls. & welded pipe	...
A or SA-312	TP309HCb	S30941	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb	Smls. & welded pipe	...
A or SA-312	...	S31002	73 (505)	8	2	8.2	130	25Cr-20Ni-N	Smls. pipe	...
A or SA-312	TP310S	S31008	75 (515)	8	2	8.2	130	25Cr-20Ni	Smls. & welded pipe	...
A or SA-312	TP310H	S31009	75 (515)	8	2	8.2	130	25Cr-20Ni	Smls. & welded pipe	...
A or SA-312	TP310Cb	S31040	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Smls. & welded pipe	...
A or SA-312	TP310HCb	S31041	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Smls. & welded pipe	...
A or SA-312	TP310MoLN	S31050	78 (540)	8	2	8.2	130	25Cr-22Ni-2Mo-N	Smls. & welded pipe	>0.25 (6)
A or SA-312	TP310MoLN	S31050	84 (580)	8	2	8.2	130	25Cr-22Ni-2Mo-N	Smls. & welded pipe	≤0.25 (6)
A or SA-312	S31254	S31254	95 (655)	8	4	8.2	130	20Cr-18Ni-6Mo	Smls. & welded pipe	>0.187 (5)
A or SA-312	S31254	S31254	98 (675)	8	4	8.2	130	20Cr-18Ni-6Mo	Smls. & welded pipe	≤0.187 (5)
A or SA-312	TP316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Smls. & welded pipe	...
A or SA-312	TP316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Smls. & welded pipe	...
A or SA-312	TP316H	S31609	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Smls. & welded pipe	...
A or SA-312	TP316Ti	S31635	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-Ti	Smls. & welded pipe	...
A or SA-312	TP316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Smls. & welded pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-312	TP316LN	S31653	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Smls. & welded pipe	...
A or SA-312	TP317	S31700	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Smls. & welded pipe	...
A or SA-312	TP317L	S31703	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Smls. & welded pipe	...
A or SA-312	S31725	S31725	75 (515)	8	4	8.1	130	19Cr-15Ni-4Mo	Smls. & welded pipe	...
A or SA-312	S31726	S31726	80 (550)	8	4	8.1	130	19Cr-15.5Ni-4Mo	Smls. & welded pipe	...
A or SA-312	...	S32053	93 (640)	8	4	8.2	130	23Cr-25Ni-5.5Mo-N	Smls. & welded pipe	...
A or SA-312	TP321	S32100	70 (485)	8	1	8.1	140	18Cr-10Ni-Ti	Smls. pipe	>0.375 (10) NPS
A or SA-312	TP321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Smls. pipe	≤0.375 (10) NPS
A or SA-312	TP321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Welded pipe	...
A or SA-312	TP321H	S32109	70 (485)	8	1	8.1	140	18Cr-10Ni-Ti	Smls. pipe	>0.375 (10) NPS
A or SA-312	TP321H	S32109	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Smls. pipe	≤0.375 (10) NPS
A or SA-312	TP321H	S32109	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Welded pipe	...
A or SA-312	S32615	S32615	80 (550)	8	1	8.1	130	18Cr-20Ni-5.5Si	Smls. & welded pipe	...
A or SA-312	S34565	S34565	115 (795)	8	4	8.3	130	24Cr-17Ni-6Mn-4.5Mo-N	Smls. & welded pipe	...
A or SA-312	TP347	S34700	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Smls. & welded pipe	...
A or SA-312	TP347H	S34709	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Smls. & welded pipe	...
A or SA-312	TP347LN	S34751	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb-N	Smls. & welded pipe	...
A or SA-312	TP348	S34800	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Smls. & welded pipe	...
A or SA-312	TP348H	S34809	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Smls. & welded pipe	...
A or SA-312	TPXM-15	S38100	75 (515)	8	1	8.1	130	18Cr-18Ni-2Si	Smls. & welded pipe	...
A or SA-333	10	...	80 (550)	1	3	11.1	100	C-Mn-Si	Smls. & welded pipe	...
A or SA-333	6	K03006	60 (415)	1	1	11.1	100	C-Mn-Si	Smls. & welded pipe	...
A or SA-333	1	K03008	55 (380)	1	1	11.1	100	C-Mn	Smls. & welded pipe	...
A or SA-333	4	K11267	60 (415)	4	2	4.1	120	0.75Cr-0.75Ni-Cu-Al	Smls. & welded pipe	...
A or SA-333	7	K21903	65 (450)	9A	1	9.1	100	2.5Ni	Smls. & welded pipe	...
A or SA-333	9	K22035	63 (435)	9A	1	9.1	100	2Ni-1Cu	Smls. & welded pipe	...
A or SA-333	3	K31918	65 (450)	9B	1	9.2	100	3.5Ni	Smls. & welded pipe	...
A or SA-333	8	K81340	100 (690)	11A	1	9.3	100	9Ni	Smls. & welded pipe	...
A or SA-334	6	K03006	60 (415)	1	1	11.1	100	C-Mn-Si	Welded tube	...
A or SA-334	1	K03008	55 (380)	1	1	11.1	100	C-Mn	Welded tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding				Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group	Brazing P-No.			
Ferrous (Cont'd)										
A or SA-334	7	K21903	65 (450)	9A	1	9.1	100	2.5Ni	Welded tube	...
A or SA-334	9	K22035	63 (435)	9A	1	9.1	100	2Ni-1Cu	Welded tube	...
A or SA-334	3	K31918	65 (450)	9B	1	9.2	100	3.5Ni	Welded tube	...
A or SA-334	8	K81340	100 (690)	11A	1	9.3	100	9Ni	Welded tube	...
A or SA-335	P1	K11522	55 (380)	3	1	1.1	100	C-0.5Mo	Smls. pipe	...
A or SA-335	P2	K11547	55 (380)	3	1	4.2	100	0.5Cr-0.5Mo	Smls. pipe	...
A or SA-335	P12	K11562	60 (415)	4	1	5.1	110	1Cr-0.5Mo	Smls. pipe	...
A or SA-335	P15	K11578	60 (415)	3	1	...	100	1.5Si-0.5Mo	Smls. pipe	...
A or SA-335	P11	K11597	60 (415)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Smls. pipe	...
A or SA-335	P22	K21590	60 (415)	5A	1	5.2	110	2.25Cr-1Mo	Smls. pipe	...
A or SA-335	P21	K31545	60 (415)	5A	1	5.2	110	3Cr-1Mo	Smls. pipe	...
A or SA-335	P5c	K41245	60 (415)	5B	1	5.3	120	5Cr-0.5Mo-Ti	Smls. pipe	...
A or SA-335	P5	K41545	60 (415)	5B	1	5.3	110	5Cr-0.5Mo	Smls. pipe	...
A or SA-335	P5b	K51545	60 (415)	5B	1	5.3	110	5Cr-0.5Mo-Si	Smls. pipe	...
A or SA-335	P91	K90901	85 (585)	15E	1	6.4	110	9Cr-1Mo-V	Smls. pipe	...
A or SA-335	P9	K90941	60 (415)	5B	1	5.4	110	9Cr-1Mo	Smls. pipe	...
A or SA-335	P92	K92460	90 (620)	15E	1	6.4	110	9Cr-2W	Smls. pipe	...
A or SA-336	F12	K11564	70 (485)	4	1	5.1	110	1Cr-0.5Mo	Forgings	...
A or SA-336	F11, Cl. 2	K11572	70 (485)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Forgings	...
A or SA-336	F11, Cl. 3	K11572	75 (515)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Forgings	...
A or SA-336	F11, Cl. 1	K11597	60 (415)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Forgings	...
A or SA-336	F1	K12520	70 (485)	3	2	1.1	100	C-0.5Mo	Forgings	...
A or SA-336	F22, Cl. 1	K21590	60 (415)	5A	1	5.2	110	2.25Cr-1Mo	Forgings	...
A or SA-336	F22, Cl. 3	K21590	75 (515)	5A	1	5.2	110	2.25Cr-1Mo	Forgings	...
A or SA-336	F3VCb	K31390	85 (585)	5C	1	6.2	110	3Cr-1Mo-0.25V-Cb-Ca	Forgings	...
A or SA-336	F21, Cl. 1	K31545	60 (415)	5A	1	5.2	110	3Cr-1Mo	Forgings	...
A or SA-336	F21, Cl. 3	K31545	75 (515)	5A	1	5.2	110	3Cr-1Mo	Forgings	...
A or SA-336	F3V	K31830	85 (585)	5C	1	6.2	120	3Cr-1Mo-V-Ti-B	Forgings	...
A or SA-336	F22V	K31835	85 (585)	5C	1	6.2	110	2.25Cr-1Mo-V	Forgings	...
A or SA-336	F5	K41545	60 (415)	5B	1	5.3	110	5Cr-0.5Mo	Forgings	...
A or SA-336	F5A	K42544	80 (550)	5B	1	5.3	110	5Cr-0.5Mo	Forgings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-336	F91	K90901	90 (620)	15E	1	6.4	110	9Cr-1Mo-V	Forgings	...
A or SA-336	F9	K90941	85 (585)	5B	1	5.4	110	9Cr-1Mo	Forgings	...
A or SA-336	F92	K92460	90 (620)	15E	1	6.4	110	9Cr-2W	Forgings	...
A or SA-336	F6	S41000	85 (585)	6	3	7.2	150	13Cr	Forgings	...
A or SA-350	LF1	K03009	60 (415)	1	1	11.1	100	C-Mn-Si	Forgings	...
A or SA-350	LF2	K03011	70 (485)	1	2	11.1	100	C-Mn-Si	Forgings	...
A or SA-350	LF6, Cl. 2	K12202	75 (515)	1	3	4.1	100	C-Mn-Si-V	Forgings	...
A or SA-350	LF5 Cl. 1	K13050	60 (415)	9A	1	9.1	100	1.5Ni	Forgings	...
A or SA-350	LF5 Cl. 2	K13050	70 (485)	9A	1	9.1	100	1.5Ni	Forgings	...
A or SA-350	LF9	K22036	63 (435)	9A	1	9.1	100	2Ni-1Cu	Forgings	...
A or SA-350	LF3	K32025	70 (485)	9B	1	9.2	100	3.5Ni	Forgings	...
A or SA-351	CF3	J92500	70 (485)	8	1	8.1	130	18Cr-8Ni	Castings	...
A or SA-351	CF3A	J92500	77 (530)	8	1	8.1	130	18Cr-8Ni	Castings	...
A or SA-351	CF10	J92590	70 (485)	8	1	8.1	130	19Cr-9Ni-0.5Mo	Castings	...
A or SA-351	CF8	J92600	70 (485)	8	1	8.1	130	18Cr-8Ni	Castings	...
A or SA-351	CF8A	J92600	77 (530)	8	1	8.1	130	18Cr-8Ni	Castings	...
A or SA-351	CF8C	J92710	70 (485)	8	1	8.1	130	18Cr-10Ni-Cb	Castings	...
A or SA-351	CF3M	J92800	70 (485)	8	1	8.1	130	18Cr-12Ni-2Mo	Castings	...
A or SA-351	CE20N	J92802	80 (550)	8	2	8.2	130	25Cr-8Ni-N	Castings	...
A or SA-351	CF8M	J92900	70 (485)	8	1	8.1	130	18Cr-12Ni-2Mo	Castings	...
A or SA-351	CF10M	J92901	70 (485)	8	1	8.1	130	19Cr-9Ni-2Mo	Castings	...
A or SA-351	CF10MC	J92971	70 (485)	8	1	8.1	130	16Cr-14Ni-2Mo	Castings	...
A or SA-351	CG8M	J93000	75 (515)	8	1	8.1	130	19Cr-10Ni-3Mo	Castings	...
A or SA-351	CK3MCuN	J93254	80 (550)	8	4	8.2	130	20Cr-18Ni-6Mo	Castings	...
A or SA-351	CD3MWCuN	J93380	100 (690)	10H	1	10.2	145	25Cr-8Ni-3Mo-W-Cu-N	Castings	...
A or SA-351	CH8	J93400	65 (450)	8	2	8.2	130	25Cr-12Ni	Castings	...
A or SA-351	CH10	J93401	70 (485)	8	2	8.2	130	25Cr-12Ni	Castings	...
A or SA-351	CH20	J93402	70 (485)	8	2	8.2	130	25Cr-12Ni	Castings	...
A or SA-351	CG6MMN	J93790	85 (585)	8	3	8.3	130	22Cr-12Ni-5Mn	Castings	...
A or SA-351	CK20	J94202	65 (450)	8	2	8.2	130	25Cr-20Ni	Castings	...
A or SA-351	HK30	J94203	65 (450)	8	2	8.2	130	25Cr-20Ni-0.5Mo	Castings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding				Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group	Brazing P-No.			
Ferrous (Cont'd)										
A or SA-351	HK40	J94204	62 (425)	8	2	8.2	130	25Cr-20Ni-0.5Mo	Castings	...
A or SA-351	CN3MN	J94651	80 (550)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo- Cu-N	Castings	...
A or SA-351	CN7M	N08007	62 (425)	45	...	8.2	420	28Ni-19Cr-Cu-Mo	Castings	...
A or SA-351	CT15C	N08151	63 (435)	45	...	45	420	32Ni-45Fe-20Cr-Cb	Castings	...
A or SA-351	HT30	N08603	65 (450)	45	...	45	420	35Ni-15Cr-0.5Mo	Castings	...
A or SA-352	LCA	J02504	60 (415)	1	1	11.1	100	C-Si	Castings	...
A or SA-352	LCC	J02505	70 (485)	1	2	11.1	100	C-Mn-Si	Castings	...
A or SA-352	LCB	J03003	65 (450)	1	1	1.1	100	C-Si	Castings	...
A or SA-352	LC1	J12522	65 (450)	3	1	1.1	100	C-0.5Mo	Castings	...
A or SA-352	LC2	J22500	70 (485)	9A	1	9.1	100	2.5Ni	Castings	...
A or SA-352	LC3	J31550	70 (485)	9B	1	9.3	100	3.5Ni	Castings	...
A or SA-352	LC4	J41500	70 (485)	9C	1	9.3	100	4.5Ni	Castings	...
A or SA-352	LC2-1	J42215	105 (725)	11A	5	9.2	110	3Ni-1.5Cr-0.5Mo	Castings	...
A or SA-352	CA6NM	J91540	110 (760)	6	4	7.2	150	13Cr-4Ni	Castings	...
A or SA-353	...	K81340	100 (690)	11A	1	9.3	100	9Ni	Plate	...
A356	1	J03502	70 (485)	1	2	11.1	100	C-Si	Castings	...
A356	8	J11697	80 (550)	4	1	6.2	110	1Cr-1Mo-V	Castings	...
A356	6	J12073	70 (485)	4	1	5.1	110	1.25Cr-0.5Mo	Castings	...
A356	2	J12523	65 (450)	3	1	1.1	100	C-0.5Mo	Castings	...
A356	9	J21610	85 (585)	4	1	6.2	110	1Cr-1Mo-V	Castings	...
A356	10	J22090	85 (585)	5A	1	5.2	110	2.25Cr-1Mo	Castings	...
A356	12A	J84090	85 (585)	15E	1	6.4	110	9Cr-1Mo-V	Castings	...
A or SA-358	N08367	N08367	95 (655)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Fusion welded pipe	≥0.187 (5)
A or SA-358	N08367	N08367	100 (690)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Fusion welded pipe	<0.187 (5)
A or SA-358	201LN	S20153	95 (655)	8	3	8.3	130	16Cr-4Ni-6Mn	Fusion welded pipe	...
A or SA-358	XM-19	S20910	100 (690)	8	3	8.3	130	22Cr-13Ni-5Mn	Fusion welded pipe	...
A or SA-358	XM-29	S24000	100 (690)	8	3	8.3	130	18Cr-3Ni-12Mn	Fusion welded pipe	...
A or SA-358	304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Fusion welded pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-358	304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Fusion welded pipe	...
A or SA-358	304H	S30409	75 (515)	8	1	8.1	130	18Cr-8Ni	Fusion welded pipe	...
A or SA-358	304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Fusion welded pipe	...
A or SA-358	304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N	Fusion welded pipe	...
A or SA-358	S30815	S30815	87 (600)	8	2	8.2	130	21Cr-11Ni-N	Fusion welded pipe	...
A or SA-358	309S	S30908	75 (515)	8	2	8.2	130	23Cr-12Ni	Fusion welded pipe	...
A or SA-358	309Cb	S30940	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb	Fusion welded pipe	...
A or SA-358	310S	S31008	75 (515)	8	2	8.2	130	25Cr-20Ni	Fusion welded pipe	...
A or SA-358	310Cb	S31040	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Fusion welded pipe	...
A or SA-358	S31254	S31254	95 (655)	8	4	8.2	130	20Cr-18Ni-6Mo	Fusion welded pipe	≥0.187 (5)
A or SA-358	S31254	S31254	100 (690)	8	4	8.2	130	20Cr-18Ni-6Mo	Fusion welded pipe	<0.187 (5)
A or SA-358	...	S31266	109 (750)	45	...	8.2	420	24Cr-22Ni-6Mo-3Mn- Cu-W-N	Fusion welded pipe	...
A or SA-358	316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Fusion welded pipe	...
A or SA-358	316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Fusion welded pipe	...
A or SA-358	316H	S31609	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Fusion welded pipe	...
A or SA-358	316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Fusion welded pipe	...
A or SA-358	316LN	S31653	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Fusion welded pipe	...
A or SA-358	...	S31655	92 (635)	8	3	8.2	130	20.5Cr-8.8Ni-Mo-N	Fusion welded pipe	...
A or SA-358	S31725	S31725	75 (515)	8	4	8.1	130	19Cr-15Ni-4Mo	Fusion welded pipe	...
A or SA-358	S31726	S31726	80 (550)	8	4	8.1	130	19Cr-15.5Ni-4Mo	Fusion welded pipe	...
A or SA-358	...	S32053	93 (640)	8	4	8.2	130	23Cr-25Ni-5.5Mo-N	Fusion welded pipe	...
A or SA-358	321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Fusion welded pipe	...
A or SA-358	347	S34700	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Fusion welded pipe	...
A or SA-358	348	S34800	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Fusion welded pipe	...
A or SA-369	FPA	K02501	48 (330)	1	1	1.1	100	C-Si	Forged pipe	...
A or SA-369	FPB	K03006	60 (415)	1	1	1.1	100	C-Mn-Si	Forged pipe	...
A or SA-369	FP1	K11522	55 (380)	3	1	1.1	100	C-0.5Mo	Forged pipe	...
A or SA-369	FP2	K11547	55 (380)	3	1	4.2	100	0.5Cr-0.5Mo	Forged pipe	...
A or SA-369	FP12	K11562	60 (415)	4	1	5.1	110	1Cr-0.5Mo	Forged pipe	...
A or SA-369	FP11	K11597	60 (415)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Forged pipe	...
A or SA-369	FP22	K21590	60 (415)	5A	1	5.2	110	2.25Cr-1Mo	Forged pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding				Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group	Brazing P-No.			
Ferrous (Cont'd)										
A or SA-369	FP21	K31545	60 (415)	5A	1	5.2	110	3Cr-1Mo	Forged pipe	...
A or SA-369	FP5	K41545	60 (415)	5B	1	5.3	110	5Cr-0.5Mo	Forged pipe	...
A or SA-369	FP91	K90901	85 (585)	15E	1	6.4	110	9Cr-1Mo-V	Forged pipe	...
A or SA-369	FP9	K90941	60 (415)	5B	1	5.4	110	9Cr-1Mo	Forged pipe	...
A or SA-369	FP92	K92460	90 (620)	15E	1	6.4	110	9Cr-2W	Forged pipe	...
A or SA-372	A	K03002	60 (415)	1	1	11.1	100	C-Si	Forgings	...
A or SA-372	B	K04001	75 (515)	1	2	11.1	100	C-Mn-Si	Forgings	...
A or SA-376	16-8-2H	S16800	75 (515)	8	1	8.1	130	16Cr-8Ni-2Mo	Smls. pipe	...
A or SA-376	TP304	S30400	70 (485)	8	1	8.1	130	18Cr-8Ni	Smls. pipe	≥0.812 (21)
A or SA-376	TP304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Smls. pipe	<0.812 (21)
A or SA-376	TP304H	S30409	75 (515)	8	1	8.1	130	18Cr-8Ni	Smls. pipe	...
A or SA-376	TP304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Smls. pipe	...
A or SA-376	TP304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N	Smls. pipe	...
A or SA-376	TP316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Smls. pipe	...
A or SA-376	TP316H	S31609	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Smls. pipe	...
A or SA-376	TP316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Smls. pipe	...
A or SA-376	TP316LN	S31653	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Smls. pipe	...
A or SA-376	S31725	S31725	75 (515)	8	4	8.1	130	19Cr-15Ni-4Mo	Smls. pipe	...
A or SA-376	S31726	S31726	80 (550)	8	4	8.1	130	19Cr-15.5Ni-4Mo	Smls. pipe	...
A or SA-376	TP321	S32100	70 (485)	8	1	8.1	140	18Cr-10Ni-Ti	Smls. pipe	>0.375 (10)
A or SA-376	TP321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Smls. pipe	≤0.375 (10)
A or SA-376	TP321H	S32109	70 (485)	8	1	8.1	140	18Cr-10Ni-Ti	Smls. pipe	>0.375 (10)
A or SA-376	TP321H	S32109	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Smls. pipe	≤0.375 (10)
A or SA-376	S34565	S34565	115 (795)	8	4	8.3	130	24Cr-17Ni-6Mn-4.5Mo-N	Smls. pipe	...
A or SA-376	TP347	S34700	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Smls. pipe	...
A or SA-376	TP347H	S34709	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Smls. pipe	...
A or SA-376	TP348	S34800	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Smls. pipe	...
A381	Y35	...	60 (415)	1	1	11.1	100	C	Welded pipe	...
A381	Y42	...	60 (415)	1	1	11.1	100	C	Welded pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A381	Y46	...	63 (435)	1	1	11.1	100	C	Welded pipe	...
A381	Y48	...	62 (425)	1	1	11.1	100	C	Welded pipe	...
A381	Y50	...	64 (440)	1	1	11.1	100	C	Welded pipe	...
A381	Y52	...	66 (455)	1	2	11.1	100	C	Welded pipe	...
A381	Y56	...	71 (490)	1	2	11.1	100	C	Welded pipe	...
A381	Y60	...	75 (515)	1	2	11.1	100	C	Welded pipe	...
A or SA-387	12, Cl. 1	K11757	55 (380)	4	1	5.1	110	1Cr-0.5Mo	Plate	...
A or SA-387	12, Cl. 2	K11757	65 (450)	4	1	5.1	110	1Cr-0.5Mo	Plate	...
A or SA-387	11, Cl. 1	K11789	60 (415)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Plate	...
A or SA-387	11, Cl. 2	K11789	75 (515)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Plate	...
A or SA-387	2, Cl. 1	K12143	55 (380)	3	1	4.2	100	0.5Cr-0.5Mo	Plate	...
A or SA-387	2, Cl. 2	K12143	70 (485)	3	2	4.2	100	0.5Cr-0.5Mo	Plate	...
A or SA-387	22, Cl. 1	K21590	60 (415)	5A	1	5.2	110	2.25Cr-1Mo	Plate	...
A or SA-387	22, Cl. 2	K21590	75 (515)	5A	1	5.2	110	2.25Cr-1Mo	Plate	...
A or SA-387	21, Cl. 1	K31545	60 (415)	5A	1	5.2	110	3Cr-1Mo	Plate	...
A or SA-387	21, Cl. 2	K31545	75 (515)	5A	1	5.2	110	3Cr-1Mo	Plate	...
A or SA-387	5, Cl. 1	K41545	60 (415)	5B	1	5.3	110	5Cr-0.5Mo	Plate	...
A or SA-387	5, Cl. 2	K41545	75 (515)	5B	1	5.3	110	5Cr-0.5Mo	Plate	...
A or SA-387	91, Cl. 2	K90901	85 (585)	15E	1	6.4	110	9Cr-1Mo-V	Plate	...
A or SA-387	9, Cl. 1	K90941	60 (415)	5B	1	5.4	110	9Cr-1Mo	Plate	...
A or SA-387	9, Cl. 2	K90941	75 (515)	5B	1	5.4	110	9Cr-1Mo	Plate	...
A403	...	N08367	95 (655)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Wrought piping fittings	...
A or SA-403	...	N08904	71 (490)	45	...	8.2	420	44Fe-25Ni-21Cr-Mo	Wrought piping fittings	...
A or SA-403	WPXM-19	S20910	100 (690)	8	3	8.3	130	22Cr-13Ni-5Mn	Wrought piping fittings	...
A or SA-403	WP304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Wrought piping fittings	...
A or SA-403	WP304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Wrought piping fittings	...
A or SA-403	WP304H	S30409	75 (515)	8	1	8.1	130	18Cr-8Ni	Wrought piping fittings	...
A or SA-403	WP304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Wrought piping fittings	...
A or SA-403	WP304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N	Wrought piping fittings	...
A or SA-403	WP309	S30900	75 (515)	8	2	8.2	130	23Cr-12Ni	Wrought piping fittings	...
A or SA-403	WP310S	S31008	75 (515)	8	2	8.2	130	25Cr-20Ni	Wrought piping fittings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-403	...	S31254	94 (650)	8	4	8.2	130	20Cr-18Ni-6Mo	Wrought piping fittings	...
A or SA-403	WP316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Wrought piping fittings	...
A or SA-403	WP316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Wrought piping fittings	...
A or SA-403	WP316H	S31609	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Wrought piping fittings	...
A or SA-403	WP316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Wrought piping fittings	...
A or SA-403	WP316LN	S31653	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Wrought piping fittings	...
A or SA-403	WP317	S31700	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Wrought piping fittings	...
A or SA-403	WP317L	S31703	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Wrought piping fittings	...
A or SA-403	WP S31726	S31726	80 (550)	8	4	8.1	130	19Cr-15.5Ni-4Mo	Wrought piping fittings	...
A or SA-403	...	S32053	93 (640)	8	4	8.2	130	23Cr-25Ni-5.5Mo-N	Wrought piping fittings	...
A or SA-403	WP321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Wrought piping fittings	...
A or SA-403	WP321H	S32109	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Wrought piping fittings	...
A or SA-403	S34565	S34565	115 (795)	8	4	8.3	130	24Cr-17Ni-6Mn-4.5Mo-N	Wrought piping fittings	...
A or SA-403	WP347	S34700	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Wrought piping fittings	...
A or SA-403	WP347H	S34709	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Wrought piping fittings	...
A or SA-403	WP348	S34800	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Wrought piping fittings	...
A or SA-403	WP348H	S34809	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Wrought piping fittings	...
A or SA-403	WP S38815	S38815	78 (540)	8	1	8.1	130	14Cr-16Ni-6Si-Cu-Mo	Wrought piping fittings	...
A or SA-409	TP304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Welded pipe	...
A or SA-409	TP304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Welded pipe	...
A or SA-409	S30815	S30815	87 (600)	8	2	8.2	130	21Cr-11Ni-N	Welded pipe	...
A or SA-409	TP309S	S30908	75 (515)	8	2	8.2	130	23Cr-12Ni	Welded pipe	...
A or SA-409	TP309Cb	S30940	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb	Welded pipe	...
A or SA-409	TP310S	S31008	75 (515)	8	2	8.2	130	25Cr-20Ni	Welded pipe	...
A or SA-409	TP310Cb	S31040	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Welded pipe	...
A or SA-409	S31254	S31254	94 (650)	8	4	8.2	130	20Cr-18Ni-6Mo	Welded pipe	...
A or SA-409	TP316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Welded pipe	...
A or SA-409	TP316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Welded pipe	...
A or SA-409	TP317	S31700	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Welded pipe	...
A or SA-409	S31725	S31725	75 (515)	8	4	8.1	130	19Cr-15Ni-4Mo	Welded pipe	...
A or SA-409	S31726	S31726	80 (550)	8	4	8.1	130	19Cr-15.5Ni-4Mo	Welded pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-409	...	S32053	93 (640)	8	4	8.2	130	23Cr-25Ni-5.5Mo-N	Welded pipe	...
A or SA-409	TP321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Welded pipe	...
A or SA-409	S34565	S34565	115 (795)	8	4	8.3	130	24Cr-17Ni-6Mn-4.5Mo-N	Welded pipe	...
A or SA-409	TP347	S34700	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Welded pipe	...
A or SA-409	TP348	S34800	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Welded pipe	...
A or SA-414	A	K01501	45 (310)	1	1	1.1	100	C	Sheet	...
A or SA-414	B	K02201	50 (345)	1	1	1.1	100	C	Sheet	...
A or SA-414	C	K02503	55 (380)	1	1	1.1	100	C	Sheet	...
A or SA-414	D	K02505	60 (415)	1	1	1.1	100	C-Mn	Sheet	...
A or SA-414	E	K02704	65 (450)	1	1	11.1	100	C-Mn	Sheet	...
A or SA-414	F	K03102	70 (485)	1	2	11.1	100	C-Mn	Sheet	...
A or SA-414	G	K03103	75 (515)	1	2	11.1	100	C-Mn	Sheet	...
A or SA-420	WPL6	K03006	60 (415)	1	1	11.1	100	C-Mn-Si	Piping fittings	...
A or SA-420	WPL9	K22035	63 (435)	9A	1	9.1	100	2Ni-1Cu	Piping fittings	...
A or SA-420	WPL3	K31918	65 (450)	9B	1	9.2	100	3.5Ni	Piping fittings	...
A or SA-420	WPL8	K81340	100 (690)	11A	1	9.3	100	9Ni	Piping fittings	...
A or SA-423	1	K11535	60 (415)	4	2	5.1	110	0.75Cr-0.5Ni-Cu	Smls. & welded tube	...
A or SA-423	2	K11540	60 (415)	4	2	5.1	100	0.75Ni-0.5Cu-Mo	Smls. & welded tube	...
A or SA-426	CP15	J11522	60 (415)	3	1	1.1	100	C-0.5Mo-Si	Centrifugal cast pipe	...
A or SA-426	CP2	J11547	60 (415)	3	1	4.2	100	0.5Cr-0.5Mo	Centrifugal cast pipe	...
A or SA-426	CP12	J11562	60 (415)	4	1	5.1	110	1Cr-0.5Mo	Centrifugal cast pipe	...
A or SA-426	CP11	J12072	70 (485)	4	1	5.1	110	1.25Cr-0.5Mo	Centrifugal cast pipe	...
A or SA-426	CP1	J12521	65 (450)	3	1	1.1	100	C-0.5Mo	Centrifugal cast pipe	...
A or SA-426	CP22	J21890	70 (485)	5A	1	5.2	110	2.25Cr-1Mo	Centrifugal cast pipe	...
A or SA-426	CP21	J31545	60 (415)	5A	1	5.2	110	3Cr-1Mo	Centrifugal cast pipe	...
A or SA-426	CP5	J42045	90 (620)	5B	1	5.3	110	5Cr-0.5Mo	Centrifugal cast pipe	...
A or SA-426	CP5b	J51545	60 (415)	5B	1	5.3	110	5Cr-1.5Si-0.5Mo	Centrifugal cast pipe	...
A or SA-426	CP9	J82090	90 (620)	5B	1	5.4	110	9Cr-1Mo	Centrifugal cast pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-426	CPCA15	J91150	90 (620)	6	3	7.2	150	13Cr	Centrifugal cast pipe	...
A or SA-451	CPF3	J92500	70 (485)	8	1	8.1	130	18Cr-8Ni	Centrifugal cast pipe	...
A or SA-451	CPF3A	J92500	77 (530)	8	1	8.1	130	18Cr-8Ni	Centrifugal cast pipe	...
A or SA-451	CPF8	J92600	70 (485)	8	1	8.1	130	18Cr-8Ni	Centrifugal cast pipe	...
A or SA-451	CPF8A	J92600	77 (530)	8	1	8.1	130	18Cr-8Ni	Centrifugal cast pipe	...
A or SA-451	CPF8C	J92710	70 (485)	8	1	8.1	130	18Cr-10Ni-Cb	Centrifugal cast pipe	...
A or SA-451	CPF3M	J92800	70 (485)	8	1	8.1	130	18Cr-12Ni-2Mo	Centrifugal cast pipe	...
A or SA-451	CPE20N	J92802	80 (550)	8	2	8.2	130	25Cr-8Ni-N	Centrifugal cast pipe	...
A or SA-451	CPF8M	J92900	70 (485)	8	1	8.1	130	18Cr-12Ni-2Mo	Centrifugal cast pipe	...
A or SA-451	CPF10MC	J92971	70 (485)	8	1	8.1	130	16Cr-14Ni-2Mo	Centrifugal cast pipe	...
A or SA-451	CPH8	J93400	65 (450)	8	2	8.2	130	25Cr-12Ni	Centrifugal cast pipe	...
A or SA-451	CPH20	J93402	70 (485)	8	2	8.2	130	25Cr-12Ni	Centrifugal cast pipe	...
A or SA-451	CPK20	J94202	65 (450)	8	2	8.2	130	25Cr-20Ni	Centrifugal cast pipe	...
A or SA-455	...	K03300	70 (485)	1	2	11.2	100	C-Mn-Si	Plate	>0.580 (15) ≤0.75 (19)
A or SA-455	...	K03300	73 (505)	1	2	11.2	100	C-Mn-Si	Plate	>0.375 (10) ≤0.580 (15)
A or SA-455	...	K03300	75 (515)	1	2	11.2	100	C-Mn-Si	Plate	≤0.375 (10)
A or SA-479	...	N08367	95 (655)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Bars & shapes	...
A or SA-479	904L	N08904	71 (490)	45	...	8.2	420	44Fe-25Ni-21Cr-Mo	Bars & shapes	...
A or SA-479	XM-19	S20910	100 (690)	8	3	8.3	130	22Cr-13Ni-5Mn	Bars & shapes	...
A or SA-479	XM-17	S21600	90 (620)	8	3	8.3	130	19Cr-8Mn-6Ni-Mo-N	Bars & shapes	...
A or SA-479	XM-18	S21603	90 (620)	8	3	8.3	130	19Cr-8Mn-6Ni-Mo-N	Bars & shapes	...
A or SA-479	S21800	S21800	95 (655)	8	3	8.1	130	18Cr-8Ni-8Mn-4Si-N	Bars & shapes	...
A or SA-479	XM-11	S21904	90 (620)	8	3	8.3	130	21Cr-6Ni-9Mn	Bars & shapes	...
A or SA-479	XM-29	S24000	100 (690)	8	3	8.3	130	18Cr-3Ni-12Mn	Bars & shapes	...
A or SA-479	302	S30200	75 (515)	8	1	8.1	130	18Cr-8Ni	Bars & shapes	...
A or SA-479	304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Bars & shapes	...
A or SA-479	304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Bars & shapes	...
A or SA-479	304H	S30409	75 (515)	8	1	8.1	130	18Cr-8Ni	Bars & shapes	...
A or SA-479	304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Bars & shapes	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-479	304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N	Bars & shapes	...
A or SA-479	S30600	S30600	78 (540)	8	1	8.1	130	18Cr-15Ni-4Si	Bars & shapes	...
A or SA-479	S30815	S30815	87 (600)	8	2	8.2	130	21Cr-11Ni-N	Bars & shapes	...
A or SA-479	309S	S30908	75 (515)	8	2	8.2	130	23Cr-12Ni	Bars & shapes	...
A or SA-479	309Cb	S30940	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb	Bars & shapes	...
A or SA-479	310S	S31008	75 (515)	8	2	8.2	130	25Cr-20Ni	Bars & shapes	...
A or SA-479	310Cb	S31040	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Bars & shapes	...
A or SA-479	S31254	S31254	95 (655)	8	4	8.2	130	20Cr-18Ni-6Mo	Bars & shapes	...
A or SA-479	316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Bars & shapes	...
A or SA-479	316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Bars & shapes	...
A or SA-479	316H	S31609	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Bars & shapes	...
A or SA-479	316Ti	S31635	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-Ti	Bars & shapes	...
A or SA-479	316Cb	S31640	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-Cb	Bars & shapes	...
A or SA-479	316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Bars & shapes	...
A or SA-479	316LN	S31653	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Bars & shapes	...
A or SA-479	S31725	S31725	75 (515)	8	4	8.1	130	19Cr-15Ni-4Mo	Bars & shapes	...
A or SA-479	S31726	S31726	80 (550)	8	4	8.1	130	19Cr-15.5Ni-4Mo	Bars & shapes	...
A or SA-479	...	S31803	90 (620)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Bars & shapes	...
A or SA-479	...	S32053	93 (640)	8	4	8.2	130	23Cr-25Ni-5.5Mo-N	Bars & shapes	...
A or SA-479	321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Bars & shapes	...
A or SA-479	...	S32101	94 (650)	10H	1	10.3	145	21Cr-5Mn-1.5Ni-Cu-N	Bars & shapes	...
A or SA-479	321H	S32109	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Bars & shapes	...
A or SA-479	...	S32202	94 (650)	10H	1	10.3	145	22Cr-2Ni-Mo-N	Bars & shapes	...
A or SA-479	...	S32205	95 (655)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Bars & shapes	...
A or SA-479	...	S32506	90 (620)	10H	1	10.2	145	25Cr-6Ni-Mo-N	Bars & shapes	...
A or SA-479	S32550	S32550	110 (760)	10H	1	10.2	145	25Cr-5Ni-3Mo-2Cu	Bars & shapes	...
A or SA-479	S32615	S32615	80 (550)	8	1	8.1	130	18Cr-20Ni-5.5Si	Bars & shapes	...
A or SA-479	S32750	S32750	116 (800)	10H	1	10.2	145	25Cr-7Ni-4Mo-N	Bars & shapes	...
A or SA-479	S32906	S32906	109 (750)	10H	1	10.2	145	29Cr-6.5Ni-2Mo-N	Bars & shapes	...
A or SA-479	...	S34565	115 (795)	8	4	8.3	130	24Cr-17Ni-6Mn-4.5Mo-N	Bars & shapes	...
A or SA-479	347	S34700	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Bars & shapes	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-479	347H	S34709	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Bars & shapes	...
A or SA-479	348	S34800	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Bars & shapes	...
A or SA-479	348H	S34809	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Bars & shapes	...
A or SA-479	...	S38815	78 (540)	8	1	8.1	130	14Cr-16Ni-6Si-Cu-Mo	Bars & shapes	...
A or SA-479	403	S40300	70 (485)	6	1	7.1	150	12Cr	Bars & shapes	...
A or SA-479	405	S40500	60 (415)	7	1	7.1	160	12Cr-Al	Bars & shapes	...
A or SA-479	410	S41000	70 (485)	6	1	7.2	150	13Cr	Bars & shapes	...
A or SA-479	414	S41400	115 (795)	6	4	7.2	150	12.5Cr-2Ni-Si	Bars & shapes	...
A or SA-479	S41500	S41500	115 (795)	6	4	7.2	150	13Cr-4.5Ni-Mo	Bars & shapes	...
A or SA-479	430	S43000	70 (485)	7	2	7.1	150	17Cr	Bars & shapes	...
A or SA-479	439	S43035	70 (485)	7	2	7.1	150	18Cr-Ti	Bars & shapes	...
A or SA-479	S44400	S44400	60 (415)	7	2	7.1	150	18Cr-2Mo	Bars & shapes	...
A or SA-479	XM-27	S44627	65 (450)	10I	1	7.1	150	27Cr-1Mo	Bars & shapes	...
A or SA-479	S44700	S44700	70 (485)	10J	1	7.1	150	29Cr-4Mo	Bars & shapes	...
A or SA-479	S44800	S44800	70 (485)	10K	1	7.1	150	29Cr-4Mo-2Ni	Bars & shapes	...
A or SA-479	...	S82441	99 (680)	10H	1	10.1	145	24Cr-4Ni-3Mn-1.5Mo-N	Bars & shapes	≥0.4375 (11)
A or SA-479	...	S82441	107 (740)	10H	1	10.1	145	24Cr-4Ni-3Mn-1.5Mo-N	Bars & shapes	<0.4375 (11)
A or SA-487	1, Cl. A	J13002	85 (585)	10A	1	2.1	100	Mn-V	Castings	...
A or SA-487	1, Cl. B	J13002	90 (620)	10A	1	2.1	100	Mn-V	Castings	...
A or SA-487	2, Cl. A	J13005	85 (585)	3	3	2.1	100	Mn-0.25Mo-V	Castings	...
A or SA-487	2, Cl. B	J13005	90 (620)	3	3	2.1	100	Mn-0.25Mo-V	Castings	...
A or SA-487	4, Cl. A	J13047	90 (620)	3	3	3.1	100	0.5Ni-0.5Cr-0.25Mo-V	Castings	...
A or SA-487	4, Cl. B	J13047	105 (725)	11A	3	3.1	100	0.5Ni-0.5Cr-0.25Mo-V	Castings	...
A or SA-487	4, Cl. E	J13047	115 (795)	11A	3	3.1	100	0.5Ni-0.5Cr-0.25Mo-V	Castings	...
A or SA-487	8, Cl. A	J22091	85 (585)	5C	1	5.2	110	2.25Cr-1Mo	Castings	...
A or SA-487	8, Cl. B	J22091	105 (725)	5C	4	5.2	110	2.25Cr-1Mo	Castings	...
A or SA-487	8, Cl. C	J22091	100 (690)	5C	4	5.2	110	2.25Cr-1Mo	Castings	...
A or SA-487	16, Cl. A	J31200	70 (485)	1	2	1.1	100	Low C-Mn-Ni	Castings	...
A or SA-487	CA15 Cl. C	J91150	90 (620)	6	3	7.2	150	13Cr	Castings	...
A or SA-487	CA15M Cl. A	J91151	90 (620)	6	3	7.2	150	13Cr-Mo	Castings	...
A or SA-487	CA15 Cl. B	J91171	90 (620)	6	3	7.2	150	13Cr	Castings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-487	CA15 Cl. D	J91171	100 (690)	6	3	7.2	150	13Cr	Castings	...
A or SA-487	CA6NM Cl. A	J91540	110 (760)	6	4	7.2	150	13Cr-4Ni	Castings	...
A or SA-487	CA6NM Cl. B	J91540	100 (690)	6	4	7.2	150	13Cr-4Ni	Castings	...
A or SA-494	M35-2	N04020	65 (450)	42	...	42	400	67Ni-30Cu-Fe-Si	Castings	...
A or SA-494	CY40	N06040	70 (485)	43	...	43	420	72Ni-15Cr-8Fe-Si	Castings	...
A or SA-494	CU5MCuC	N08826	75 (515)	45	...	45	420	42Ni-21.5Cr-3Mo-2.3Cu	Castings	...
A or SA-494	M30C	N24130	65 (450)	42	...	42	400	67Ni-30Cu-2Fe-Cb	Castings	...
A or SA-494	M35-1	N24135	65 (450)	42	...	42	400	67Ni-30Cu-2Fe-Cb	Castings	...
A or SA-494	CX2MW	N26022	80 (550)	43	...	43	420	59Ni-22Cr-14Mo-4Fe-3W	Castings	...
A or SA-494	CW2M	N26455	72 (495)	43	...	43	420	66Ni-16Mo-16Cr-Fe-W	Castings	...
A or SA-494	CW6MC	N26625	70 (485)	43	...	43	420	60Ni-21.5Cr-9Mo-4Cb-Fe	Castings	...
A or SA-494	N7M	N30007	76 (525)	44	...	44	410	65Ni-31.5Mo-1.5Fe-Cr	Castings	...
A or SA-494	CW6M	N30107	72 (495)	44	...	44	420	56Ni-19Mo-18Cr-2Fe	Castings	...
A500	C	K02705	62 (425)	1	1	1.2	100	C	Smls. & welded tube	...
A500	B	K03000	58 (400)	1	1	11.1	100	C	Smls. & welded tube	...
A501	A	K03000	58 (400)	1	1	11.1	100	C	Smls. & welded tube	...
A501	B	K03000	70 (485)	1	2	1.2	100	C	Smls. & welded tube	...
A or SA-508	3, Cl. 1	K12042	80 (550)	3	3	3.1	100	0.75Ni-0.5Mo-Cr-V	Forgings	...
A or SA-508	3, Cl. 2	K12042	90 (620)	3	3	3.1	100	0.75Ni-0.5Mo-Cr-V	Forgings	...
A or SA-508	2, Cl. 1	K12766	80 (550)	3	3	3.1	100	0.75Ni-0.5Mo-0.3Cr-V	Forgings	...
A or SA-508	2, Cl. 2	K12766	90 (620)	3	3	3.1	100	0.75Ni-0.5Mo-0.3Cr-V	Forgings	...
A or SA-508	1	K13502	70 (485)	1	2	11.1	100	C	Forgings	...
A or SA-508	1A	K13502	70 (485)	1	2	11.1	100	C	Forgings	...
A or SA-508	22, Cl. 3	K21590	85 (585)	5C	1	5.2	110	2.25Cr-1Mo	Forgings	...
A or SA-508	4N, Cl. 1	K22375	105 (725)	11A	5	3.1	110	3.5Ni-1.75Cr-0.5Mo-V	Forgings	...
A or SA-508	4N, Cl. 2	K22375	115 (795)	11B	10	3.1	110	3.5Ni-1.75Cr-0.5Mo-V	Forgings	...
A or SA-508	4N, Cl. 3	K22375	90 (620)	3	3	3.1	110	3.5Ni-1.75Cr-0.5Mo-V	Forgings	...
A or SA-508	3VCb	K31390	85 (585)	5C	1	6.2	110	3Cr-1Mo-0.25V-Cb-Ca	Forgings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding				Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group	Brazing P-No.			
Ferrous (Cont'd)										
A or SA-508	3V	K31830	85 (585)	5C	1	6.2	120	3Cr-1Mo-V-Ti-B	Forgings	...
A or SA-508	5, Cl. 1	K42365	105 (725)	11A	5	3.1	110	3.5Ni-1.75Cr-0.5Mo-V	Forgings	...
A or SA-508	5, Cl. 2	K42365	115 (795)	11B	10	3.1	110	3.5Ni-1.75Cr-0.5Mo-V	Forgings	...
A or SA-513	1008	G10080	42 (290)	1	1	1.1	100	C	Tube	...
A or SA-513	1010	G10100	45 (310)	1	1	1.1	100	C	Tube	...
A or SA-513	1015	G10150	48 (330)	1	1	1.1	100	C	Tube	...
A513	1015 CW	G10150	...	1	1	1.1	100	C	Tube	...
A513	1020 CW	G10200	...	1	2	1.1	100	C	Tube	...
A513	1025 CW	G10250	...	1	2	1.2	100	C	Tube	...
A513	1026 CW	G10260	...	1	3	11.1	100	C	Tube	...
A514	Q	...	100 (690)	11B	9	3.1	100	1.3Ni-1.3Cr-0.5Mo-V	Plate	>2.5 (65) ≤6 (150)
A514	Q	...	110 (760)	11B	9	3.1	100	1.3Ni-1.3Cr-0.5Mo-V	Plate	≤2.5 (65)
A514	F	K11576	110 (760)	11B	3	3.1	100	0.75Ni-0.5Cr-0.5Mo-V	Plate	≤2.5 (65)
A514	B	K11630	110 (760)	11B	4	3.1	100	0.5Cr-0.2Mo-V	Plate	≤1.25 (32)
A514	A	K11856	110 (760)	11B	1	3.1	100	0.5Cr-0.25Mo-Si	Plate	≤1.25 (32)
A514	E	K21604	100 (690)	11B	2	3.1	110	1.75Cr-0.5Mo-Cu	Plate	>2.5 (65) ≤6 (150)
A514	E	K21604	110 (760)	11B	2	3.1	110	1.75Cr-0.5Mo-Cu	Plate	≤2.5 (65)
A514	P	K21650	100 (690)	11B	8	3.1	110	1.25Ni-1Cr-0.5Mo	Plate	>2.5 (65) ≤6 (150)
A514	P	K21650	110 (760)	11B	8	3.1	110	1.25Ni-1Cr-0.5Mo	Plate	≤2.5 (65)
A or SA-515	60	...	60 (415)	1	1	11.1	100	C-Si	Plate	>1 (25)
A or SA-515	60	K02401	60 (415)	1	1	1.1	100	C	Plate	≤1 (25)
A or SA-515	65	K02800	65 (450)	1	1	11.1	100	C-Si	Plate	...
A or SA-515	70	K03101	70 (485)	1	2	11.1	100	C-Si	Plate	...
A or SA-516	55	K01800	55 (380)	1	1	1.1	100	C-Si	Plate	...
A or SA-516	60	K02100	60 (415)	1	1	1.1	100	C-Mn-Si	Plate	...
A or SA-516	65	K02403	65 (450)	1	1	1.1	100	C-Mn-Si	Plate	...
A or SA-516	70	K02700	70 (485)	1	2	11.1	100	C-Mn-Si	Plate	...
A or SA-517	F	K11576	115 (795)	11B	3	3.1	100	0.75Ni-0.5Cr-0.5Mo-V	Plate	≤2.5 (65)

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-517	B	K11630	115 (795)	11B	4	3.1	100	0.5Cr-0.2Mo-V	Plate	≤1.25 (32)
A or SA-517	A	K11856	115 (795)	11B	1	3.1	100	0.5Cr-0.25Mo-Si	Plate	≤1.25 (32)
A or SA-517	E	K21604	105 (725)	11B	2	3.1	110	1.75Cr-0.5Mo-Cu	Plate	>2.5 (65) ≤6 (150)
A or SA-517	E	K21604	115 (795)	11B	2	3.1	110	1.75Cr-0.5Mo-Cu	Plate	≤2.5 (65)
A or SA-517	P	K21650	105 (725)	11B	8	3.1	110	1.25Ni-1Cr-0.5Mo	Plate	>2.5 (65) ≤4 (100)
A or SA-517	P	K21650	115 (795)	11B	8	3.1	110	1.25Ni-1Cr-0.5Mo	Plate	≤2.5 (65)
A519	1018 CW	G10180	...	1	2	1.1	100	C	Tube	...
A519	1018 HR	G10180	...	1	1	1.1	100	C	Tube	...
A519	1020 CW	G10200	...	1	2	1.1	100	C	Tube	...
A519	1020 HR	G10200	...	1	1	1.1	100	C	Tube	...
A519	1022 CW	G10220	...	1	2	1.1	100	C	Tube	...
A519	1022 HR	G10220	...	1	1	1.1	100	C	Tube	...
A519	1025 CW	G10250	...	1	2	1.2	100	C	Tube	...
A519	1025 HR	G10250	...	1	1	1.1	100	C	Tube	...
A519	1026 CW	G10260	...	1	2	11.1	100	C	Tube	...
A519	1026 HR	G10260	...	1	1	11.1	100	C	Tube	...
A or SA-522	II	K71340	100 (690)	11A	1	9.3	100	8Ni	Forgings	...
A or SA-522	I	K81340	100 (690)	11A	1	9.3	100	9Ni	Forgings	...
A or SA-524	I	K02104	60 (415)	1	1	1.1	100	C-Mn-Si	Smls. pipe	...
A or SA-524	II	K02104	55 (380)	1	1	1.1	100	C-Mn-Si	Smls. pipe	...
A or SA-533	A, Cl. 1	K12521	80 (550)	3	3	3.1	100	Mn-0.5Mo	Plate	...
A or SA-533	A, Cl. 2	K12521	90 (620)	3	3	3.1	100	Mn-0.5Mo	Plate	...
A or SA-533	A, Cl. 3	K12521	100 (690)	11A	4	3.1	100	Mn-0.5Mo	Plate	...
A or SA-533	D, Cl. 1	K12529	80 (550)	3	3	3.1	100	Mn-0.5Mo-0.25Ni	Plate	...
A or SA-533	D, Cl. 2	K12529	90 (620)	3	3	3.1	100	Mn-0.5Mo-0.25Ni	Plate	...
A or SA-533	D, Cl. 3	K12529	100 (690)	11A	4	3.1	100	Mn-0.5Mo-0.25Ni	Plate	...
A or SA-533	B, Cl. 1	K12539	80 (550)	3	3	3.1	100	Mn-0.5Mo-0.5Ni	Plate	...
A or SA-533	B, Cl. 2	K12539	90 (620)	3	3	3.1	100	Mn-0.5Mo-0.5Ni	Plate	...
A or SA-533	B, Cl. 3	K12539	100 (690)	11A	4	3.2	100	Mn-0.5Mo-0.5Ni	Plate	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-533	C, Cl. 1	K12554	80 (550)	3	3	3.1	100	Mn-0.5Mo-0.75Ni	Plate	...
A or SA-533	C, Cl. 2	K12554	90 (620)	3	3	3.1	100	Mn-0.5Mo-0.75Ni	Plate	...
A or SA-533	C, Cl. 3	K12554	100 (690)	11A	4	3.2	100	Mn-0.5Mo-0.75Ni	Plate	...
A or SA-533	E, Cl. 1	K12554	80 (550)	3	3	3.1	100	Mn-0.5Mo-0.75Ni	Plate	...
A or SA-533	E, Cl. 2	K12554	90 (620)	3	3	3.1	100	Mn-0.5Mo-0.75Ni	Plate	...
A or SA-537	Cl. 1	K12437	65 (450)	1	2	1.2	100	C-Mn-Si	Plate	>2.5 (65) ≤4 (100)
A or SA-537	Cl. 1	K12437	70 (485)	1	2	1.2	100	C-Mn-Si	Plate	≤2.5 (65)
A or SA-537	Cl. 2	K12437	70 (485)	1	3	1.2	100	C-Mn-Si	Plate	>4 (100) ≤6 (150)
A or SA-537	Cl. 2	K12437	75 (515)	1	3	1.2	100	C-Mn-Si	Plate	>2.5 (65) ≤4 (100)
A or SA-537	Cl. 2	K12437	80 (550)	1	3	1.2	100	C-Mn-Si	Plate	≤2.5 (65)
A or SA-537	Cl. 3	K12437	70 (485)	1	3	1.2	100	C-Mn-Si	Plate	>4 (100)
A or SA-537	Cl. 3	K12437	75 (515)	1	3	1.2	100	C-Mn-Si	Plate	>2.5 (65) ≤4 (100)
A or SA-537	Cl. 3	K12437	80 (550)	1	3	1.2	100	C-Mn-Si	Plate	≤2.5 (65)
A or SA-541	1A	K03020	70 (485)	1	2	11.1	100	C-Mn-Si	Forgings	...
A or SA-541	1	K03506	70 (485)	1	2	11.1	100	C-Si	Forgings	...
A or SA-541	11, Cl. 4	K11572	80 (550)	4	1	5.2	110	1.25Cr-0.5Mo-Si	Forgings	...
A or SA-541	3, Cl. 1	K12045	80 (550)	3	3	4.1	100	0.5Ni-0.5Mo-V	Forgings	...
A or SA-541	3, Cl. 2	K12045	90 (620)	3	3	4.1	100	0.5Ni-0.5Mo-V	Forgings	...
A or SA-541	2, Cl. 1	K12765	80 (550)	3	3	4.2	100	0.75Ni-0.5Mo-0.3Cr-V	Forgings	...
A or SA-541	2, Cl. 2	K12765	90 (620)	3	3	4.2	100	0.75Ni-0.5Mo-0.3Cr-V	Forgings	...
A or SA-541	22, Cl. 3	K21390	85 (585)	5C	1	5.2	110	2.25Cr-1Mo	Forgings	...
A or SA-541	22, Cl. 4	K21390	105 (725)	5C	4	5.2	110	2.25Cr-1Mo	Forgings	...
A or SA-541	22, Cl. 5	K21390	115 (795)	5C	5	5.2	110	2.25Cr-1Mo	Forgings	...
A or SA-541	3VCb	K31390	85 (585)	5C	1	6.2	110	3Cr-1Mo-0.25V-Cb-Ca	Forgings	...
A or SA-541	3V	K31830	85 (585)	5C	1	6.2	120	3Cr-1Mo-V-Ti-B	Forgings	...
A or SA-541	22V	K31835	85 (585)	5C	1	5.2	110	2.25Cr-1Mo-V	Forgings	...
A or SA-542	A, Cl. 1	K21590	105 (725)	5C	4	5.2	110	2.25Cr-1Mo	Plate	...
A or SA-542	A, Cl. 2	K21590	115 (795)	5C	5	5.2	110	2.25Cr-1Mo	Plate	...
A or SA-542	A, Cl. 3	K21590	95 (655)	5C	3	5.2	110	2.25Cr-1Mo	Plate	...
A or SA-542	A, Cl. 4	K21590	85 (585)	5C	1	5.2	110	2.25Cr-1Mo	Plate	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-542	A, Cl. 4a	K21590	85 (585)	5C	1	5.2	110	2.25Cr-1Mo	Plate	...
A or SA-542	B, Cl. 1	K21590	105 (725)	5C	4	5.2	110	2.25Cr-1Mo	Plate	...
A or SA-542	B, Cl. 2	K21590	115 (795)	5C	5	5.2	110	2.25Cr-1Mo	Plate	...
A or SA-542	B, Cl. 3	K21590	95 (655)	5C	3	5.2	110	2.25Cr-1Mo	Plate	...
A or SA-542	B, Cl. 4	K21590	85 (585)	5C	1	5.2	110	2.25Cr-1Mo	Plate	...
A or SA-542	B, Cl. 4a	K21590	85 (585)	5C	1	5.2	110	2.25Cr-1Mo	Plate	...
A or SA-542	E, Cl. 4a	K31390	85 (585)	5C	1	6.2	110	3Cr-1Mo-0.25V-Cb-Ca	Plate	...
A or SA-542	C, Cl. 1	K31830	105 (725)	5C	4	6.2	120	3Cr-1Mo-V-Ti-B	Plate	...
A or SA-542	C, Cl. 2	K31830	115 (795)	5C	5	6.2	120	3Cr-1Mo-V-Ti-B	Plate	...
A or SA-542	C, Cl. 3	K31830	95 (655)	5C	3	6.2	120	3Cr-1Mo-V-Ti-B	Plate	...
A or SA-542	C, Cl. 4	K31830	85 (585)	5C	1	6.2	120	3Cr-1Mo-V-Ti-B	Plate	...
A or SA-542	C, Cl. 4a	K31830	85 (585)	5C	1	6.2	120	3Cr-1Mo-V-Ti-B	Plate	...
A or SA-542	D, Cl. 4a	K31835	85 (585)	5C	1	6.3	110	2.25Cr-1Mo-V	Plate	...
A or SA-543	C, Cl. 1	...	105 (725)	11A	5	3.1	110	2.75Ni-1.5Cr-0.5Mo	Plate	...
A or SA-543	C, Cl. 2	...	115 (795)	11B	10	3.1	110	2.75Ni-1.5Cr-0.5Mo	Plate	...
A or SA-543	C, Cl. 3	...	90 (620)	3	3	3.1	110	2.75Ni-1.5Cr-0.5Mo	Plate	...
A or SA-543	B, Cl. 1	K42339	105 (725)	11A	5	3.1	110	3Ni-1.75Cr-0.5Mo	Plate	...
A or SA-543	B, Cl. 2	K42339	115 (795)	11B	10	3.1	110	3Ni-1.75Cr-0.5Mo	Plate	...
A or SA-543	B, Cl. 3	K42339	90 (620)	3	3	3.1	110	3Ni-1.75Cr-0.5Mo	Plate	...
A or SA-553	III	...	100 (690)	11A	1	9.2	100	7Ni	Plate	...
A or SA-553	II	K71340	100 (690)	11A	1	9.3	100	8Ni	Plate	...
A or SA-553	I	K81340	100 (690)	11A	1	9.3	100	9Ni	Plate	...
A or SA-556	A2	K01807	47 (325)	1	1	1.1	100	C	Smls. tube	...
A or SA-556	B2	K02707	60 (415)	1	1	11.1	100	C-Si	Smls. tube	...
A or SA-556	C2	K03006	70 (485)	1	2	11.1	100	C-Mn-Si	Smls. tube	...
A or SA-557	A2	K01807	47 (325)	1	1	1.1	100	C	E.R.W. tube	...
A or SA-557	B2	K03007	60 (415)	1	1	11.1	100	C	E.R.W. tube	...
A or SA-557	C2	K03505	70 (485)	1	2	11.1	100	C-Mn	E.R.W. tube	...
A or SA-562	...	K11224	55 (380)	1	1	1.1	120	C-Mn-Ti	Plate	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-572	42	...	60 (415)	1	1	1.2	100	C-Mn-Si	Plate & shapes	...
A or SA-572	50	...	65 (450)	1	1	1.2	100	C-Mn-Si	Plate & shapes	...
A or SA-572	55	...	70 (485)	1	2	1.3	100	C-Mn-Si	Plate & shapes	...
A or SA-572	60	...	75 (515)	1	2	11.1	100	C-Mn-Si	Plate & shapes	...
A or SA-572	65	...	80 (550)	1	3	1.3	100	C-Mn-Si	Plate & shapes	...
A573	58	...	58 (400)	1	1	11.1	100	C	Plate	...
A573	65	...	65 (450)	1	1	11.1	100	C	Plate	...
A573	70	...	70 (485)	1	2	11.1	100	C	Plate	...
A575	M 1008	...	...	1	1	1.1	100	C	Bar	...
A575	M 1010	...	...	1	1	1.1	100	C	Bar	...
A575	M 1012	...	...	1	1	1.1	100	C	Bar	...
A575	M 1015	...	...	1	1	1.1	100	C	Bar	...
A575	M 1017	...	...	1	1	1.1	100	C	Bar	...
A575	M 1020	...	...	1	1	11.1	100	C	Bar	...
A575	M 1023	...	...	1	1	11.1	100	C	Bar	...
A575	M 1025	...	...	1	1	11.1	100	C	Bar	...
A576	G10080	...	...	1	1	1.1	100	C	Bar	...
A576	G10100	...	...	1	1	1.1	100	C	Bar	...
A576	G10120	...	...	1	1	1.1	100	C	Bar	...
A576	G10150	...	...	1	1	1.1	100	C	Bar	...
A576	G10160	...	...	1	1	1.1	100	C	Bar	...
A576	G10170	...	...	1	1	1.1	100	C	Bar	...
A576	G10180	...	...	1	1	1.1	100	C	Bar	...
A576	G10190	...	...	1	1	1.1	100	C	Bar	...
A576	G10200	...	...	1	1	1.1	100	C	Bar	...
A576	G10210	...	...	1	1	11.1	100	C	Bar	...
A576	G10220	...	...	1	1	11.1	100	C	Bar	...
A576	G10230	...	...	1	1	11.1	100	C	Bar	...
A576	G10250	...	...	1	1	11.1	100	C	Bar	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-587	...	K11500	48 (330)	1	1	1.1	100	C	E.R.W. pipe	...
A588	A	K11430	63 (435)	3	1	1.4	100	Mn-0.5Cr-0.3Cu-Si-V	Plate & bar	>5 (125) ≤8 (200)
A588	A	K11430	67 (460)	3	1	1.4	100	Mn-0.5Cr-0.3Cu-Si-V	Plate & bar	>4 (100) ≤5 (125)
A588	A	K11430	70 (485)	3	1	1.4	100	Mn-0.5Cr-0.3Cu-Si-V	Shapes	...
A588	A	K11430	70 (485)	3	1	1.4	100	Mn-0.5Cr-0.3Cu-Si-V	Plate & bar	≤4 (100)
A588	B	K12043	63 (435)	3	1	1.4	100	Mn-0.6Cr-0.3Cu-Si-V	Plate & bar	>5 (125) ≤8 (200)
A588	B	K12043	67 (460)	3	1	1.4	100	Mn-0.6Cr-0.3Cu-Si-V	Plate & bar	>4 (100) ≤5 (125)
A588	B	K12043	70 (485)	3	1	1.4	100	Mn-0.6Cr-0.3Cu-Si-V	Shapes	...
A588	B	K12043	70 (485)	3	1	1.4	100	Mn-0.6Cr-0.3Cu-Si-V	Plate & bar	≤4 (100)
A or SA-592	F	K11576	105 (725)	11B	3	3.1	100	0.75Ni-0.5Cr-0.5Mo-V	Forgings	≥2.5 (65) ≤4 (100)
A or SA-592	F	K11576	115 (795)	11B	3	3.1	100	0.75Ni-0.5Cr-0.5Mo-V	Forgings	≤2.5 (65)
A or SA-592	E	K11695	105 (725)	11B	2	3.1	110	1.75Cr-0.5Mo-Cu	Forgings	≥2.5 (65) ≤4 (100)
A or SA-592	E	K11695	115 (795)	11B	2	3.1	110	1.75Cr-0.5Mo-Cu	Forgings	≤2.5 (65)
A or SA-592	A	K11856	115 (795)	11B	1	3.1	100	0.5Cr-0.25Mo-Si	Forgings	≤1.5 (38)
A or SA-612	...	K02900	81 (560)	10C	1	1.3	100	C-Mn-Si	Plate	>0.5 (13) ≤1 (25)
A or SA-612	...	K02900	83 (570)	10C	1	1.3	100	C-Mn-Si	Plate	≤0.5 (13)
A618	Ia	...	67 (460)	1	2	1.2	100	Mn-Cu-V	Tube	>0.75 (19) ≤1.5 (38)
A618	Ia	...	70 (485)	1	2	1.2	100	Mn-Cu-V	Tube	≤0.75 (19)
A618	Ib	K02601	67 (460)	1	2	1.2	100	Mn-Cu-V	Tube	>0.75 (19) ≤1.5 (38)
A618	Ib	K02601	70 (485)	1	2	1.2	100	Mn-Cu-V	Tube	≤0.75 (19)
A618	II	K12609	67 (460)	1	2	1.2	100	Mn-Cu-V	Tube	>0.75 (19) ≤1.5 (38)
A618	II	K12609	70 (485)	1	2	1.2	100	Mn-Cu-V	Tube	≤0.75 (19)
A618	III	K12700	65 (450)	1	1	1.2	100	Mn-V	Tube	...
A633	A	K01802	63 (435)	1	1	1.1	100	Mn-Cb	Plate	...
A633	C	K12000	65 (450)	1	1	1.1	100	Mn-Cb	Plate	>2.5 (65) ≤4 (100)
A633	C	K12000	70 (485)	1	2	1.1	100	Mn-Cb	Plate	≤2.5 (65)
A633	D	K12037	65 (450)	1	1	1.1	100	C-Mn-Si	Plate	>2.5 (65) ≤4 (100)
A633	D	K12037	70 (485)	1	2	1.1	100	C-Mn-Si	Plate	≤2.5 (65)
A633	E	K12202	75 (515)	1	3	4.1	100	C-Mn-Si-V	Plate	>4 (100) ≤6 (150)

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A633	E	K12202	80 (550)	1	3	4.1	100	C-Mn-Si-V	Plate	≤4 (100)
A or SA-645	A	K41583	95 (655)	11A	2	9.2	100	5Ni-0.25Mo	Plate	...
A or SA-656	T3, 50	...	60 (415)	1	1	1.2	100	C-Mn-Si-V-Cb	Plate	...
A or SA-656	T3, 60	...	70 (485)	1	2	1.3	100	C-Mn-Si-V-Cb	Plate	...
A or SA-656	T3, 70	...	80 (550)	1	3	2.2	100	C-Mn-Si-V-Cb	Plate	...
A or SA-656	T3, 80	...	90 (620)	1	4	2.2	100	C-Mn-Si-V-Cb	Plate	...
A or SA-656	T7, 50	...	60 (415)	1	1	1.2	100	C-Mn-Si-V-Cb	Plate	...
A or SA-656	T7, 60	...	70 (485)	1	2	1.3	100	C-Mn-Si-V-Cb	Plate	...
A or SA-656	T7, 70	...	80 (550)	1	3	2.2	100	C-Mn-Si-V-Cb	Plate	...
A or SA-656	T7, 80	...	90 (620)	1	4	2.2	100	C-Mn-Si-V-Cb	Plate	...
A or SA-660	WCA	J02504	60 (415)	1	1	11.1	100	C-Si	Centrifugal cast pipe	...
A or SA-660	WCC	J02505	70 (485)	1	2	11.1	100	C-Mn-Si	Centrifugal cast pipe	...
A or SA-660	WCB	J03003	70 (485)	1	2	1.1	100	C-Si	Centrifugal cast pipe	...
A or SA-662	A	K01701	58 (400)	1	1	1.1	100	C-Mn-Si	Plate	...
A or SA-662	C	K02007	70 (485)	1	2	1.1	100	C-Mn-Si	Plate	...
A or SA-662	B	K02203	65 (450)	1	1	1.1	100	C-Mn-Si	Plate	...
A663	...	...	...	1	1	...	100	C	Bar	...
A or SA-666	201-1	S20100	75 (515)	8	3	8.3	130	17Cr-4Ni-6Mn	Plate, sheet & strip	...
A or SA-666	201-2	S20100	95 (655)	8	3	8.3	130	17Cr-4Ni-6Mn	Plate, sheet & strip	...
A or SA-666	XM-11	S21904	90 (620)	8	3	8.3	130	21Cr-6Ni-9Mn	Plate, sheet & strip	...
A or SA-666	302	S30200	75 (515)	8	1	8.1	130	18Cr-8Ni	Plate, sheet & strip	...
A or SA-666	304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Plate, sheet & strip	...
A or SA-666	304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Plate, sheet & strip	...
A or SA-666	304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Plate, sheet & strip	...
A or SA-666	304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N	Plate, sheet & strip	...
A or SA-666	316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Plate, sheet & strip	...
A or SA-666	316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Plate, sheet & strip	...
A or SA-666	316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Plate, sheet & strip	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-671	CC60	K02100	60 (415)	1	1	1.1	100	C-Mn-Si	Fusion welded pipe	...
A or SA-671	CE55	K02202	55 (380)	1	1	11.1	100	C	Fusion welded pipe	...
A or SA-671	CB60	K02401	60 (415)	1	1	1.1	100	C	Fusion welded pipe	...
A or SA-671	CE60	K02402	60 (415)	1	1	11.1	100	C-Mn-Si	Fusion welded pipe	...
A or SA-671	CC65	K02403	65 (450)	1	1	1.1	100	C-Mn-Si	Fusion welded pipe	...
A or SA-671	CC70	K02700	70 (485)	1	2	11.1	100	C-Mn-Si	Fusion welded pipe	...
A or SA-671	CB65	K02800	65 (450)	1	1	11.1	100	C-Si	Fusion welded pipe	...
A or SA-671	CA55	K02801	55 (380)	1	1	11.1	100	C	Fusion welded pipe	...
A or SA-671	CK75	K02803	75 (515)	1	2	11.1	100	C-Mn-Si	Fusion welded pipe	...
A or SA-671	CB70	K03101	70 (485)	1	2	11.1	100	C-Si	Fusion welded pipe	...
A or SA-671	CD70	K12437	70 (485)	1	2	1.2	100	C-Mn-Si	Fusion welded pipe	...
A or SA-671	CD80	K12437	80 (550)	1	3	1.2	100	C-Mn-Si	Fusion welded pipe	...
A or SA-672	J80	...	80 (550)	3	3	3.1	100	Mn-0.5Mo-0.75Ni	Fusion welded pipe	...
A or SA-672	J90	...	90 (620)	3	3	3.1	100	Mn-0.5Mo-0.75Ni	Fusion welded pipe	...
A or SA-672	A45	K01700	45 (310)	1	1	1.1	100	C	Fusion welded pipe	...
A or SA-672	C55	K01800	55 (380)	1	1	1.1	100	C-Si	Fusion welded pipe	...
A or SA-672	B55	K02001	55 (380)	1	1	1.1	100	C-Si	Fusion welded pipe	...
A or SA-672	C60	K02100	60 (415)	1	1	1.1	100	C-Mn-Si	Fusion welded pipe	...
A or SA-672	A50	K02200	50 (345)	1	1	1.1	100	C	Fusion welded pipe	...
A or SA-672	E55	K02202	55 (380)	1	1	11.1	100	C	Fusion welded pipe	...
A or SA-672	B60	K02401	60 (415)	1	1	1.1	100	C	Fusion welded pipe	...
A or SA-672	E60	K02402	60 (415)	1	1	11.1	100	C-Mn-Si	Fusion welded pipe	...
A or SA-672	C65	K02403	65 (450)	1	1	1.1	100	C-Mn-Si	Fusion welded pipe	...
A or SA-672	C70	K02700	70 (485)	1	2	11.1	100	C-Mn-Si	Fusion welded pipe	...
A or SA-672	B65	K02800	65 (450)	1	1	11.1	100	C-Si	Fusion welded pipe	...
A or SA-672	A55	K02801	55 (380)	1	1	11.1	100	C	Fusion welded pipe	...
A or SA-672	N75	K02803	75 (515)	1	2	11.1	100	C-Mn-Si	Fusion welded pipe	...
A or SA-672	B70	K03101	70 (485)	1	2	11.1	100	C-Si	Fusion welded pipe	...
A or SA-672	L65	K11820	65 (450)	3	1	1.1	100	C-0.5Mo	Fusion welded pipe	...
A or SA-672	L70	K12020	70 (485)	3	2	1.2	100	C-0.5Mo	Fusion welded pipe	...
A or SA-672	H75	K12021	75 (515)	3	2	1.1	100	Mn-0.5Mo	Fusion welded pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-672	H80	K12022	80 (550)	3	3	1.2	100	Mn-0.5Mo	Fusion welded pipe	...
A or SA-672	L75	K12320	75 (515)	3	2	1.2	100	C-0.5Mo	Fusion welded pipe	...
A or SA-672	D70	K12437	70 (485)	1	2	1.2	100	C-Mn-Si	Fusion welded pipe	...
A or SA-672	D80	K12437	80 (550)	1	3	1.2	100	C-Mn-Si	Fusion welded pipe	...
A or SA-672	J100	K12521	100 (690)	11A	4	3.2	100	Mn-0.5Mo	Fusion welded pipe	...
A or SA-675	45	...	45 (310)	1	1	11.1	100	C	Bar	...
A or SA-675	50	...	50 (345)	1	1	11.1	100	C	Bar	...
A or SA-675	55	...	55 (380)	1	1	11.1	100	C	Bar	...
A or SA-675	60	...	60 (415)	1	1	11.1	100	C	Bar	...
A or SA-675	65	...	65 (450)	1	1	11.1	100	C	Bar	...
A or SA-675	70	...	70 (485)	1	2	11.1	100	C	Bar	...
A or SA-688	XM-29	S24000	100 (690)	8	3	8.3	130	18Cr-3Ni-12Mn	Welded tube	...
A or SA-688	TP304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Welded tube	...
A or SA-688	TP304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Welded tube	...
A or SA-688	TP304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Welded tube	...
A or SA-688	TP304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N	Welded tube	...
A or SA-688	TP316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Welded tube	...
A or SA-688	TP316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Welded tube	...
A or SA-688	TP316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Welded tube	...
A or SA-688	TP316LN	S31653	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Welded tube	...
A or SA-691	CMS-75	K02803	75 (515)	1	2	11.1	100	C-Mn-Si	Fusion welded pipe	...
A or SA-691	1CR, Cl. 1	K11757	55 (380)	4	1	5.1	110	1Cr-0.5Mo	Fusion welded pipe	...
A or SA-691	1CR, Cl. 2	K11757	65 (450)	4	1	5.1	110	1Cr-0.5Mo	Fusion welded pipe	...
A or SA-691	1.25CR, Cl. 1	K11789	60 (415)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Fusion welded pipe	...
A or SA-691	1.25CR, Cl. 2	K11789	75 (515)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Fusion welded pipe	...
A or SA-691	CM-65	K11820	65 (450)	3	1	1.1	100	C-0.5Mo	Fusion welded pipe	...
A or SA-691	CM-70	K12020	70 (485)	3	2	1.2	100	C-0.5Mo	Fusion welded pipe	...
A or SA-691	0.5CR, Cl. 1	K12143	55 (380)	3	1	4.2	100	0.5Cr-0.5Mo	Fusion welded pipe	...
A or SA-691	0.5CR, Cl. 2	K12143	70 (485)	3	2	4.2	100	0.5Cr-0.5Mo	Fusion welded pipe	...
A or SA-691	CM-75	K12320	75 (515)	3	2	1.2	100	C-0.5Mo	Fusion welded pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-691	CMSH-70	K12437	65 (450)	1	2	1.2	100	C-Mn-Si	Fusion welded pipe	>2.5 (65) ≤4 (100)
A or SA-691	CMSH-70	K12437	70 (485)	1	2	1.2	100	C-Mn-Si	Fusion welded pipe	≤2.5 (65)
A or SA-691	CMSH-80	K12437	75 (515)	1	3	1.2	100	C-Mn-Si	Fusion welded pipe	>2.5 (65) ≤4 (100)
A or SA-691	CMSH-80	K12437	80 (550)	1	3	1.2	100	C-Mn-Si	Fusion welded pipe	≤2.5 (65)
A or SA-691	2.25CR, Cl. 1	K21590	60 (415)	5A	1	5.2	110	2.25Cr-1Mo	Fusion welded pipe	...
A or SA-691	2.25CR, Cl. 2	K21590	75 (515)	5A	1	5.2	110	2.25Cr-1Mo	Fusion welded pipe	...
A or SA-691	3CR, Cl. 1	K31545	60 (415)	5A	1	5.2	110	3Cr-1Mo	Fusion welded pipe	...
A or SA-691	3CR, Cl. 2	K31545	75 (515)	5A	1	5.2	110	3Cr-1Mo	Fusion welded pipe	...
A or SA-691	5CR, Cl. 1	K41545	60 (415)	5B	1	5.3	110	5Cr-0.5Mo	Fusion welded pipe	...
A or SA-691	5CR, Cl. 2	K41545	75 (515)	5B	1	5.3	110	5Cr-0.5Mo	Fusion welded pipe	...
A or SA-691	91	K90901	85 (585)	15E	1	6.4	110	9Cr-1Mo-V	Fusion welded pipe	...
A694	F42	K03014	60 (415)	1	1	11.1	100	C-Mn	Forgings	...
A694	F46	K03014	60 (415)	1	1	11.1	100	C-Mn	Forgings	...
A694	F48	K03014	62 (425)	1	1	11.1	100	C-Mn	Forgings	...
A694	F50	K03014	64 (440)	1	1	11.1	100	C-Mn	Forgings	...
A694	F52	K03014	66 (455)	1	1	11.1	100	C-Mn	Forgings	...
A694	F56	K03014	68 (470)	1	2	11.1	100	C-Mn	Forgings	...
A694	F60	K03014	75 (515)	1	2	11.1	100	C-Mn	Forgings	...
A694	F65	K03014	77 (530)	1	2	11.1	100	C-Mn	Forgings	...
A694	F70	K03014	82 (565)	1	3	11.1	100	C-Mn	Forgings	...
A or SA-696	B	K03200	60 (415)	1	1	11.1	100	C-Mn-Si	Bar	...
A or SA-696	C	K03200	70 (485)	1	2	11.1	100	C-Mn-Si	Bar	...
A707	L1, Cl. 1	K02302	...	1	1	1.2	100	C-Mn	Forgings	...
A707	L1, Cl. 2	K02302	...	1	1	1.2	100	C-Mn	Forgings	...
A707	L2, Cl. 1	K03301	...	1	1	11.1	100	C-Mn	Forgings	...
A707	L2, Cl. 2	K03301	...	1	1	11.1	100	C-Mn	Forgings	...
A707	L2, Cl. 3	K03301	...	1	2	11.1	100	C-Mn	Forgings	...
A707	L3, Cl. 1	K12510	...	1	1	1.2	100	C-Mn-V-N	Forgings	...
A707	L3, Cl. 2	K12510	...	1	1	1.2	100	C-Mn-V-N	Forgings	...
A707	L3, Cl. 3	K12510	...	1	2	1.3	100	C-Mn-V-N	Forgings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
A714	V	K22035	65 (450)	9A	1	9.1	100	2Ni-1Cu	Smls. & welded pipe	...
A714	V, E	K22035	65 (450)	9A	1	9.1	100	2Ni-1Cu	Smls. & welded pipe	...
A or SA-724	A	K11831	90 (620)	1	4	3.1	100	C-Mn-Si	Plate	...
A or SA-724	B	K12031	95 (655)	1	4	3.1	100	C-Mn-Si	Plate	...
A or SA-724	C	K12037	90 (620)	1	4	1.1	100	C-Mn-Si	Plate	...
A or SA-727	...	K02506	60 (415)	1	1	11.1	100	C-Mn-Si	Forgings	...
A or SA-731	S41500	S41500	115 (795)	6	4	7.2	150	13Cr-4.5Ni-Mo	Smls. & welded pipe	...
A or SA-731	TP439	S43035	60 (415)	7	2	7.1	150	18Cr-Ti	Smls. & welded pipe	...
A or SA-731	18Cr-2Mo	S44400	60 (415)	7	2	7.1	150	18Cr-2Mo	Smls. & welded pipe	...
A or SA-731	TPXM-33	S44626	65 (450)	10I	1	7.1	150	27Cr-1Mo-Ti	Smls. & welded pipe	...
A or SA-731	TPXM-27	S44627	65 (450)	10I	1	7.1	150	27Cr-1Mo	Smls. & welded pipe	...
A or SA-731	S44660	S44660	85 (585)	10K	1	7.1	150	26Cr-3Ni-3Mo	Smls. & welded pipe	...
A or SA-731	S44700	S44700	80 (550)	10J	1	7.1	150	29Cr-4Mo	Smls. & welded pipe	...
A or SA-731	S44800	S44800	80 (550)	10K	1	7.1	150	29Cr-4Mo-2Ni	Smls. & welded pipe	...
A or SA-737	B	K12001	70 (485)	1	2	11.1	100	C-Mn-Si-Cb	Plate	...
A or SA-737	C	K12202	80 (550)	1	3	4.1	100	C-Mn-Si-V	Plate	...
A or SA-738	C	K02008	70 (485)	1	3	11.1	100	C-Mn-Si	Plate	>4 (100) ≤6 (150)
A or SA-738	C	K02008	75 (515)	1	3	11.1	100	C-Mn-Si	Plate	>2.5 (65) ≤4 (100)
A or SA-738	C	K02008	80 (550)	1	3	11.1	100	C-Mn-Si	Plate	≤2.5 (65)
A or SA-738	B	K12007	85 (585)	1	3	11.1	100	C-Mn-Si-Cb	Plate	...
A or SA-738	A	K12447	75 (515)	1	2	11.1	100	C-Mn-Si	Plate	...
A or SA-739	B11	K11797	70 (485)	4	1	5.1	110	1.25Cr-0.5Mo	Bar	...
A or SA-739	B22	K21390	75 (515)	5A	1	5.2	110	2.25Cr-1Mo	Bar	...
A or SA-765	IV	K02009	80 (550)	1	3	1.1	100	C-Mn-Si	Forgings	...
A or SA-765	I	K03046	60 (415)	1	1	11.1	100	C-Mn-Si	Forgings	...
A or SA-765	II	K03047	70 (485)	1	2	11.1	100	C-Mn-Si	Forgings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-765	III	K32026	70 (485)	9B	1	9.2	100	3.5Ni	Forgings	...
A or SA-789	S31200	S31200	100 (690)	10H	1	10.2	145	25Cr-6Ni-Mo-N	Smls. & welded tube	...
A or SA-789	S31260	S31260	100 (690)	10H	1	10.2	145	25Cr-6.5Ni-3Mo-N	Smls. & welded tube	...
A or SA-789	S31500	S31500	92 (635)	10H	1	10.1	145	18Cr-5Ni-3Mo-N	Smls. & welded tube	...
A or SA-789	S31803	S31803	90 (620)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Smls. & welded tube	...
A or SA-789	...	S32003	100 (690)	10H	1	10.3	145	21Cr-3.5Ni-Mo-N	Smls. & welded tube	...
A or SA-789	...	S32101	94 (650)	10H	1	10.3	145	21Cr-5Mn-1.5Ni-Cu-N	Smls. & welded tube	>0.187 (5)
A or SA-789	...	S32101	101 (700)	10H	1	10.3	145	21Cr-5Mn-1.5Ni-Cu-N	Smls. & welded tube	≤0.187 (5)
A or SA-789	...	S32202	94 (650)	10H	1	10.3	145	22Cr-2Ni-Mo-N	Smls. & welded tube	...
A or SA-789	...	S32205	95 (655)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Smls. & welded tube	...
A or SA-789	S32304	S32304	87 (600)	10H	1	10.1	145	23Cr-4Ni-Mo-Cu-N	Smls. & welded tube	>1 (25) O.D.
A or SA-789	S32304	S32304	100 (690)	10H	1	10.1	145	23Cr-4Ni-Mo-Cu-N	Smls. & welded tube	≤1 (25) O.D.
A or SA-789	...	S32506	90 (620)	10H	1	10.2	145	25Cr-6Ni-Mo-N	Smls. & welded tube	...
A or SA-789	S32550	S32550	110 (760)	10H	1	10.2	145	25Cr-5Ni-3Mo-2Cu	Smls. & welded tube	...
A or SA-789	...	S32707	133 (915)	10H	1	10.2	145	27Cr-6.5Ni-4.5Mo-Co-Cu-N	Smls. & welded tube	...
A or SA-789	S32750	S32750	116 (800)	10H	1	10.2	145	25Cr-7Ni-4Mo-N	Smls. & welded tube	...
A or SA-789	S32760	S32760	109 (750)	10H	1	10.2	145	25Cr-8Ni-3Mo-W-Cu-N	Smls. & welded tube	...
A or SA-789	S32900	S32900	90 (620)	10H	1	10.2	145	26Cr-4Ni-Mo	Smls. & welded tube	...
A or SA-789	S32906	S32906	109 (750)	10H	1	10.2	145	29Cr-6.5Ni-2Mo-N	Smls. & welded tube	≥0.40 (10)
A or SA-789	S32906	S32906	116 (800)	10H	1	10.2	145	29Cr-6.5Ni-2Mo-N	Smls. & welded tube	<0.40 (10)
A or SA-789	S32950	S32950	100 (690)	10H	1	10.2	145	26Cr-4Ni-Mo-N	Smls. & welded tube	...
A or SA-789	S39274	S39274	116 (800)	10H	1	10.2	145	25Cr-7Ni-3Mo-2W-Cu-N	Smls. & welded tube	...
A or SA-789	...	S82011	95 (655)	10H	1	10.3	145	22Cr-1.5Ni-Mo-N	Smls. & welded tube	>0.187 (5)
A or SA-789	...	S82011	101 (700)	10H	1	10.3	145	22Cr-1.5Ni-Mo-N	Smls. & welded tube	≤0.187 (5)
A or SA-789	...	S82441	99 (680)	10H	1	10.1	145	24Cr-4Ni-3Mn-1.5Mo-N	Smls. & welded tube	≥0.40 (10)
A or SA-789	...	S82441	107 (740)	10H	1	10.1	145	24Cr-4Ni-3Mn-1.5Mo-N	Smls. & welded tube	<0.40 (10)
A or SA-790	S31200	S31200	100 (690)	10H	1	10.2	145	25Cr-6Ni-Mo-N	Smls. & welded pipe	...
A or SA-790	S31260	S31260	100 (690)	10H	1	10.2	145	25Cr-6.5Ni-3Mo-N	Smls. & welded pipe	...
A or SA-790	S31500	S31500	92 (635)	10H	1	10.1	145	18Cr-5Ni-3Mo-N	Smls. & welded pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-790	S31803	S31803	90 (620)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Smls. & welded pipe	...
A or SA-790	...	S32003	90 (620)	10H	1	10.3	145	21Cr-3.5Ni-Mo-N	Smls. & welded pipe	...
A or SA-790	...	S32101	94 (650)	10H	1	10.3	145	21Cr-5Mn-1.5Ni-Cu-N	Smls. & welded pipe	>0.187 (5)
A or SA-790	...	S32101	101 (700)	10H	1	10.3	145	21Cr-5Mn-1.5Ni-Cu-N	Smls. & welded pipe	≤0.187 (5)
A or SA-790	...	S32202	94 (650)	10H	1	10.3	145	22Cr-2Ni-Mo-N	Smls. & welded pipe	...
A or SA-790	2205	S32205	95 (655)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Smls. & welded pipe	...
A or SA-790	S32304	S32304	87 (600)	10H	1	10.1	145	23Cr-4Ni-Mo-Cu-N	Smls. & welded pipe	...
A or SA-790	...	S32506	90 (620)	10H	1	10.2	145	25Cr-6Ni-Mo-N	Smls. & welded pipe	...
A or SA-790	S32550	S32550	110 (760)	10H	1	10.2	145	25Cr-5Ni-3Mo-2Cu	Smls. & welded pipe	...
A or SA-790	...	S32707	133 (915)	10H	1	10.2	145	27Cr-6.5Ni-4.5Mo-Co-Cu-N	Smls. & welded pipe	...
A or SA-790	S32750	S32750	116 (800)	10H	1	10.2	145	25Cr-7Ni-4Mo-N	Smls. & welded pipe	...
A or SA-790	S32760	S32760	109 (750)	10H	1	10.2	145	25Cr-8Ni-3Mo-W-Cu-N	Smls. & welded pipe	...
A or SA-790	S32900	S32900	90 (620)	10H	1	10.2	145	26Cr-4Ni-Mo	Smls. & welded pipe	...
A or SA-790	S32906	S32906	109 (750)	10H	1	10.2	145	29Cr-6.5Ni-2Mo-N	Smls. & welded pipe	≥0.40 (10)
A or SA-790	S32906	S32906	116 (800)	10H	1	10.2	145	29Cr-6.5Ni-2Mo-N	Smls. & welded pipe	<0.40 (10)
A or SA-790	S32950	S32950	100 (690)	10H	1	10.2	145	26Cr-4Ni-Mo-N	Smls. & welded pipe	...
A or SA-790	S39274	S39274	116 (800)	10H	1	10.2	145	25Cr-7Ni-3Mo-2W-Cu-N	Smls. & welded pipe	...
A or SA-790	...	S82011	95 (655)	10H	1	10.3	145	22Cr-1.5Ni-Mo-N	Smls. & welded pipe	≥0.187 (5)
A or SA-790	...	S82011	101 (700)	10H	1	10.3	145	22Cr-1.5Ni-Mo-N	Smls. & welded pipe	<0.187 (5)
A or SA-790	...	S82441	99 (680)	10H	1	10.1	145	24Cr-4Ni-3Mn-1.5Mo-N	Smls. & welded pipe	≥0.40 (10)
A or SA-790	...	S82441	107 (740)	10H	1	10.1	145	24Cr-4Ni-3Mn-1.5Mo-N	Smls. & welded pipe	<0.40 (10)
A or SA-803	TP439	S43035	60 (415)	7	2	7.1	150	18Cr-Ti	Welded tube	...
A or SA-803	26-3-3	S44660	85 (585)	10K	1	7.1	150	26Cr-3Ni-3Mo	Welded tube	...
A or SA-813	N08367	N08367	95 (655)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Welded pipe	>0.187 (5)
A or SA-813	N08367	N08367	100 (690)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Welded pipe	≤0.187 (5)
A or SA-813	TPXM-19	S20910	100 (690)	8	3	8.3	130	22Cr-13Ni-5Mn	Welded pipe	...
A or SA-813	TPXM-11	S21904	90 (620)	8	3	8.3	130	21Cr-6Ni-9Mn	Welded pipe	...
A or SA-813	TPXM-29	S24000	100 (690)	8	3	8.3	130	18Cr-3Ni-12Mn	Welded pipe	...
A or SA-813	TP304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Welded pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-813	TP304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Welded pipe	...
A or SA-813	TP304H	S30409	75 (515)	8	1	8.1	130	18Cr-8Ni	Welded pipe	...
A or SA-813	TP304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Welded pipe	...
A or SA-813	TP304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N	Welded pipe	...
A or SA-813	S30815	S30815	87 (600)	8	2	8.2	130	21Cr-11Ni-N	Welded pipe	...
A or SA-813	TP309S	S30908	75 (515)	8	2	8.2	130	23Cr-12Ni	Welded pipe	...
A or SA-813	TP309Cb	S30940	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb	Welded pipe	...
A or SA-813	TP310S	S31008	75 (515)	8	2	8.2	130	25Cr-20Ni	Welded pipe	...
A or SA-813	TP310Cb	S31040	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Welded pipe	...
A or SA-813	S31254	S31254	94 (650)	8	4	8.2	130	20Cr-18Ni-6Mo	Welded pipe	...
A or SA-813	TP316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Welded pipe	...
A or SA-813	TP316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Welded pipe	...
A or SA-813	TP316H	S31609	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Welded pipe	...
A or SA-813	TP316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Welded pipe	...
A or SA-813	TP316LN	S31653	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Welded pipe	...
A or SA-813	TP317	S31700	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Welded pipe	...
A or SA-813	TP317L	S31703	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Welded pipe	...
A or SA-813	...	S32053	93 (640)	8	4	8.2	130	23Cr-25Ni-5.5Mo-N	Welded pipe	...
A or SA-813	TP321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Welded pipe	...
A or SA-813	TP321H	S32109	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Welded pipe	...
A or SA-813	TP347	S34700	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Welded pipe	...
A or SA-813	TP347H	S34709	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Welded pipe	...
A or SA-813	TP348	S34800	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Welded pipe	...
A or SA-813	TP348H	S34809	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Welded pipe	...
A or SA-813	TPXM-15	S38100	75 (515)	8	1	8.1	130	18Cr-18Ni-2Si	Welded pipe	...
A or SA-814	N08367	N08367	95 (655)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Cold worked welded pipe	>0.187 (5)
A or SA-814	N08367	N08367	100 (690)	45	...	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Cold worked welded pipe	≤0.187 (5)
A or SA-814	TPXM-19	S20910	100 (690)	8	3	8.3	130	22Cr-13Ni-5Mn	Cold worked welded pipe	...
A or SA-814	TPXM-11	S21904	90 (620)	8	3	8.3	130	21Cr-6Ni-9Mn	Cold worked welded pipe	...
A or SA-814	TPXM-29	S24000	100 (690)	8	3	8.3	130	18Cr-3Ni-12Mn	Cold worked welded pipe	...
A or SA-814	TP304	S30400	75 (515)	8	1	8.1	130	18Cr-8Ni	Cold worked welded pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding				Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group	Brazing P-No.			
Ferrous (Cont'd)										
A or SA-814	TP304L	S30403	70 (485)	8	1	8.1	130	18Cr-8Ni	Cold worked welded pipe	...
A or SA-814	TP304H	S30409	75 (515)	8	1	8.1	130	18Cr-8Ni	Cold worked welded pipe	...
A or SA-814	TP304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Cold worked welded pipe	...
A or SA-814	TP304LN	S30453	75 (515)	8	1	8.1	130	18Cr-8Ni-N	Cold worked welded pipe	...
A or SA-814	S30815	S30815	87 (600)	8	2	8.2	130	21Cr-11Ni-N	Cold worked welded pipe	...
A or SA-814	TP309S	S30908	75 (515)	8	2	8.2	130	23Cr-12Ni	Cold worked welded pipe	...
A or SA-814	TP309Cb	S30940	75 (515)	8	2	8.2	130	23Cr-12Ni-Cb	Cold worked welded pipe	...
A or SA-814	TP310S	S31008	75 (515)	8	2	8.2	130	25Cr-20Ni	Cold worked welded pipe	...
A or SA-814	TP310Cb	S31040	75 (515)	8	2	8.2	130	25Cr-20Ni-Cb	Cold worked welded pipe	...
A or SA-814	S31254	S31254	94 (650)	8	4	8.2	130	20Cr-18Ni-6Mo	Cold worked welded pipe	...
A or SA-814	TP316	S31600	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Cold worked welded pipe	...
A or SA-814	TP316L	S31603	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Cold worked welded pipe	...
A or SA-814	TP316H	S31609	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Cold worked welded pipe	...
A or SA-814	TP316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Cold worked welded pipe	...
A or SA-814	TP316LN	S31653	75 (515)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Cold worked welded pipe	...
A or SA-814	TP317	S31700	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Cold worked welded pipe	...
A or SA-814	TP317L	S31703	75 (515)	8	1	8.1	130	18Cr-13Ni-3Mo	Cold worked welded pipe	...
A or SA-814	...	S32053	93 (640)	8	4	8.2	130	23Cr-25Ni-5.5Mo-N	Cold worked welded pipe	...
A or SA-814	TP321	S32100	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Cold worked welded pipe	...
A or SA-814	TP321H	S32109	75 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Cold worked welded pipe	...
A or SA-814	TP347	S34700	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Cold worked welded pipe	...
A or SA-814	TP347H	S34709	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Cold worked welded pipe	...
A or SA-814	TP348	S34800	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Cold worked welded pipe	...
A or SA-814	TP348H	S34809	75 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Cold worked welded pipe	...
A or SA-814	TPXM-15	S38100	75 (515)	8	1	8.1	130	18Cr-18Ni-2Si	Cold worked welded pipe	...
A or SA-815	...	S31803	90 (620)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Fittings	...
A or SA-815	...	S32101	94 (650)	10H	1	10.3	145	21Cr-5Mn-1.5Ni-Cu-N	Fittings	...
A or SA-815	...	S32202	94 (650)	10H	1	10.3	145	22Cr-2Ni-Mo-N	Fittings	...
A or SA-815	...	S32205	95 (655)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Fittings	...
A or SA-815	...	S32750	116 (800)	10H	1	10.2	145	25Cr-7Ni-4Mo-N	Fittings	...
A or SA-815	...	S32760	109 (750)	10H	1	10.2	145	25Cr-8Ni-3Mo-W-Cu-N	Fittings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-815	...	S41500	110 (760)	6	4	7.2	150	13Cr-4.5Ni-Mo	Fittings	...
A or SA-832	23V	...	85 (585)	5C	1	6.2	110	3Cr-1Mo-0.25V-Cb-Ca	Plate	...
A or SA-832	21V	K31830	85 (585)	5C	1	6.2	120	3Cr-1Mo-V-Ti-B	Plate	...
A or SA-832	22V	K31835	85 (585)	5C	1	6.2	110	2.25Cr-1Mo-V	Plate	...
A or SA-836	...	...	55 (380)	1	1	1.1	120	C-Si-Ti	Forgings	...
A or SA-841	A, Cl. 1	...	65 (450)	1	2	1.2	100	C-Mn-Si	Plate	>2.5 (65)
A or SA-841	A, Cl. 1	...	70 (485)	1	2	1.2	100	C-Mn-Si	Plate	≤2.5 (65)
A or SA-841	B, Cl. 2	...	75 (515)	1	3	1.3	100	C-Mn-Si	Plate	>2.5 (65)
A or SA-841	B, Cl. 2	...	80 (550)	1	3	1.3	100	C-Mn-Si	Plate	≤2.5 (65)
A or SA-841	F, Cl. 6	...	82 (565)	3	3	2.2	100	Mn-0.85Ni-0.30Cr-0.50Mo	Plate	...
A or SA-841	F, Cl. 7	...	86 (595)	3	3	2.2	100	Mn-0.85Ni-0.30Cr-0.50Mo	Plate	...
A859	A, Cl. 1	K20747	65 (450)	11C	1	3.3	100	1Ni-1Cu-0.75Cr-Mo-Nb	Forgings	...
A859	A, Cl. 2	K20747	75 (515)	11C	1	3.3	100	1Ni-1Cu-0.75Cr-Mo-Nb	Forgings	...
A860	WPHY 42	...	60 (415)	1	1	1.2	120	C-Mn	Smls. & welded fittings	...
A860	WPHY 46	...	63 (435)	1	1	1.2	120	C-Mn	Smls. & welded fittings	...
A860	WPHY 52	...	66 (455)	1	1	1.2	120	C-Mn	Smls. & welded fittings	...
A860	WPHY 60	...	75 (515)	1	2	1.3	120	C-Mn	Smls. & welded fittings	...
A860	WPHY 65	...	77 (530)	1	2	1.3	120	C-Mn	Smls. & welded fittings	...
A860	WPHY 70	...	80 (550)	1	3	1.3	120	C-Mn	Smls. & welded fittings	...
A890	4A	J92205	90 (620)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Castings	...
A890	2A	J93345	95 (655)	10H	1	10.2	145	24Cr-10Ni-Mo-N	Castings	...
A890	3A	J93371	95 (655)	10H	1	10.2	145	25Cr-5Ni-Mo-N	Castings	...
A890	1B	J93372	100 (690)	10H	1	10.2	145	25Cr-5Ni-Mo-Cu-N	Castings	...
A890	1C	J93373	100 (690)	10H	1	10.2	145	25Cr-6Ni-Mo-Cu-N	Castings	...
A890	7A	J93379	100 (690)	10H	1	10.2	145	27Cr-7Ni-Mo-W-N	Castings	...
A890	6A	J93380	100 (690)	10H	1	10.2	145	25Cr-8Ni-3Mo-W-Cu-N	Castings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding				Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group	Brazing P-No.			
Ferrous (Cont'd)										
A890	5A	J93404	100 (690)	10H	1	10.2	145	25Cr-7Ni-Mo-N	Castings	...
A928	S31803	S31803	90 (620)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Welded pipe	...
A928	S32003	S32003	95 (655)	10H	1	10.3	145	21Cr-3.5Ni-Mo-N	Welded pipe	>0.187 (5)
A928	S32003	S32003	100 (690)	10H	1	10.3	145	21Cr-3.5Ni-Mo-N	Welded pipe	≤0.187 (5)
A928	2205	S32205	95 (655)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Welded pipe	...
A928	2304	S32304	87 (600)	10H	1	10.1	145	23Cr-4Ni-Mo-Cu-N	Welded pipe	...
A928	2507	S32750	116 (800)	10H	1	10.2	145	25Cr-7Ni-4Mo-N	Welded pipe	...
A928	...	S32760	108 (745)	10H	1	10.2	145	25Cr-8Ni-3Mo-W-Cu-N	Welded pipe	...
A or SA-965	FXM-19	S20910	100 (690)	8	3	8.3	130	22Cr-13Ni-5Mn	Forgings	...
A or SA-965	FXM-11	S21904	90 (620)	8	3	8.3	130	21Cr-6Ni-9Mn	Forgings	...
A or SA-965	F304	S30400	70 (485)	8	1	8.1	130	18Cr-8Ni	Forgings	...
A or SA-965	F304L	S30403	65 (450)	8	1	8.1	130	18Cr-8Ni	Forgings	...
A or SA-965	F304H	S30409	70 (485)	8	1	8.1	130	18Cr-8Ni	Forgings	...
A or SA-965	F304N	S30451	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Forgings	...
A or SA-965	F304LN	S30453	70 (485)	8	1	8.1	130	18Cr-8Ni-N	Forgings	...
A or SA-965	F46	S30600	78 (540)	8	1	8.1	130	18Cr-15Ni-4Si	Forgings	...
A or SA-965	F310	S31000	75 (515)	8	2	8.2	130	25Cr-20Ni	Forgings	...
A or SA-965	F316	S31600	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Forgings	...
A or SA-965	F316L	S31603	65 (450)	8	1	8.1	130	16Cr-12Ni-2Mo	Forgings	...
A or SA-965	F316H	S31609	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Forgings	...
A or SA-965	F316N	S31651	80 (550)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Forgings	...
A or SA-965	F316LN	S31653	70 (485)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Forgings	...
A or SA-965	F321	S32100	70 (485)	8	1	8.1	140	18Cr-10Ni-Ti	Forgings	...
A or SA-965	F321H	S32109	70 (485)	8	1	8.1	140	18Cr-10Ni-Ti	Forgings	...
A or SA-965	F347	S34700	70 (485)	8	1	8.1	130	18Cr-10Ni-Cb	Forgings	...
A or SA-965	F347H	S34709	70 (485)	8	1	8.1	130	18Cr-10Ni-Cb	Forgings	...
A or SA-965	F348	S34800	70 (485)	8	1	8.1	130	18Cr-10Ni-Cb	Forgings	...
A or SA-965	F348H	S34809	70 (485)	8	1	8.1	130	18Cr-10Ni-Cb	Forgings	...
A992	...	...	65 (450)	1	1	1.2	100	C-Mn-Si	Shapes	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-995	4A	J92205	90 (620)	10H	1	10.1	145	22Cr-5Ni-3Mo-N	Castings	...
A or SA-995	2A	J93345	95 (655)	10H	1	10.2	145	24Cr-10Ni-4Mo-N	Castings	...
A or SA-995	3A	J93371	95 (655)	10H	1	10.2	145	25Cr-5Ni-Mo-N	Castings	...
A or SA-995	1B	J93372	100 (690)	10H	1	10.2	145	25Cr-5Ni-3Mo-2Cu	Castings	...
A or SA-995	7A	J93379	100 (690)	10H	1	10.2	145	27Cr-7Ni-Mo-W-N	Castings	...
A or SA-995	6A	J93380	100 (690)	10H	1	10.2	145	25Cr-8Ni-3Mo-W-Cu-N	Castings	...
A or SA-995	5A	J93404	100 (690)	10H	1	10.2	145	25Cr-7Ni-4Mo-N	Castings	...
A or SA-1008	CS A	...	40 (275)	1	1	1.1	100	C	Sheet	...
A or SA-1008	CS B	...	40 (275)	1	1	1.1	100	C	Sheet	...
A or SA-1008	DS B	...	40 (275)	1	1	1.1	100	C	Sheet	...
A or SA-1010	40	S41003	66 (455)	7	1	7.2	150	12Cr-1Ni	Plate, sheet & strip	...
A or SA-1010	50	S41003	70 (485)	7	1	7.2	150	12Cr-1Ni	Plate, sheet & strip	...
A or SA-1011	CS B	...	40 (275)	1	1	1.1	100	C	Sheet & strip	...
A or SA-1011	DS B	...	40 (275)	1	1	1.1	100	C	Sheet & strip	...
A or SA-1011	HSLAS 45 Cl. 1	...	60 (415)	1	1	1.2	120	C	Sheet & strip	...
A or SA-1011	HSLAS 45 Cl. 2	...	55 (380)	1	1	1.2	120	C	Sheet & strip	...
A or SA-1011	HSLAS 50 Cl. 1	...	65 (450)	1	1	1.2	120	C	Sheet & strip	...
A or SA-1011	HSLAS 50 Cl. 2	...	60 (415)	1	1	1.2	120	C	Sheet & strip	...
A or SA-1011	HSLAS 55 Cl. 1	...	70 (485)	1	2	1.3	120	C	Sheet & strip	...
A or SA-1011	HSLAS 55 Cl. 2	...	65 (450)	1	1	1.3	120	C	Sheet & strip	...
A or SA-1011	HSLAS 60 Cl. 1	...	75 (515)	1	2	1.3	120	C	Sheet & strip	...
A or SA-1011	HSLAS 60 Cl. 2	...	70 (485)	1	2	1.3	120	C	Sheet & strip	...
A or SA-1011	SS 33	...	52 (360)	1	1	1.1	100	C	Sheet & strip	...
A or SA-1011	SS 36 1	...	53 (365)	1	1	1.1	100	C	Sheet & strip	...
A or SA-1011	SS 36 2	...	58 (400)	1	1	1.1	100	C	Sheet & strip	...
A or SA-1011	SS 40	...	55 (380)	1	1	1.2	100	C	Sheet & strip	...
A or SA-1011	SS 45	...	60 (415)	1	1	1.2	120	C	Sheet & strip	...
A or SA-1011	SS 50	...	65 (450)	1	1	1.2	100	C	Sheet & strip	...
A or SA-1011	SS 55	...	70 (485)	1	2	1.3	100	C	Sheet & strip	...
A or SA-1011	SS 60	...	75 (515)	1	2	1.3	100	C	Sheet & strip	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
A or SA-1017	92	K92460	90 (620)	15E	1	6.4	110	9Cr-2W	Plate	...
A1066	50	...	65 (450)	3	1	1.2	100	Mn-Ni-Cr-Mo	Plate	...
A1066	60	...	75 (515)	3	2	2.1	100	Mn-Ni-Cr-Mo	Plate	...
A1066	65	...	80 (550)	3	3	2.1	100	Mn-Ni-Cr-Mo	Plate	...
A1066	70	...	85 (585)	3	3	2.2	100	Mn-Ni-Cr-Mo	Plate	...
A1066	80	...	90 (620)	3	3	2.2	100	Mn-Ni-Cr-Mo	Plate	...
A1091	C91	J84090	85 (585)	15E	1	6.4	110	9Cr-1Mo-V	Castings	...
API 5L	A	...	49 (340)	1	1	1.1	100	C-Mn	Smls. & welded pipe	...
API 5L	A25	...	45 (310)	1	1	1.1	100	C-Mn	Smls. & welded pipe	...
API 5L	A25P	...	45 (310)	1	1	1.1	100	C-Mn	Smls. & welded pipe	...
API 5L	B	...	60 (415)	1	1	11.1	120	C-Mn	Smls. & welded pipe	...
API 5L	BM	...	60 (415)	1	1	1.1	120	C-Mn	Welded pipe	...
API 5L	BMO	...	60 (415)	1	1	1.1	120	C-Mn	Welded pipe	...
API 5L	BMS	...	60 (415)	1	1	1.1	120	C-Mn	Welded pipe	...
API 5L	BN	...	60 (415)	1	1	1.1	120	C-Mn	Smls. & welded pipe	...
API 5L	BNO	...	60 (415)	1	1	1.1	120	C-Mn	Smls. & welded pipe	...
API 5L	BNS	...	60 (415)	1	1	1.1	120	C-Mn	Smls. & welded pipe	...
API 5L	BQ	...	60 (415)	1	1	1.1	120	C-Mn	Smls. & welded pipe	...
API 5L	BQO	...	60 (415)	1	1	1.1	120	C-Mn	Smls. & welded pipe	...
API 5L	BQS	...	60 (415)	1	1	1.1	120	C-Mn	Smls. & welded pipe	...
API 5L	BR	...	60 (415)	1	1	1.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X42	...	60 (415)	1	1	11.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X42M	...	60 (415)	1	1	1.2	120	C-Mn	Welded pipe	...
API 5L	X42MO	...	60 (415)	1	1	1.2	120	C-Mn	Welded pipe	...
API 5L	X42MS	...	60 (415)	1	1	1.2	120	C-Mn	Welded pipe	...
API 5L	X42N	...	60 (415)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X42NO	...	60 (415)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X42NS	...	60 (415)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X42Q	...	60 (415)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
API 5L	X42Q0	...	60 (415)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X42QS	...	60 (415)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X42R	...	60 (415)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X46	...	63 (435)	1	1	11.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X46M	...	63 (435)	1	1	1.2	120	C-Mn	Welded pipe	...
API 5L	X46MO	...	63 (435)	1	1	1.2	120	C-Mn	Welded pipe	...
API 5L	X46MS	...	63 (435)	1	1	1.2	120	C-Mn	Welded pipe	...
API 5L	X46N	...	63 (435)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X46NO	...	63 (435)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X46NS	...	63 (435)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X46Q	...	63 (435)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X46Q0	...	63 (435)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X46QS	...	63 (435)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X52	...	67 (460)	1	1	11.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X52M	...	67 (460)	1	1	1.2	120	C-Mn	Welded pipe	...
API 5L	X52MO	...	67 (460)	1	1	1.2	120	C-Mn	Welded pipe	...
API 5L	X52MS	...	67 (460)	1	1	1.2	120	C-Mn	Welded pipe	...
API 5L	X52N	...	67 (460)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X52NO	...	67 (460)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X52NS	...	67 (460)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X52Q	...	67 (460)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X52Q0	...	67 (460)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X52QS	...	67 (460)	1	1	1.2	120	C-Mn	Smls. & welded pipe	...
API 5L	X56	...	71 (490)	1	2	11.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X56M	...	71 (490)	1	2	2.1	120	C-Mn	Welded pipe	...
API 5L	X56MO	...	71 (490)	1	2	2.1	120	C-Mn	Welded pipe	...
API 5L	X56MS	...	71 (490)	1	2	2.1	120	C-Mn	Welded pipe	...
API 5L	X56N	...	71 (490)	1	2	1.3	120	C-Mn	Smls. & welded pipe	...
API 5L	X56Q	...	71 (490)	1	2	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X56Q0	...	71 (490)	1	2	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X56QS	...	71 (490)	1	2	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X60	...	75 (515)	1	2	11.1	120	C-Mn	Smls. & welded pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
API 5L	X60M	...	75 (515)	1	2	2.1	120	C-Mn	Welded pipe	...
API 5L	X60MO	...	75 (515)	1	2	2.1	120	C-Mn	Welded pipe	...
API 5L	X60MS	...	75 (515)	1	2	2.1	120	C-Mn	Welded pipe	...
API 5L	X60N	...	75 (515)	1	2	1.3	120	C-Mn	Smls. & welded pipe	...
API 5L	X60Q	...	75 (515)	1	2	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X60QO	...	75 (515)	1	2	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X60QS	...	75 (515)	1	2	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X65	...	78 (540)	1	2	11.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X65M	...	78 (540)	1	2	2.1	120	C-Mn	Welded pipe	...
API 5L	X65MO	...	78 (540)	1	2	2.1	120	C-Mn	Welded pipe	...
API 5L	X65MS	...	78 (540)	1	2	2.1	120	C-Mn	Welded pipe	...
API 5L	X65Q	...	78 (540)	1	2	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X65QO	...	78 (540)	1	2	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X65QS	...	78 (540)	1	2	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X70	...	83 (565)	1	3	11.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X70M	...	83 (565)	1	3	2.2	120	C-Mn	Welded pipe	...
API 5L	X70MO	...	83 (565)	1	3	2.2	120	C-Mn	Welded pipe	...
API 5L	X70MS	...	83 (565)	1	3	2.2	120	C-Mn	Welded pipe	...
API 5L	X70Q	...	83 (565)	1	3	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X70QO	...	83 (565)	1	3	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X70QS	...	83 (565)	1	3	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X80M	...	91 (625)	1	4	2.2	120	C-Mn	Welded pipe	...
API 5L	X80MO	...	91 (625)	1	4	2.2	120	C-Mn	Welded pipe	...
API 5L	X80Q	...	91 (625)	1	4	3.1	120	C-Mn	Smls. & welded pipe	...
API 5L	X80QO	...	91 (625)	1	4	3.1	120	C-Mn	Smls. & welded pipe	...
AS 1448	K3	...	59.5 (410)	1	1	1.1	100	C-Si	Forgings	...
AS 1448	K4	...	72.5 (500)	1	2	11.2	100	C-Si	Forgings	...
AS 1448	K5	...	78.5 (540)	1	2	11.2	100	C-Mn-Si	Forgings	...
AS 1448	K6	...	87 (600)	1	3	11.2	100	C-Mn-Si	Forgings	...
AS 1448	K8	...	69.5 (480)	1	1	1.2	100	C-Mn-Si	Forgings	...
AS 1448	K9	...	78.5 (540)	1	2	1.2	100	C-Mn-Si	Forgings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
AS 1448	K10	...	84 (580)	1	3	11.1	100	C-Mn-Si	Forgings	...
AS 1448	S1	...	58 (400)	1	1	1.1	100	C-Si	Forgings	...
AS 1448	S3	...	59.5 (410)	1	1	1.1	100	C-Si	Forgings	...
AS 1448	S4	...	72.5 (500)	1	2	11.2	100	C-Si	Forgings	...
AS 1448	S5	...	78.5 (540)	1	2	11.2	100	C-Mn	Forgings	...
AS 1448	S6	...	87 (600)	1	3	11.2	100	C-Mn	Forgings	...
AS or SA/AS 1548	PT430	...	62.5 (430)	1	1	1.1	100	C	Plate	...
AS or SA/AS 1548	PT460	...	66.5 (460)	1	1	1.1	100	C	Plate	...
AS or SA/AS 1548	PT490	...	71 (490)	1	2	1.2	100	C	Plate	...
AS 4728	200 L0	...	46.5 (320)	1	1	1.1	120	C-Mn	E.R.W. pipe	...
AS 4728	240 L0	...	55 (380)	1	1	1.1	120	C-Mn	E.R.W. pipe	...
AS 4728	290 L0	...	60 (415)	1	1	1.2	120	C-Mn	E.R.W. pipe	...
CSA or SA/CSA-G40.21	38W	...	60 (415)	1	1	1.1	100	C-Mn-Si	Plate, bar & shapes	...
CSA or SA/CSA-G40.21	44W	...	65 (450)	1	1	1.2	100	C-Mn-Si	Plate, bar & shapes	...
CSA or SA/CSA-G40.21	50W	...	65 (450)	1	1	1.2	100	C-Mn-Si	Plate, bar & shapes	...
CSA Z245.1	241	...	60 (415)	1	1	11.1	120	C-Mn	Smls. & welded pipe	...
CSA Z245.1	290	...	60 (415)	1	1	11.1	120	C-Mn	Smls. & welded pipe	...
CSA Z245.1	359	...	66 (455)	1	1	11.1	120	C-Mn	Smls. & welded pipe	...
CSA Z245.1	386	...	71 (490)	1	2	11.1	120	C-Mn	Smls. & welded pipe	...
CSA Z245.1	414	...	75 (515)	1	2	11.1	120	C-Mn	Smls. & welded pipe	...
CSA Z245.1	448	...	77 (530)	1	2	11.1	120	C-Mn	Smls. & welded pipe	...
CSA Z245.1	483	...	82 (565)	1	3	11.1	120	C-Mn	Smls. & welded pipe	...
CSA Z245.1	550	...	90 (620)	1	4	11.1	120	C-Mn	Smls. & welded pipe	...
CSA Z245.1	620	...	100 (690)	1	4	11.1	120	C-Mn	Smls. & welded pipe	...
CSA Z245.11	207	...	48 (330)	1	1	11.1	100	C-Mn	Fittings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
CSA Z245.11	241	...	60 (415)	1	1	11.1	100	C-Mn	Fittings	...
CSA Z245.11	290	...	60 (415)	1	1	11.1	100	C-Mn	Fittings	...
CSA Z245.11	317	...	63 (435)	1	1	11.1	100	C-Mn	Fittings	...
CSA Z245.11	359	...	66 (455)	1	1	11.1	100	C-Mn	Fittings	...
CSA Z245.11	386	...	71 (490)	1	2	11.1	100	C-Mn	Fittings	...
CSA Z245.11	414	...	75 (515)	1	2	11.1	100	C-Mn	Fittings	...
CSA Z245.11	448	...	77 (530)	1	2	11.1	100	C-Mn	Fittings	...
CSA Z245.11	483	...	82 (565)	1	3	11.1	100	C-Mn	Fittings	...
CSA Z245.11	550	...	90 (620)	1	4	11.1	100	C-Mn	Fittings	...
CSA Z245.11	620	...	100 (690)	1	4	11.1	100	C-Mn	Fittings	...
CSA Z245.12	248	...	60 (415)	1	1	11.1	100	C-Mn	Flanges	...
CSA Z245.12	290	...	60 (415)	1	1	11.1	100	C-Mn	Flanges	...
CSA Z245.12	317	...	63 (435)	1	1	11.1	100	C-Mn	Flanges	...
CSA Z245.12	359	...	66 (455)	1	1	11.1	100	C-Mn	Flanges	...
CSA Z245.12	386	...	71 (490)	1	2	11.1	100	C-Mn	Flanges	...
CSA Z245.12	414	...	75 (515)	1	2	11.1	100	C-Mn	Flanges	...
CSA Z245.12	448	...	77 (530)	1	2	11.1	100	C-Mn	Flanges	...
CSA Z245.12	483	...	82 (565)	1	3	11.1	100	C-Mn	Flanges	...
CSA Z245.12	550	...	90 (620)	1	4	11.1	100	C-Mn	Flanges	...
CSA Z245.12	620	...	100 (690)	1	4	11.1	100	C-Mn	Flanges	...
EN or SA/EN 10025-2	S235JR	...	52 (360)	1	1	1.1	100	C	Plate	...
EN or SA/EN 10025-2	S275J2	...	55 (380)	1	1	1.1	100	C	Plate & shapes	>6 (150) ≤16 (400)
EN or SA/EN 10025-2	S275J2	...	58 (400)	1	1	1.1	100	C	Plate & shapes	>4 (100) ≤6 (150)
EN or SA/EN 10025-2	S275J2	...	59.5 (410)	1	1	1.1	100	C	Plate & shapes	≥0.125 (3) ≤4 (100)

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
EN or SA/EN 10025-2	S275J2	...	62.5 (430)	1	1	1.1	100	C	Plate & shapes	<0.125 (3)
EN or SA/EN 10025-2	S275JR	...	55 (380)	1	1	1.1	100	C	Plate & shapes	>6 (150) ≤16 (400)
EN or SA/EN 10025-2	S275JR	...	58 (400)	1	1	1.1	100	C	Plate & shapes	>4 (100) ≤6 (150)
EN or SA/EN 10025-2	S275JR	...	59.5 (410)	1	1	1.1	100	C	Plate & shapes	≥0.125 (3) ≤4 (100)
EN or SA/EN 10025-2	S275JR	...	62.5 (430)	1	1	1.1	100	C	Plate & shapes	<0.125 (3)
EN or SA/EN 10025-2	S355J2	...	65.5 (450)	1	2	1.2	100	C-Mn-Si	Plate & shapes	>4 (100) ≤16 (400)
EN or SA/EN 10025-2	S355J2	...	68 (470)	1	2	1.2	100	C-Mn-Si	Plate & shapes	≥0.125 (3) ≤4 (100)
EN or SA/EN 10025-2	S355J2	...	74 (510)	1	2	1.2	100	C-Mn-Si	Plate & shapes	<0.125 (3)
EN or SA/EN 10025-2	S355JR	...	65.5 (450)	1	2	1.2	100	C-Mn-Si	Plate & shapes	>4 (100) ≤16 (400)
EN or SA/EN 10025-2	S355JR	...	68 (470)	1	2	1.2	100	C-Mn-Si	Plate & shapes	≥0.125 (3) ≤4 (100)
EN or SA/EN 10025-2	S355JR	...	74 (510)	1	2	1.2	100	C-Mn-Si	Plate & shapes	<0.125 (3)
EN or SA/EN 10028-2	10CrMo9-10	...	65.5 (450)	5A	1	5.2	110	2.25Cr-1Mo	Plate	>6 (150) ≤10 (250)
EN or SA/EN 10028-2	10CrMo9-10	...	66.5 (460)	5A	1	5.2	110	2.25Cr-1Mo	Plate	>4 (100) ≤6 (150)

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
EN or SA/EN 10028-2	10CrMo9-10	...	68 (470)	5A	1	5.2	110	2.25Cr-1Mo	Plate	>2.4 (60) ≤4 (100)
EN or SA/EN 10028-2	10CrMo9-10	...	69.5 (480)	5A	1	5.2	110	2.25Cr-1Mo	Plate	≤2.4 (60)
EN or SA/EN 10028-2	13CrMo4-5	...	61 (420)	4	1	5.1	110	1Cr-0.5Mo	Plate	>6 (150) ≤10 (250)
EN or SA/EN 10028-2	13CrMo4-5	...	62.5 (430)	4	1	5.1	110	1Cr-0.5Mo	Plate	>4 (100) ≤6 (150)
EN or SA/EN 10028-2	13CrMo4-5	...	64 (440)	4	1	5.1	110	1Cr-0.5Mo	Plate	>2.4 (60) ≤4 (100)
EN or SA/EN 10028-2	13CrMo4-5	...	65.5 (450)	4	1	5.1	110	1Cr-0.5Mo	Plate	≤2.4 (60)
EN or SA/EN 10028-2	13CrMoSi5-5+QT	...	71 (490)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Plate	>4 (100) ≤10 (250)
EN or SA/EN 10028-2	13CrMoSi5-5+QT	...	72.5 (500)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Plate	>2.4 (60) ≤4 (100)
EN or SA/EN 10028-2	13CrMoSi5-5+QT	...	74 (510)	4	1	5.1	110	1.25Cr-0.5Mo-Si	Plate	≤2.4 (60)
EN or SA/EN 10028-2	P235GH	...	52 (360)	1	1	1.1	100	C-Mn	Plate	≤2.4 (60)
EN or SA/EN 10028-2	P265GH	...	59.5 (410)	1	1	1.1	100	C-Mn	Plate	≤2.4 (60)
EN or SA/EN 10028-2	P295GH	...	62.5 (430)	1	1	1.2	100	C-Mn-Si	Plate	>6 (150) ≤10 (250)
EN or SA/EN 10028-2	P295GH	...	64 (440)	1	1	1.2	100	C-Mn-Si	Plate	>4 (100) ≤6 (150)
EN or SA/EN 10028-2	P295GH	...	66.5 (460)	1	1	1.2	100	C-Mn-Si	Plate	≤4 (100)
EN or SA/EN 10028-2	P355GH	...	68 (470)	1	2	1.2	100	C-Mn-Si	Plate	>6 (150) ≤10 (250)
EN or SA/EN 10028-2	P355GH	...	69.5 (480)	1	2	1.2	100	C-Mn-Si	Plate	>4 (100) ≤6 (150)
EN or SA/EN 10028-2	P355GH	...	71 (490)	1	2	1.2	100	C-Mn-Si	Plate	>2.4 (60) ≤4 (100)
EN or SA/EN 10028-2	P355GH	...	74 (510)	1	2	1.2	100	C-Mn-Si	Plate	≤2.4 (60)

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
EN or SA/EN 10028-3	P275NH	...	51 (350)	1	1	1.1	100	C	Plate	>6 (150) ≤10 (250)
EN or SA/EN 10028-3	P275NH	...	52 (360)	1	1	1.1	100	C	Plate	>4 (100) ≤6 (150)
EN or SA/EN 10028-3	P275NH	...	53.5 (370)	1	1	1.1	100	C	Plate	>2 (50) ≤4 (100)
EN or SA/EN 10028-3	P275NH	...	56.5 (390)	1	1	1.1	100	C	Plate	≤2 (50)
EN or SA/EN 10028-3	P355NH	...	65.5 (450)	1	2	1.2	120	C-Mn-Si	Plate	>6 (150) ≤10 (250)
EN or SA/EN 10028-3	P355NH	...	66.5 (460)	1	2	1.2	120	C-Mn-Si	Plate	>4 (100) ≤6 (150)
EN or SA/EN 10028-3	P355NH	...	68 (470)	1	2	1.2	120	C-Mn-Si	Plate	>2.4 (60) ≤4 (100)
EN or SA/EN 10028-3	P355NH	...	71 (490)	1	2	1.2	120	C-Mn-Si	Plate	≤2.4 (60)
EN or SA/EN 10028-3	P355NL2	...	65.5 (450)	1	2	1.2	120	C-Mn	Plate	>6 (150) ≤10 (250)
EN or SA/EN 10028-3	P355NL2	...	66.5 (460)	1	2	1.2	120	C-Mn	Plate	>4 (100) ≤6 (150)
EN or SA/EN 10028-3	P355NL2	...	68 (470)	1	2	1.2	120	C-Mn	Plate	>2.4 (60) ≤4 (100)
EN or SA/EN 10028-3	P355NL2	...	71 (490)	1	2	1.2	120	C-Mn	Plate	≤2.4 (60)
EN or SA/EN 10028-4	X7Ni9	...	98.5 (680)	11A	1	9.3	100	9Ni	Plate	...
EN or SA/EN 10028-4	X8Ni9	...	93 (640)	11A	1	9.3	100	9Ni	Plate	...
EN 10028-6	P690QL2	...	104.5 (720)	11B	4	3.1	110	1.5Mn-Ni-Cr-Mo	Plate	>4 (100) ≤8 (200)
EN 10028-6	P690QL2	...	112 (770)	11B	4	3.1	110	1.5Mn-Ni-Cr-Mo	Plate, sheet & strip	≤4 (100)

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
EN or SA/EN 10028-7	X2CrNi18-9	...	72.5 (500)	8	1	8.1	130	18Cr-8Ni	Plate	...
EN or SA/EN 10028-7	X2CrNiMo17-12-2	...	75.5 (520)	8	1	8.1	130	16Cr-12Ni-2Mo	Plate	...
EN or SA/EN 10028-7	X2CrNiMoN17- 11-2	...	84 (580)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Plate	...
EN or SA/EN 10028-7	X2CrNiMoN17- 13-3	...	84 (580)	8	1	8.1	130	16Cr-12Ni-2Mo-N	Plate	...
EN or SA/EN 10028-7	X2CrNiN18-10	...	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Plate	...
EN or SA/EN 10028-7	X5CrNi18-10	...	75.5 (520)	8	1	8.1	130	18Cr-8Ni	Plate	...
EN or SA/EN 10028-7	X5CrNiMo17-12-2	...	75.5 (520)	8	1	8.1	130	16Cr-12Ni-2Mo	Plate	...
EN or SA/EN 10028-7	X5CrNiN19-9	...	80 (550)	8	1	8.1	130	18Cr-8Ni-N	Plate	...
EN or SA/EN 10028-7	X6CrNiTi18-10	...	72.5 (500)	8	1	8.1	130	18Cr-10Ni-Ti	Plate	...
EN or SA/EN 10088-2	X6CrNiMoTi17- 12-2	...	78.5 (540)	8	1	8.1	130	16Cr-12Ni-2Mo-Ti	Plate, sheet & strip	...
EN or SA/EN 10216-2	10CrMo9-10	...	69.5 (480)	5A	1	5.2	110	2.25Cr-1Mo	Smls. tube	...
EN or SA/EN 10216-2	13CrMo4-5	...	64 (440)	4	1	5.1	110	1Cr-0.5Mo	Smls. tube	...
EN or SA/EN 10216-2	16Mo3	...	65.5 (450)	3	1	1.1	100	C-0.5Mo	Smls. tube	...
EN or SA/EN 10216-2	P235GH	...	52 (360)	1	1	1.1	100	C	Smls. tube	...
EN or SA/EN 10216-2	P265GH	...	59.5 (410)	1	1	1.1	100	C	Smls. tube	...
EN or SA/EN 10216-2	X10CrMoVNb9-1	...	91.5 (630)	15E	1	6.4	110	9Cr-1Mo-V	Smls. tube	...
EN 10216-3	P690QL2	...	98.5 (680)	11B	4	3.1	110	1.5Mn-Ni-Cr-Mo	Smls. tube	>2.5 (65) ≤4 (100)

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
EN 10216-3	P690QL2	...	101 (700)	11B	4	3.1	110	1.5Mn-Ni-Cr-Mo	Smls. tube	>1.6 (40) ≤2.5 (65)
EN 10216-3	P690QL2	...	112 (770)	11B	4	3.1	110	1.5Mn-Ni-Cr-Mo	Smls. tube	≤1.6 (40)
EN or SA/EN 10217-1	P235TR2	...	52 (360)	1	1	1.1	100	C	E.R.W. tube	...
EN or SA/EN 10222-2	11CrMo9-10	...	65.5 (450)	5A	1	5.2	110	2.25Cr-1Mo	Forgings	>8 (200) ≤20 (500)
EN or SA/EN 10222-2	11CrMo9-10	...	75.5 (520)	5A	1	5.2	110	2.25Cr-1Mo	Forgings	≤8 (200)
EN or SA/EN 10222-2	13CrMo4-5	...	61 (420)	4	1	5.1	110	1Cr-0.5Mo	Forgings	>10 (250) ≤20 (500)
EN or SA/EN 10222-2	13CrMo4-5	...	64 (440)	4	1	5.1	110	1Cr-0.5Mo	Forgings	≤10 (250)
EN or SA/EN 10222-2	P280GH	...	66.5 (460)	1	1	1.2	100	C-Mn-Si	Forgings	...
EN or SA/EN 10222-2	P305GH	...	71 (490)	1	2	1.2	100	C-Mn-Si	Forgings	...
EN or SA/EN 10222-2	X10CrMoVNb9-1	...	91.5 (630)	15E	1	6.4	110	9Cr-1Mo-V	Forgings	...
GB or SA/GB 713	15CrMoR	...	64 (440)	4	1	5.1	110	1Cr-0.5Mo	Plate	>4 (100) ≤6 (150)
GB or SA/GB 713	15CrMoR	...	65.5 (450)	4	1	5.1	110	1Cr-0.5Mo	Plate	>0.25 (6) ≤4 (100)
GB or SA/GB 713	Q345R	...	68 (470)	1	1	1.1	100	C-Mn	Plate	>6 (150) ≤10 (250)
GB or SA/GB 713	Q345R	...	69.5 (480)	1	1	1.2	100	C-Mn	Plate	>4 (100) ≤6 (150)
GB or SA/GB 713	Q345R	...	71 (490)	1	2	1.2	100	C-Mn	Plate	>1.4 (36) ≤4 (100)
GB or SA/GB 713	Q345R	...	72.5 (500)	1	2	1.2	100	C-Mn	Plate	>0.65 (16) ≤1.4 (36)
GB or SA/GB 713	Q345R	...	74 (510)	1	2	1.2	100	C-Mn	Plate	>0.125 (3) ≤0.65 (16)
GB or SA/GB 713	Q370R	...	75.5 (520)	1	2	1.2	100	C	Plate	>1.4 (36) ≤2.4 (60)
GB or SA/GB 713	Q370R	...	77 (530)	1	2	1.2	100	C	Plate	>0.65 (16) ≤1.4 (36)
GB or SA/GB 713	Q370R	...	77 (530)	1	2	1.3	100	C	Plate	>0.375 (10) ≤0.65 (16)
IRAM/IAS U 500-42	F-24	...	49 (340)	1	1	1.1	100	C	Plate	>4 (100) ≤6 (150)
IRAM/IAS U 500-42	F-24	...	52 (360)	1	1	1.1	100	C	Plate, sheet & strip	≥0.0625 (1.6) ≤4 (100)
IRAM/IAS U 500-42	F-26	...	55 (380)	1	1	1.1	100	C	Plate	>4 (100) ≤6 (150)

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
IRAM/IAS U 500-42	F-26	...	58 (400)	1	1	1.1	100	C	Plate, sheet & strip	≥0.0625 (1.6) ≤4 (100)
IS or SA/IS 2062	E250 A	...	59.5 (410)	1	1	1.1	100	C-Mn-Si	Plate, bars & shapes	...
IS or SA/IS 2062	E250 B	...	59.5 (410)	1	1	1.1	100	C-Mn-Si	Plate, bars & shapes	...
IS or SA/IS 2062	E250 C	...	59.5 (410)	1	1	1.1	100	C-Mn-Si	Plate, bars & shapes	...
JIS or SA/JIS G3118	SGV480	...	70.5 (485)	1	2	1.2	100	C-Mn-Si	Plate	...
JIS or SA/JIS G4303	SUS 302	S30200	74.5 (515)	8	1	8.1	130	18Cr-8Ni	Bars & shapes	...
JIS or SA/JIS G4303	SUS 304	S30400	74.5 (515)	8	1	8.1	130	18Cr-8Ni	Bars & shapes	...
JIS or SA/JIS G4303	SUS 304L	S30403	70.5 (485)	8	1	8.1	130	18Cr-8Ni	Bars & shapes	...
JIS or SA/JIS G4303	SUS 309S	S30908	74.5 (515)	8	2	8.2	130	23Cr-12Ni	Bars & shapes	...
JIS or SA/JIS G4303	SUS 310S	S31008	74.5 (515)	8	2	8.2	130	25Cr-20Ni	Bars & shapes	...
JIS or SA/JIS G4303	SUS 316	S31600	74.5 (515)	8	1	8.1	130	16Cr-12Ni-2Mo	Bars & shapes	...
JIS or SA/JIS G4303	SUS 316L	S31603	70.5 (485)	8	1	8.1	130	16Cr-12Ni-2Mo	Bars & shapes	...
JIS or SA/JIS G4303	SUS 321	S32100	74.5 (515)	8	1	8.1	140	18Cr-10Ni-Ti	Bars & shapes	...
JIS or SA/JIS G4303	SUS 347	S34700	74.5 (515)	8	1	8.1	130	18Cr-10Ni-Cb	Bars & shapes	...
JIS or SA/JIS G4303	SUS 405	S40500	60 (415)	7	1	7.1	160	12Cr-Al	Bars & shapes	...
MSS SP-75	WPHY-42	...	60 (415)	1	1	11.1	120	C-Mn	Smls. & welded fittings	...
MSS SP-75	WPHY-46	...	63 (435)	1	1	11.1	120	C-Mn	Smls. & welded fittings	...
MSS SP-75	WPHY-52	...	66 (455)	1	1	11.1	120	C-Mn	Smls. & welded fittings	...
MSS SP-75	WPHY-56	...	71 (490)	1	2	11.1	120	C-Mn	Smls. & welded fittings	...
MSS SP-75	WPHY-60	...	75 (515)	1	2	11.1	120	C-Mn	Smls. & welded fittings	...
MSS SP-75	WPHY-65	...	77 (530)	1	2	11.1	120	C-Mn	Smls. & welded fittings	...
MSS SP-75	WPHY-70	...	82 (565)	1	3	11.1	120	C-Mn	Smls. & welded fittings	...
NF or SA/NF A 36-215	P440 NJ4	...	91.5 (630)	10A	1	4.1	100	Mn-0.5Ni-V	Plate	...
SFA-5.9	ER320	N08021	80 (550)	45	...	45	...	34Ni-20Cr-Cu-Mo	Weld metal	...
SFA-5.9	ER320LR	N08022	75 (515)	45	...	45	...	34Ni-20Cr-Cu-Mo	Weld metal	...
SFA-5.9	ER383	N08028	75 (515)	45	...	45	...	35Ni-27Cr-Mo	Weld metal	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
SFA-5.9	ER330	N08331	75 (515)	46	...	45	...	35Ni-16Cr	Weld metal	...
SFA-5.9	ER385	N08904	75 (515)	45	...	8.2	...	25Ni-21Cr-4Mo	Weld metal	...
SFA-5.9	ER33-31	R20033	105 (725)	45	...	45	...	33Cr-3Ni-Fe-Mo	Weld metal	...
SFA-5.9	ER16-8-2	S16880	80 (550)	8	1	8.1	...	15Cr-8Ni-Mn-Mo	Weld metal	...
SFA-5.9	ER209	S20980	100 (690)	8	3	8.3	...	22Cr-10Ni-5Mn	Weld metal	...
SFA-5.9	ER219	S21980	90 (620)	8	3	8.3	...	21Cr-9Ni-6Mn	Weld metal	...
SFA-5.9	ER240	S24080	100 (690)	8	3	8.3	...	18Cr-12Mn-5Ni	Weld metal	...
SFA-5.9	ER307	S30780	85 (585)	8	3	8.3	...	21Cr-9Ni-4Mn	Weld metal	...
SFA-5.9	ER308	S30880	80 (550)	8	1	8.2	...	21Cr-10Ni	Weld metal	...
SFA-5.9	ER308H	S30880	80 (550)	8	1	8.2	...	21Cr-10Ni	Weld metal	...
SFA-5.9	ER308Si	S30881	80 (550)	8	1	8.2	...	21Cr-10Ni	Weld metal	...
SFA-5.9	ER308Mo	S30882	80 (550)	8	1	8.2	...	20Cr-10Ni-Mo	Weld metal	...
SFA-5.9	ER308L	S30883	75 (515)	8	1	8.2	...	21Cr-10Ni	Weld metal	...
SFA-5.9	ER308LMo	S30886	75 (515)	8	1	8.2	...	20Cr-10Ni-Mo	Weld metal	...
SFA-5.9	ER308LSi	S30888	75 (515)	8	1	8.2	...	21Cr-10Ni	Weld metal	...
SFA-5.9	ER309	S30980	80 (550)	8	2	8.2	...	24Cr-13Ni	Weld metal	...
SFA-5.9	ER309Si	S30981	80 (550)	8	2	8.2	...	24Cr-13Ni	Weld metal	...
SFA-5.9	ER309Mo	S30982	80 (550)	8	2	8.2	...	24Cr-13Ni-Mo	Weld metal	...
SFA-5.9	ER309L	S30983	75 (515)	8	2	8.2	...	24Cr-13Ni	Weld metal	...
SFA-5.9	ER309LMo	S30986	75 (515)	8	2	8.2	...	24Cr-13Ni-Mo	Weld metal	...
SFA-5.9	ER309LSi	S30988	75 (515)	8	2	8.2	...	24Cr-13Ni	Weld metal	...
SFA-5.9	ER310	S31080	80 (550)	8	2	8.2	...	26Cr-21Ni	Weld metal	...
SFA-5.9	ER312	S31380	95 (655)	8	2	8.2	...	30Cr-9Ni	Weld metal	...
SFA-5.9	ER316	S31680	75 (515)	8	1	8.2	...	19Cr-12Ni-Mo	Weld metal	...
SFA-5.9	ER316H	S31680	75 (515)	8	1	8.2	...	19Cr-12Ni-Mo	Weld metal	...
SFA-5.9	ER316LMn	S31682	80 (550)	8	3	8.2	...	20Cr-12Ni-Mn-Mo	Weld metal	...
SFA-5.9	ER316L	S31683	70 (485)	8	1	8.2	...	19Cr-12Ni-Mo	Weld metal	...
SFA-5.9	ER316LSi	S31688	70 (485)	8	1	8.2	...	19Cr-12Ni-Mo	Weld metal	...
SFA-5.9	ER316Si	S31688	75 (515)	8	1	8.2	...	19Cr-12Ni-Mo	Weld metal	...
SFA-5.9	ER317	S31780	80 (550)	8	1	8.2	...	20Cr-14Ni-Mo	Weld metal	...
SFA-5.9	ER317L	S31783	75 (515)	8	1	8.2	...	20Cr-14Ni-Mo	Weld metal	...
SFA-5.9	ER318	S31980	80 (550)	8	1	8.2	...	19Cr-12Ni-Mo	Weld metal	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding				Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group	Brazing P-No.			
Ferrous (Cont'd)										
SFA-5.9	ER2594	S32750	110 (760)	10H	1	10.2	...	25Cr-7Ni-4Mo	Weld metal	...
SFA-5.9	ER347	S34780	75 (515)	8	1	8.2	...	20Cr-10Ni-Mn-Nb	Weld metal	...
SFA-5.9	ER347Si	S34788	75 (515)	8	1	8.2	...	20Cr-10Ni-Mn-Nb	Weld metal	...
SFA-5.9	ER2209	S39209	100 (690)	10H	1	10.1	...	22Cr-8Ni-Mo	Weld metal	...
SFA-5.9	ER2553	S39553	110 (760)	10H	1	10.2	...	25Cr-5Ni-3Mo	Weld metal	...
SFA-5.9	ER409	S40900	65 (450)	7	1	7.1	...	11Cr	Weld metal	...
SFA-5.9	ER409Nb	S40940	65 (450)	7	1	7.1	...	11Cr-Nb	Weld metal	...
SFA-5.9	ER410	S41080	75 (515)	6	1	7.2	...	12Cr	Weld metal	...
SFA-5.9	ER410NiMo	S41086	110 (760)	6	4	7.2	...	12Cr-4Ni-Mo	Weld metal	...
SFA-5.9	ER430	S43080	65 (450)	7	2	7.1	...	16Cr	Weld metal	...
SFA-5.9	ER2307	S82371	100 (690)	10H	1	10.2	...	24Cr-8Ni	Weld metal	...
SFA-5.18	ER70S-8	...	70 (485)	1	2	1.3	...	C-Mn-Si	Weld metal	...
SFA-5.18	ER70S-2	K10726	70 (485)	1	2	1.3	...	C-Mn-Si	Weld metal	...
SFA-5.18	ER70S-3	K11022	70 (485)	1	2	1.3	...	C-Mn-Si	Weld metal	...
SFA-5.18	ER70S-7	K11125	70 (485)	1	2	1.3	...	C-Mn-Si	Weld metal	...
SFA-5.18	ER70S-4	K11132	70 (485)	1	2	1.3	...	C-Mn-Si	Weld metal	...
SFA-5.18	ER70S-6	K11140	70 (485)	1	2	1.3	...	C-Mn-Si	Weld metal	...
SFA-5.28	ER70S-Ni4	...	70 (485)	9C	1	9.2	...	CMn-4.5Ni	Weld metal	...
SFA-5.28	ER80S-B2Mn	...	80 (550)	4	1	5.1	...	1Cr-0.5Mo	Weld metal	...
SFA-5.28	ER80S-B2Si	...	80 (550)	4	1	5.1	...	1Cr-0.5Mo	Weld metal	...
SFA-5.28	ER90S-B3Mn	...	90 (620)	5A	1	5.2	...	2.25Cr-1Mo	Weld metal	...
SFA-5.28	ER90S-B3MnSi	...	90 (620)	5A	1	5.2	...	2.25Cr-1Mo	Weld metal	...
SFA-5.28	ER90S-B3Si	...	90 (620)	5A	1	5.2	...	2.25Cr-1Mo	Weld metal	...
SFA-5.28	ER100S-M7	...	100 (690)	11B	3	...	...	0.9Ni-0.3Cr-0.5Mo	Weld metal	...
SFA-5.28	ER110S-M6	...	110 (760)	11B	3	...	...	1.5Ni-0.3Cr-0.5Mo	Weld metal	...
SFA-5.28	ER120S-M8	...	120 (825)	11B	3	...	...	2.1Ni-0.3Cr-0.5Mo	Weld metal	...
SFA-5.28	ER100S-1	K10882	100 (690)	11B	3	...	...	1.8Ni-0.5Mo	Weld metal	...
SFA-5.28	ER80S-D2	K10945	80 (550)	3	2	...	...	C-0.5Mo	Weld metal	...
SFA-5.28	ER90S-D2	K10945	90 (620)	3	2	...	...	C-0.5Mo	Weld metal	...
SFA-5.28	ER70S-A1	K11235	75 (515)	3	2	1.3	...	C-0.5Mo	Weld metal	...
SFA-5.28	ER80S-Ni1	K11260	80 (550)	1	3	9.1	...	C-Mn-0.8Ni	Weld metal	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Designation, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P- No.	Group No.	ISO 15608 Group				
Ferrous (Cont'd)										
SFA-5.28	ER70S-B2L	K20500	75 (515)	4	1	5.1	...	1Cr-0.5Mo	Weld metal	...
SFA-5.28	ER80S-B2	K20900	80 (550)	4	1	5.1	...	1Cr-0.5Mo	Weld metal	...
SFA-5.28	ER110S-1	K21015	110 (760)	11B	3	...	...	2.2Ni-0.5Mo	Weld metal	...
SFA-5.28	ER120S-1	K21030	120 (825)	11B	3	...	...	2.7Ni-0.5Mo	Weld metal	...
SFA-5.28	ER80S-Ni2	K21240	80 (550)	9A	1	9.1	...	C-Mn-2.5Ni	Weld metal	...
SFA-5.28	ER80S-B3L	K30560	80 (550)	5A	1	5.2	...	2.25Cr-1Mo	Weld metal	...
SFA-5.28	ER90S-B3	K30960	90 (620)	5A	1	5.2	...	2.25Cr-1Mo	Weld metal	...
SFA-5.28	ER80S-Ni3	K31240	80 (550)	9B	1	9.2	...	C-Mn-3.5Ni	Weld metal	...

Table QW/QB-422
Base Metal P-Numbers

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous									
A or SA-182	F58	S31266	109 (750)	45	8.2	420	24Cr-22Ni-6Mo-3Mn-Cu-W-N	Forgings	...
A or SA-240	...	S31266	109 (750)	45	8.2	420	24Cr-22Ni-6Mo-3Mn-Cu-W-N	Plate, sheet & strip	...
A or SA-240	...	S31277	112 (770)	45	8.2	420	27Ni-22Cr-7Mo-Mn-Cu	Plate, sheet & strip	...
A or SA-351	CN3MN	J94651	80 (550)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-Cu-N	Castings	...
A or SA-351	CN7M	N08007	62 (425)	45	8.2	420	28Ni-19Cr-Cu-Mo	Castings	...
A or SA-351	CT15C	N08151	63 (435)	45	45	420	32Ni-45Fe-20Cr-Cb	Castings	...
A or SA-351	HT30	N08603	65 (450)	45	45	420	35Ni-15Cr-0.5Mo	Castings	...
A or SA-358	...	S31266	109 (750)	45	8.2	420	24Cr-22Ni-6Mo-3Mn-Cu-W-N	Fusion welded pipe	...
A or SA-494	M35-2	N04020	65 (450)	42	42	400	67Ni-30Cu-Fe-Si	Castings	...
A or SA-494	CY40	N06040	70 (485)	43	43	420	72Ni-15Cr-8Fe-Si	Castings	...
A or SA-494	CU5MCuC	N08826	75 (515)	45	45	420	42Ni-21.5Cr-3Mo-2.3Cu	Castings	...
A or SA-494	M30C	N24130	65 (450)	42	42	400	67Ni-30Cu-2Fe-Cb	Castings	...
A or SA-494	M35-1	N24135	65 (450)	42	42	400	67Ni-30Cu-2Fe-Cb	Castings	...
A or SA-494	CX2MW	N26022	80 (550)	43	43	420	59Ni-22Cr-14Mo-4Fe-3W	Castings	...
A or SA-494	CW2M	N26455	72 (495)	43	43	420	66Ni-16Mo-16Cr-Fe-W	Castings	...
A or SA-494	CW6MC	N26625	70 (485)	43	43	420	60Ni-21.5Cr-9Mo-4Cb-Fe	Castings	...
A or SA-494	N7M	N30007	76 (525)	44	44	410	65Ni-31.5Mo-1.5Fe-Cr	Castings	...
A or SA-494	CW6M	N30107	72 (495)	44	44	420	56Ni-19Mo-18Cr-2Fe	Castings	...
B16	...	C36000	40 (275)	...	NA	320	65Cu-Zn-3Pb	Bar	>1 (25) dia.
B16	...	C36000	44 (305)	...	NA	320	65Cu-Zn-3Pb	Bar	≤1 (25) dia.
B16	...	C36000	40 (275)	...	NA	320	65Cu-Zn-3Pb	Rod	>2 (50) dia.
B16	...	C36000	44 (305)	...	NA	320	65Cu-Zn-3Pb	Rod	>1 (25) ≤2 (50) dia.
B16	...	C36000	48 (330)	...	NA	320	65Cu-Zn-3Pb	Rod	≤1 (25) dia.
B16.18	...	C83600	30 (205)	...	NA	320	5Sn-5Zn-5Pb	Cast fittings	...
B16.18	...	C83800	30 (205)	...	NA	320	4Sn-6.5Zn-6Pb	Cast fittings	...
B16.18	...	C84400	29 (200)	...	NA	320	2.5Sn-8.5Zn-7Pb	Cast fittings	...
B16.22	...	C10200	30 (205)	...	NA	300	99.95Cu-P	Wrought piping fittings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing			
					15608 Group	P-No.			
Nonferrous (Cont'd)									
B16.22	...	C12000	30 (205)	...	NA	300	99.9Cu-P	Wrought piping fittings	...
B16.22	...	C12200	30 (205)	...	NA	300	99.9Cu-P	Wrought piping fittings	...
B16.22	...	C23000	40 (275)	...	NA	300	85Cu-15Zn	Wrought piping fittings	...
B16.50	...	C10200	30 (205)	...	NA	300	99.95Cu-P	Wrought piping fittings	...
B16.50	...	C12000	30 (205)	...	NA	300	99.9Cu-P	Wrought piping fittings	...
B16.50	...	C12200	30 (205)	...	NA	300	99.9Cu-P	Wrought piping fittings	...
B16.50	...	C23000	40 (275)	...	NA	300	85Cu-15Zn	Wrought piping fittings	...
B or SB-26	T6	A03560	30 (205)	26	24.2	210	Al-Si-Mg	Castings	...
B or SB-26	T71	A03560	25 (170)	26	24.2	210	Al-Si-Mg	Castings	...
B or SB-26	...	A24430	17 (115)	26	24.1	210	Al-Si	Castings	...
B or SB-42	...	C10200	30 (205)	31	31	300	99.95Cu-P	Smls. pipe	...
B or SB-42	...	C12000	30 (205)	31	31	300	99.9Cu-P	Smls. pipe	...
B or SB-42	...	C12200	30 (205)	31	31	300	99.9Cu-P	Smls. pipe	...
B or SB-43	...	C23000	40 (275)	32	32.1	300	85Cu-15Zn	Smls. pipe	...
B or SB-61	...	C92200	30 (205)	...	NA	320	88Cu-Sn-Zn-Pb	Castings	...
B or SB-62	...	C83600	30 (205)	...	NA	320	85Cu-5Sn-5Zn-5Pb	Castings	...
B68	...	C10200	30 (205)	31	31	300	99.95Cu-P	Tube	...
B68	...	C12000	30 (205)	31	31	300	99.9Cu-P	Tube	...
B68	...	C12200	30 (205)	31	31	300	99.9Cu-P	Tube	...
B or SB-75	...	C10200	30 (205)	31	31	300	99.95Cu-P	Smls. tube	...
B or SB-75	...	C12000	30 (205)	31	31	300	99.9Cu-P	Smls. tube	...
B or SB-75	...	C12200	30 (205)	31	31	300	99.9Cu-P	Smls. tube	...
B88	...	C10200	30 (205)	31	31	300	99.95Cu-P	Tube	...
B88	...	C12000	30 (205)	31	31	300	99.9Cu-P	Tube	...
B88	...	C12200	30 (205)	31	31	300	99.9Cu-P	Tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous (Cont'd)									
B or SB-96	...	C65500	50 (345)	33	37	330	97Cu-3Si	Plate, sheet, strip & bar	...
B or SB-98	...	C65100	40 (275)	33	37	330	98.5Cu-1.5Si	Rod, bar & shapes	...
B or SB-98	...	C65500	52 (360)	33	37	330	97Cu-3Si	Rod, bar & shapes	...
B or SB-98	...	C66100	52 (360)	33	37	330	94Cu-3Si	Rod, bar & shapes	...
B or SB-111	...	C10200	30 (205)	31	31	300	99.95Cu-P	Smls. tube	...
B or SB-111	...	C12000	30 (205)	31	31	300	99.9Cu-P	Smls. tube	...
B or SB-111	...	C12200	30 (205)	31	31	300	99.9Cu-P	Smls. tube	...
B or SB-111	...	C14200	30 (205)	31	31	300	99.4Cu-As-P	Smls. tube	...
B or SB-111	...	C19200	38 (260)	31	31	300	99.7Cu-Fe-P	Smls. tube	...
B or SB-111	...	C23000	40 (275)	32	32.1	300	85Cu-15Zn	Smls. tube	...
B or SB-111	...	C28000	50 (345)	32	32.1	300	60Cu-40Zn	Smls. tube	...
B or SB-111	...	C44300	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06As	Smls. tube	...
B or SB-111	...	C44400	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06Sb	Smls. tube	...
B or SB-111	...	C44500	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06P	Smls. tube	...
B or SB-111	...	C60800	50 (345)	35	35	360	95Cu-5Al	Smls. tube	...
B or SB-111	...	C68700	50 (345)	32	32.2	350	78Cu-20Zn-2Al	Smls. tube	...
B or SB-111	...	C70400	38 (260)	34	34	300	95Cu-5Ni	Smls. tube	...
B or SB-111	...	C70600	40 (275)	34	34	300	90Cu-10Ni	Smls. tube	...
B or SB-111	...	C70620	40 (275)	34	34	300	90Cu-10Ni	Smls. tube	...
B or SB-111	...	C71000	45 (310)	34	34	300	80Cu-20Ni	Smls. tube	...
B or SB-111	...	C71500	52 (360)	34	34	300	70Cu-30Ni	Smls. tube	...
B or SB-111	...	C71520	52 (360)	34	34	300	70Cu-30Ni	Smls. tube	...
B or SB-111	...	C72200	45 (310)	34	34	300	80Cu-16Ni-0.75Fe-0.5Cr	Smls. tube	...
B or SB-127	...	N04400	70 (485)	42	42	400	67Ni-30Cu	Plate, sheet & strip	...
B or SB-135	...	C23000	40 (275)	32	32.1	300	85Cu-15Zn	Smls. tube	...
B or SB-148	...	C95200	65 (450)	35	35	360	88Cu-9Al-3Fe	Castings	...
B or SB-148	...	C95300	65 (450)	35	35	360	89Cu-10Al-1Fe	Castings	...
B or SB-148	...	C95400	75 (515)	35	35	360	85Cu-11Al-4Fe	Castings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous (Cont'd)									
B or SB-148	...	C95500	90 (620)	35	35	360	82Cu-11Al-4Fe-3Mn	Castings	...
B or SB-148	...	C95600	60 (415)	35	35	360	90Cu-7Al-3Si	Castings	...
B or SB-148	...	C95800	85 (585)	35	35	360	81Cu-9Al-5Ni-4Fe-1Mn	Castings	...
B or SB-148	...	C95820	94 (650)	35	35	360	81Cu-9Al-5Ni-5Fe-1Mn	Castings	...
B or SB-150	...	C61400	70 (485)	35	35	360	90Cu-7Al-3Fe	Rod & bar	...
B or SB-150	...	C62300	75 (515)	35	35	360	88Cu-9Al-3Fe	Rod (round)	...
B or SB-150	...	C63000	85 (585)	35	35	360	81Cu-10Al-5Ni-3Fe	Rod & bar	...
B or SB-150	...	C64200	70 (485)	35	35	360	91Cu-7Al-2Si	Rod & bar	...
B or SB-151	...	C70600	38 (260)	34	34	300	90Cu-10Ni	Rod & bar	...
B or SB-151	...	C70620	38 (260)	34	34	300	90Cu-10Ni	Rod & bar	...
B or SB-152	...	C10200	30 (205)	31	31	300	99.95Cu-P	Plate, sheet, strip & bar	...
B or SB-152	...	C10400	30 (205)	31	31	300	99.95Cu + Ag	Plate, sheet, strip & bar	...
B or SB-152	...	C10500	30 (205)	31	31	300	99.95Cu + Ag	Plate, sheet, strip & bar	...
B or SB-152	...	C10700	30 (205)	31	31	300	99.95Cu + Ag	Plate, sheet, strip & bar	...
B or SB-152	...	C11000	30 (205)	31	31	300	99.90Cu	Plate, sheet, strip & bar	...
B or SB-152	...	C12200	30 (205)	31	31	300	99.9Cu-P	Plate, sheet, strip & bar	...
B or SB-152	...	C12300	30 (205)	31	31	300	99.9Cu-P	Plate, sheet, strip & bar	...
B or SB-152	...	C14200	30 (205)	31	31	300	99.4Cu-As-P	Plate, sheet, strip & bar	...
B or SB-160	...	N02200	55 (380)	41	41	400	99.0Ni	Rod & bar	...
B or SB-160	...	N02201	50 (345)	41	41	400	99.0Ni-Low C	Rod & bar	...
B or SB-161	...	N02200	55 (380)	41	41	400	99.0Ni	Smls. pipe & tube	...
B or SB-161	...	N02201	50 (345)	41	41	400	99.0Ni-Low C	Smls. pipe & tube	...
B or SB-162	...	N02200	55 (380)	41	41	400	99.0Ni	Plate, sheet & strip	...
B or SB-162	...	N02201	50 (345)	41	41	400	99.0Ni-Low C	Plate, sheet & strip	...
B or SB-163	...	N02200	55 (380)	41	41	400	99.0Ni	Smls. tube	...
B or SB-163	...	N02201	50 (345)	41	41	400	99.0Ni-Low C	Smls. tube	...
B or SB-163	...	N04400	70 (485)	42	42	400	67Ni-30Cu	Smls. tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO 15608					
					Group					
Nonferrous (Cont'd)										
B or SB-163	...	N06025	98 (675)	43	43	420	63Ni-25Cr-10Fe-2Al-Ti-Y-Zr	Smls. tube	...	
B or SB-163	...	N06600	80 (550)	43	43	420	72Ni-15Cr-8Fe	Smls. tube	...	
B or SB-163	...	N06601	80 (550)	43	43	420	60Ni-23Cr-12Fe-Al	Smls. tube	...	
B or SB-163	...	N06690	85 (585)	43	43	420	58Ni-29Cr-9Fe	Smls. tube	...	
B or SB-163	...	N08120	90 (620)	45	45	430	37Ni-33Fe-25Cr	Smls. tube	...	
B or SB-163	...	N08800	75 (515)	45	45	430	33Ni-42Fe-21Cr	Smls. tube	...	
B or SB-163	...	N08801	65 (450)	45	45	430	32Ni-45Fe-20.5Cr-Ti	Smls. tube	...	
B or SB-163	...	N08810	65 (450)	45	45	430	33Ni-42Fe-21Cr	Smls. tube	...	
B or SB-163	...	N08811	65 (450)	45	45	430	33Ni-42Fe-21Cr-Al-Ti	Smls. tube	...	
B or SB-163	...	N08825	85 (585)	45	45	430	42Ni-21.5Cr-3Mo-2.3Cu	Smls. tube	...	
B or SB-164	...	N04400	70 (485)	42	42	400	67Ni-30Cu	Rod, bar & wire	...	
B or SB-164	...	N04405	70 (485)	42	42	400	67Ni-30Cu	Rod, bar & wire	...	
B or SB-165	...	N04400	70 (485)	42	42	400	67Ni-30Cu	Smls. pipe & tube	...	
B or SB-166	...	N06025	98 (675)	43	43	420	63Ni-25Cr-10Fe-2Al-Ti-Y-Zr	Rod, bar & wire	...	
B or SB-166	...	N06045	90 (620)	46	45	420	46Ni-27Cr-23Fe-2.75Si	Rod, bar & wire	...	
B or SB-166	...	N06600	80 (550)	43	43	420	72Ni-15Cr-8Fe	Rod, bar & wire	...	
B or SB-166	...	N06601	80 (550)	43	43	420	60Ni-23Cr-12Fe-Al	Rod, bar & wire	...	
B or SB-166	...	N06617	95 (655)	43	46	420	52Ni-22Cr-13Co-9Mo	Rod, bar & wire	...	
B or SB-166	...	N06690	85 (585)	43	43	420	58Ni-29Cr-9Fe	Rod, bar & wire	...	
B or SB-167	...	N06025	98 (675)	43	43	420	63Ni-25Cr-10Fe-2Al-Ti-Y-Zr	Smls. pipe & tube	...	
B or SB-167	...	N06045	90 (620)	46	45	420	46Ni-27Cr-23Fe-2.75Si	Smls. pipe & tube	...	
B or SB-167	...	N06600	75 (515)	43	43	420	72Ni-15Cr-8Fe	Smls. pipe & tube	...	
B or SB-167	...	N06601	80 (550)	43	43	420	60Ni-23Cr-12Fe-Al	Smls. pipe & tube	...	
B or SB-167	...	N06617	95 (655)	43	46	420	52Ni-22Cr-13Co-9Mo	Smls. pipe & tube	...	
B or SB-167	...	N06690	75 (515)	43	43	420	58Ni-29Cr-9Fe	Smls. pipe & tube	...	
B or SB-168	...	N06025	98 (675)	43	43	420	63Ni-25Cr-10Fe-2Al-Ti-Y-Zr	Plate, sheet & strip	...	
B or SB-168	...	N06045	90 (620)	46	45	420	46Ni-27Cr-23Fe-2.75Si	Plate, sheet & strip	...	
B or SB-168	...	N06600	80 (550)	43	43	420	72Ni-15Cr-8Fe	Plate, sheet & strip	...	

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous (Cont'd)									
B or SB-168	...	N06601	80 (550)	43	43	420	60Ni-23Cr-12Fe-Al	Plate, sheet & strip	...
B or SB-168	...	N06617	95 (655)	43	46	420	52Ni-22Cr-13Co-9Mo	Plate, sheet & strip	...
B or SB-168	...	N06690	85 (585)	43	43	420	58Ni-29Cr-9Fe	Plate, sheet & strip	...
B or SB-169	...	C61400	65 (450)	35	35	360	90Cu-7Al-3Fe	Plate & bar	>2 (50) ≤5 (125)
B or SB-169	...	C61400	70 (485)	35	35	360	90Cu-7Al-3Fe	Plate & bar	>0.5 (13) ≤2 (50)
B or SB-169	...	C61400	72 (495)	35	35	360	90Cu-7Al-3Fe	Plate, sheet, strip & bar	≤0.5 (13)
B or SB-171	...	C36500	40 (275)	32	32.2	310	60Cu-39Zn-Pb	Plate	>3.5 (90) ≤5 (125)
B or SB-171	...	C36500	45 (310)	32	32.2	310	60Cu-39Zn-Pb	Plate	>2.0 (50) ≤3.5 (90)
B or SB-171	...	C36500	50 (345)	32	32.2	310	60Cu-39Zn-Pb	Plate & sheet	≤2.0 (50)
B or SB-171	...	C44300	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06As	Plate & sheet	...
B or SB-171	...	C44400	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06Sb	Plate & sheet	...
B or SB-171	...	C44500	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06P	Plate & sheet	...
B or SB-171	...	C46400	50 (345)	32	32.2	300	60Cu-39Zn-Sn	Plate & sheet	...
B or SB-171	...	C46500	50 (345)	32	32.2	300	60Cu-39Zn-As	Plate & sheet	...
B or SB-171	...	C61400	65 (450)	35	35	360	90Cu-7Al-3Fe	Plate	>2 (50) ≤5 (125)
B or SB-171	...	C61400	70 (485)	35	35	360	90Cu-7Al-3Fe	Plate & sheet	≤2 (50)
B or SB-171	...	C63000	80 (550)	35	35	360	81Cu-10Al-5Ni-3Fe	Plate	>3.5 (90) ≤5 (125)
B or SB-171	...	C63000	85 (585)	35	35	360	81Cu-10Al-5Ni-3Fe	Plate	>2 (50) ≤3.5 (90)
B or SB-171	...	C63000	90 (620)	35	35	360	81Cu-10Al-5Ni-3Fe	Plate & sheet	≤2 (50)
B or SB-171	...	C70600	40 (275)	34	34	300	90Cu-10Ni	Plate & sheet	...
B or SB-171	...	C70620	40 (275)	34	34	300	90Cu-10Ni	Plate & sheet	...
B or SB-171	...	C71500	45 (310)	34	34	300	70Cu-30Ni	Plate	>2.5 (65) ≤5 (125)
B or SB-171	...	C71500	50 (345)	34	34	300	70Cu-30Ni	Plate & sheet	≤2.5 (65)
B or SB-171	...	C71520	45 (310)	34	34	300	70Cu-30Ni	Plate	>2.5 (65) ≤5 (125)
B or SB-171	...	C71520	50 (345)	34	34	300	70Cu-30Ni	Plate & sheet	≤2.5 (65)
B or SB-187	O60	C10200	28 (195)	31	31	300	99.95Cu-P	Rod & bar	...
B or SB-187	O60	C11000	28 (195)	31	31	300	99.9Cu	Rod & bar	...
B or SB-209	Alclad 3003	...	13 (90)	21	...	200	Al-Mn-Cu	Plate & sheet	>0.05 (1.3) <0.5 (13)
B or SB-209	Alclad 3003	...	14 (97)	21	...	200	Al-Mn-Cu	Plate	≥0.5 (13) ≤3 (75)

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO 15608 Group					
Nonferrous (Cont'd)										
B or SB-209	Alclad 3004	...	21 (145)	22	...	220	Al-Mn-Mg	Plate & sheet	>0.05 (1.3) <0.5 (13)	
B or SB-209	Alclad 3004	...	22 (150)	22	...	220	Al-Mn-Mg	Plate	≥0.5 (13) ≤3 (75)	
B or SB-209	Alclad 6061	...	24 (165)	23	...	200	Al-Mg-Si-Cu	Plate & sheet	...	
B or SB-209	1060	A91060	8 (55)	21	21	200	99.60Al	Plate & sheet	...	
B or SB-209	1100	A91100	11 (76)	21	21	200	99.0Al-Cu	Plate & sheet	...	
B or SB-209	3003	A93003	14 (97)	21	22.1	200	Al-Mn-Cu	Plate & sheet	...	
B or SB-209	3004	A93004	22 (150)	22	22.2	220	Al-Mn-Mg	Plate & sheet	...	
B or SB-209	5050	A95050	18 (125)	21	22.2	220	Al-1.5Mg	Plate & sheet	...	
B or SB-209	5052	A95052	25 (170)	22	22.3	220	Al-2.5Mg	Plate & sheet	...	
B or SB-209	5083	A95083	36 (250)	25	22.4	220	Al-4.4Mg-Mn	Plate	>7 (180) ≤8 (200)	
B or SB-209	5083	A95083	37 (255)	25	22.4	220	Al-4.4Mg-Mn	Plate	>5 (125) ≤7 (180)	
B or SB-209	5083	A95083	38 (260)	25	22.4	220	Al-4.4Mg-Mn	Plate	>3 (75) ≤5 (125)	
B or SB-209	5083	A95083	39 (270)	25	22.4	220	Al-4.4Mg-Mn	Plate	>1.5 (38) ≤3 (75)	
B or SB-209	5083	A95083	40 (275)	25	22.4	220	Al-4.4Mg-Mn	Plate & sheet	>0.05 (1.3) ≤1.5 (38)	
B or SB-209	5086	A95086	35 (240)	25	22.4	220	Al-4.0Mg-Mn	Plate & sheet	...	
B or SB-209	5154	A95154	30 (205)	22	22.4	220	Al-3.5Mg	Plate & sheet	...	
B or SB-209	5254	A95254	30 (205)	22	22.4	220	Al-3.5Mg	Plate & sheet	...	
B or SB-209	5454	A95454	31 (215)	22	22.3	220	Al-2.7Mg-Mn	Plate & sheet	...	
B or SB-209	5456	A95456	38 (260)	25	22.4	220	Al-5.1Mg-Mn	Plate	>7 (180) ≤8 (200)	
B or SB-209	5456	A95456	39 (270)	25	22.4	220	Al-5.1Mg-Mn	Plate	>5 (125) ≤7 (180)	
B or SB-209	5456	A95456	40 (275)	25	22.4	220	Al-5.1Mg-Mn	Plate	>3 (75) ≤5 (125)	
B or SB-209	5456	A95456	41 (285)	25	22.4	220	Al-5.1Mg-Mn	Plate	>1.5 (38) ≤3 (75)	
B or SB-209	5456	A95456	42 (290)	25	22.4	220	Al-5.1Mg-Mn	Plate & sheet	>0.05 (1.3) ≤1.5 (38)	
B or SB-209	5652	A95652	25 (170)	22	22.3	220	Al-2.5Mg	Plate & sheet	...	
B or SB-209	6061	A96061	24 (165)	23	23.1	220	Al-Mg-Si-Cu	Plate & sheet	...	
B or SB-210	Alclad 3003	...	13 (90)	21	...	200	Al-Mn-Cu	Smls. tube	...	
B or SB-210	1060	A91060	8.5 (59)	21	21	200	99.60Al	Smls. tube	...	
B or SB-210	3003	A93003	14 (97)	21	22.1	200	Al-Mn-Cu	Smls. tube	...	
B or SB-210	5052	A95052	25 (170)	22	22.3	220	Al-2.5Mg	Smls. tube	...	
B or SB-210	5083	A95083	39 (270)	25	22.4	220	Al-4.4Mg-Mn	Smls. tube	...	
B or SB-210	5086	A95086	35 (240)	25	22.4	220	Al-4.0Mg-Mn	Smls. tube	...	

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous (Cont'd)									
B or SB-210	5154	A95154	30 (205)	22	22.4	220	Al-3.5Mg	Smls. tube	...
B or SB-210	5456	A95456	41 (285)	25	22.4	220	Al-5.1Mg-Mn	Smls. tube	...
B or SB-210	6061	A96061	24 (165)	23	23.1	220	Al-Mg-Si-Cu	Smls. tube	...
B or SB-210	6063	A96063	17 (115)	23	23.1	210	Al-Mg-Si	Smls. tube	...
B or SB-211	6061	A96061	24 (165)	23	23.1	220	Al-Mg-Si-Cu	Bar, rod & wire	...
B or SB-221	1060	A91060	8.5 (59)	21	21	200	99.60Al	Bar, rod & shapes	...
B or SB-221	1100	A91100	11 (76)	21	21	200	99.0Al-Cu	Bar, rod & shapes	...
B or SB-221	3003	A93003	14 (97)	21	22.1	200	Al-Mn-Cu	Bar, rod & shapes	...
B or SB-221	5083	A95083	39 (270)	25	22.4	220	Al-4.4Mg-Mn	Bar, rod & shapes	...
B or SB-221	5154	A95154	30 (205)	22	22.4	220	Al-3.5Mg	Bar, rod & shapes	...
B or SB-221	5454	A95454	31 (215)	22	22.3	220	Al-2.7Mg-Mn	Bar, rod & shapes	...
B or SB-221	5456	A95456	41 (285)	25	22.4	220	Al-5.1Mg-Mn	Bar, rod & shapes	...
B or SB-221	6061	A96061	24 (165)	23	23.1	220	Al-Mg-Si-Cu	Bar, rod & shapes	...
B or SB-221	6063	A96063	17 (115)	23	23.1	210	Al-Mg-Si	Bar, rod & shapes	...
B or SB-234	Alclad 3003	...	13 (90)	21	...	200	Al-Mn-Cu	Smls. tube	...
B or SB-234	1060	A91060	8.5 (59)	21	21	200	99.60Al	Smls. tube	...
B or SB-234	3003	A93003	14 (97)	21	22.1	200	Al-Mn-Cu	Smls. tube	...
B or SB-234	5052	A95052	25 (170)	22	22.3	220	Al-2.5Mg	Smls. tube	...
B or SB-234	5454	A95454	31 (215)	22	22.3	220	Al-2.7Mg-Mn	Smls. tube	...
B or SB-234	6061	A96061	24 (165)	23	23.1	220	Al-Mg-Si-Cu	Smls. tube	...
B or SB-241	Alclad 3003	...	13 (90)	21	...	200	Al-Mn-Cu	Smls. pipe & tube	...
B or SB-241	1060	A91060	8.5 (59)	21	21	200	99.60Al	Smls. pipe & tube	...
B or SB-241	1100	A91100	11 (76)	21	21	200	99.0Al-Cu	Smls. pipe & tube	...
B or SB-241	3003	A93003	14 (97)	21	22.1	200	Al-Mn-Cu	Smls. pipe & tube	...
B or SB-241	5052	A95052	25 (170)	22	22.3	220	Al-2.5Mg	Smls. pipe & tube	...
B or SB-241	5083	A95083	39 (270)	25	22.4	220	Al-4.4Mg-Mn	Smls. pipe & tube	...
B or SB-241	5086	A95086	35 (240)	25	22.4	220	Al-4.0Mg-Mn	Smls. pipe & tube	...
B or SB-241	5454	A95454	31 (215)	22	22.3	220	Al-2.7Mg-Mn	Smls. pipe & tube	...
B or SB-241	5456	A95456	41 (285)	25	22.4	220	Al-5.1Mg-Mn	Smls. pipe & tube	...
B or SB-241	6061	A96061	24 (165)	23	23.1	220	Al-Mg-Si-Cu	Smls. pipe & tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO 15608 Group					
Nonferrous (Cont'd)										
B or SB-241	6063	A96063	17 (115)	23	23.1	210	Al-Mg-Si	Smls. pipe & tube	...	
B or SB-247	3003	A93003	14 (97)	21	22.1	200	Al-Mn-Cu	Forgings	...	
B or SB-247	5083	A95083	38 (260)	25	22.4	220	Al-4.4Mg-Mn	Forgings	...	
B or SB-247	6061	A96061	24 (165)	23	23.1	220	Al-Mg-Si-Cu	Forgings	...	
B or SB-265	1	R50250	35 (240)	51	51.1	500	Ti	Plate, sheet & strip	...	
B or SB-265	2	R50400	50 (345)	51	51.2	500	Ti	Plate, sheet & strip	...	
B or SB-265	2H	R50400	58 (400)	51	51.2	500	Ti	Plate, sheet & strip	...	
B or SB-265	3	R50550	65 (450)	52	51.3	500	Ti	Plate, sheet & strip	...	
B or SB-265	11	R52250	35 (240)	51	52	500	Ti-Pd	Plate, sheet & strip	...	
B or SB-265	17	R52252	35 (240)	51	51.1	500	Ti-Pd	Plate, sheet & strip	...	
B or SB-265	27	R52254	35 (240)	51	51.1	500	Ti-Ru	Plate, sheet & strip	...	
B or SB-265	7	R52400	50 (345)	51	52	500	Ti-Pd	Plate, sheet & strip	...	
B or SB-265	7H	R52400	58 (400)	51	52	500	Ti-Pd	Plate, sheet & strip	...	
B or SB-265	16	R52402	50 (345)	51	51.2	500	Ti-Pd	Plate, sheet & strip	...	
B or SB-265	16H	R52402	58 (400)	51	51.2	500	Ti-Pd	Plate, sheet & strip	...	
B or SB-265	26	R52404	50 (345)	51	51.2	500	Ti-Ru	Plate, sheet & strip	...	
B or SB-265	26H	R52404	58 (400)	51	51.2	500	Ti-Ru	Plate, sheet & strip	...	
B or SB-265	12	R53400	70 (485)	52	52	500	Ti-0.3Mo-0.8Ni	Plate, sheet & strip	...	
B or SB-265	38	R54250	130 (895)	54	53	500	Ti-4Al-2.5V-1.5Fe	Plate, sheet & strip	...	
B or SB-265	9	R56320	90 (620)	53	53	500	Ti-3Al-2.5V	Plate, sheet & strip	...	
B or SB-265	28	R56323	90 (620)	53	53	500	Ti-3Al-2.5V-0.1Ru	Plate, sheet & strip	...	
B or SB-271	...	C95200	65 (450)	35	35	360	88Cu-9Al-3Fe	Castings	...	
B or SB-271	...	C95400	75 (515)	35	35	360	85Cu-11Al-4Fe	Castings	...	
B280	102	C10200	30 (205)	31	31	300	99.95Cu-P	Smls. tube	...	
B280	120	C12000	30 (205)	31	31	300	99.9Cu-P	Smls. tube	...	
B280	122	C12200	30 (205)	31	31	300	99.9Cu-P	Smls. tube	...	
B or SB-283	Cu	C11000	33 (230)	31	31	300	99.9Cu	Forgings	...	
B or SB-283	Forging Brass	C37700	46 (315)	...	NA	320	60Cu-38Zn-2Pb	Forgings	>1.5 (38)	

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding		Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO 15608 Group				
Nonferrous (Cont'd)									
B or SB-283	Forging Brass	C37700	50 (345)	...	NA	320	60Cu-38Zn-2Pb	Forgings	≤1.5 (38)
B or SB-283	Naval Brass	C46400	64 (440)	32	32.2	300	60Cu-39Zn-Sn	Forgings	...
B or SB-283	High Si Bronze	C65500	52 (360)	33	31	330	97Cu-3Si	Forgings	...
B or SB-283	Mn Bronze	C67500	72 (495)	32	32.2	300	59Cu-39Zn-Fe-Sn	Forgings	...
B or SB-283	...	C70620	40 (275)	34	34	300	90Cu-10Ni	Forgings	>6 (150)
B or SB-283	...	C70620	45 (310)	34	34	300	90Cu-10Ni	Forgings	≤6 (150)
B or SB-283	...	C71520	45 (310)	34	34	300	70Cu-30Ni	Forgings	>6 (150)
B or SB-283	...	C71520	50 (345)	34	34	300	70Cu-30Ni	Forgings	≤6 (150)
B302	...	C12000	30 (205)	31	31	300	99.9Cu-P	Pipe	...
B302	...	C12200	30 (205)	31	31	300	99.9Cu-P	Pipe	...
B or SB-308	6061	A96061	24 (165)	23	23.1	220	Al-Mg-Si-Cu	Shapes	...
B or SB-315	...	C65500	50 (345)	33	33	330	97Cu-3Si	Smls. pipe & tube	...
B or SB-333	...	N10001	100 (690)	44	44	410	62Ni-28Mo-5Fe	Plate, sheet & strip	≥0.187 (5) ≤2.5 (65)
B or SB-333	...	N10001	115 (795)	44	44	410	62Ni-28Mo-5Fe	Sheet & strip	<0.187 (5)
B or SB-333	...	N10629	110 (760)	44	44	410	66Ni-28Mo-3Fe-1.3Cr-0.25Al	Plate, sheet & strip	...
B or SB-333	...	N10665	110 (760)	44	44	410	65Ni-28Mo-2Fe	Plate, sheet & strip	...
B or SB-333	...	N10675	110 (760)	44	44	410	65Ni-29.5Mo-2Fe-2Cr	Plate, sheet & strip	...
B or SB-335	...	N10001	100 (690)	44	44	410	62Ni-28Mo-5Fe	Rod	>1.5 (38) ≤3.5 (90)
B or SB-335	...	N10001	115 (795)	44	44	410	62Ni-28Mo-5Fe	Rod	≥0.3125 (8) ≤1.5 (38)
B or SB-335	...	N10629	110 (760)	44	44	410	66Ni-28Mo-3Fe-1.3Cr-0.25Al	Rod	...
B or SB-335	...	N10665	110 (760)	44	44	410	65Ni-28Mo-2Fe	Rod	...
B or SB-335	...	N10675	110 (760)	44	44	410	65Ni-29.5Mo-2Fe-2Cr	Rod	...
B or SB-338	1	R50250	35 (240)	51	51.1	500	Ti	Smls. & welded tube	...
B or SB-338	2	R50400	50 (345)	51	51.2	500	Ti	Smls. & welded tube	...
B or SB-338	2H	R50400	58 (400)	51	51.2	500	Ti	Smls. & welded tube	...
B or SB-338	3	R50550	65 (450)	52	51.3	500	Ti	Smls. & welded tube	...
B or SB-338	7	R52400	50 (345)	51	52	500	Ti-Pd	Smls. & welded tube	...
B or SB-338	7H	R52400	58 (400)	51	52	500	Ti-Pd	Smls. & welded tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding		ISO 15608 Group	Braze P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	P-No.					
Nonferrous (Cont'd)										
B or SB-338	16	R52402	50 (345)	51	51.2	500	Ti-Pd	Smls. & welded tube	...	
B or SB-338	16H	R52402	58 (400)	51	51.2	500	Ti-Pd	Smls. & welded tube	...	
B or SB-338	26	R52404	50 (345)	51	51.2	500	Ti-Ru	Smls. & welded tube	...	
B or SB-338	26H	R52404	58 (400)	51	51.2	500	Ti-Ru	Smls. & welded tube	...	
B or SB-338	12	R53400	70 (485)	52	52	500	Ti-0.3Mo-0.8Ni	Smls. & welded tube	...	
B or SB-338	38	R54250	130 (895)	54	53	500	Ti-4Al-2.5V-1.5Fe	Smls. & welded tube	...	
B or SB-338	9	R56320	90 (620)	53	53	500	Ti-3Al-2.5V	Smls. & welded tube	...	
B or SB-338	28	R56323	90 (620)	53	53	500	Ti-3Al-2.5V-0.1Ru	Smls. & welded tube	...	
B345	1060	A91060	8.5 (59)	21	21	200	99.60Al	Smls. pipe & tube	...	
B345	3003	A93003	14 (97)	21	22.1	200	Al-Mn-Cu	Smls. pipe & tube	...	
B345	5083	A95083	39 (270)	25	22.4	220	Al-4.4Mg-Mn	Smls. pipe & tube	...	
B345	5086	A95086	35 (240)	25	22.4	220	Al-4.0Mg-Mn	Smls. pipe & tube	...	
B345	6061	A96061	24 (165)	23	23.1	220	Al-Mg-Si-Cu	Smls. pipe & tube	...	
B345	6063	A96063	17 (115)	23	23.1	210	Al-Mg-Si	Smls. pipe & tube	...	
B or SB-348	1	R50250	35 (240)	51	51.1	500	Ti	Bars & billets	...	
B or SB-348	2	R50400	50 (345)	51	51.2	500	Ti	Bars & billets	...	
B or SB-348	2H	R50400	58 (400)	51	51.2	500	Ti	Bars & billets	...	
B or SB-348	3	R50550	65 (450)	52	51.3	500	Ti	Bars & billets	...	
B or SB-348	7	R52400	50 (345)	51	52	500	Ti-Pd	Bars & billets	...	
B or SB-348	7H	R52400	58 (400)	51	52	500	Ti-Pd	Bars & billets	...	
B or SB-348	16	R52402	50 (345)	51	51.2	500	Ti-Pd	Bars & billets	...	
B or SB-348	16H	R52402	58 (400)	51	51.2	500	Ti-Pd	Bars & billets	...	
B or SB-348	26	R52404	50 (345)	51	51.2	500	Ti-Ru	Bars & billets	...	
B or SB-348	26H	R52404	58 (400)	51	51.2	500	Ti-Ru	Bars & billets	...	
B or SB-348	12	R53400	70 (485)	52	52	500	Ti-0.3Mo-0.8Ni	Bars & billets	...	
B or SB-348	38	R54250	130 (895)	54	53	500	Ti-4Al-2.5V-1.5Fe	Bars & billets	...	
B or SB-348	9	R56320	90 (620)	53	53	500	Ti-3Al-2.5V	Bars & billets	...	
B or SB-348	28	R56323	90 (620)	53	53	500	Ti-3Al-2.5V-0.1Ru	Bars & billets	...	
B or SB-359	...	C12200	30 (205)	31	31	300	99.9Cu-P	Smls. tube	...	
B or SB-359	...	C44300	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06As	Smls. tube	...	

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO 15608 Group					
Nonferrous (Cont'd)										
B or SB-359	...	C44400	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06Sb	Smls. tube	...	
B or SB-359	...	C44500	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06P	Smls. tube	...	
B or SB-359	...	C70600	40 (275)	34	34	300	90Cu-10Ni	Smls. tube	...	
B or SB-359	...	C70620	40 (275)	34	34	300	90Cu-10Ni	Smls. tube	...	
B or SB-359	...	C71000	45 (310)	34	34	300	80Cu-20Ni	Smls. tube	...	
B or SB-359	...	C71500	52 (360)	34	34	300	70Cu-30Ni	Smls. tube	...	
B or SB-359	...	C71520	52 (360)	34	34	300	70Cu-30Ni	Smls. tube	...	
B361	WP Alclad 3003	A83003	13 (90)	21	...	200	Al-Mn-Cu	Fittings	...	
B361	WP1060	A91060	8.5 (59)	21	21	200	99.60Al	Fittings	...	
B361	WP1100	A91100	11 (76)	21	21	200	99.0Al-Cu	Fittings	...	
B361	WP3003	A93003	14 (97)	21	22.1	200	Al-Mn-Cu	Fittings	...	
B361	5083	A95083	39 (270)	25	22.4	220	Al-4.4Mg-Mn	Fittings	...	
B361	5154	A95154	30 (205)	22	22.3	220	Al-3.5Mg	Fittings	...	
B361	WP6061	A96061	24 (165)	23	23.1	220	Al-Mg-Si-Cu	Fittings	...	
B361	WP6063	A96063	17 (115)	23	23.1	210	Al-Mg-Si	Fittings	...	
B or SB-363	WPT 1	R50250	35 (240)	51	51.1	500	Ti	Smls. & welded fittings	...	
B or SB-363	WPT 2	R50400	50 (345)	51	51.2	500	Ti	Smls. & welded fittings	...	
B or SB-363	WPT 3	R50550	65 (450)	52	51.3	500	Ti	Smls. & welded fittings	...	
B or SB-363	WPT 7	R52400	50 (345)	51	52	500	Ti-Pd	Smls. & welded fittings	...	
B or SB-363	WPT 7H	R52400	58 (400)	51	52	500	Ti-Pd	Smls. & welded fittings	...	
B or SB-363	WPT 16	R52402	50 (345)	51	51.2	500	Ti-Pd	Smls. & welded fittings	...	
B or SB-363	WPT 16H	R52402	58 (400)	51	51.2	500	Ti-Pd	Smls. & welded fittings	...	
B or SB-363	WPT 26	R52404	50 (345)	51	51.2	500	Ti-Ru	Smls. & welded fittings	...	
B or SB-363	WPT 26H	R52404	58 (400)	51	51.2	500	Ti-Ru	Smls. & welded fittings	...	
B or SB-363	WPT 12	R53400	70 (485)	52	52	500	Ti-0.3Mo-0.8Ni	Smls. & welded fittings	...	
B or SB-363	WPT 38	R54250	130 (895)	54	53	500	Ti-4Al-2.5V-1.5Fe	Smls. & welded fittings	...	
B or SB-363	WPT 9	R56320	90 (620)	53	53	500	Ti-3Al-2.5V	Smls. & welded fittings	...	
B or SB-363	WPT 28	R56323	90 (620)	53	53	500	Ti-3Al-2.5V-0.1Ru	Smls. & welded fittings	...	
B or SB-366	...	N02200	55 (380)	41	41	400	99.0Ni	Fittings	...	
B or SB-366	...	N02201	50 (345)	41	41	400	99.0Ni-Low C	Fittings	...	

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding		Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO 15608 Group				
Nonferrous (Cont'd)									
B or SB-366	...	N04400	70 (485)	42	42	400	67Ni-30Cu	Fittings	...
B or SB-366	...	N06002	100 (690)	43	43	420	47Ni-22Cr-9Mo-18Fe	Fittings	...
B or SB-366	...	N06007	90 (620)	45	43	420	47Ni-22Cr-19Fe-6Mo	Fittings	...
B or SB-366	...	N06022	100 (690)	43	43	420	55Ni-21Cr-13.5Mo	Fittings	...
B or SB-366	...	N06025	98 (675)	43	43	420	63Ni-25Cr-10Fe-2Al-Ti-Y-Zr	Fittings	...
B or SB-366	...	N06030	85 (585)	45	45	420	40Ni-29Cr-15Fe-5Mo	Fittings	...
B or SB-366	...	N06035	85 (585)	43	43	420	58Ni-33Cr-8Mo	Fittings	...
B or SB-366	...	N06045	90 (620)	46	45	420	46Ni-27Cr-23Fe-2.75Si	Fittings	...
B or SB-366	...	N06059	100 (690)	43	43	420	59Ni-23Cr-16Mo	Fittings	...
B or SB-366	...	N06200	100 (690)	43	43	420	59Ni-23Cr-16Mo-1.6Cu	Fittings	...
B or SB-366	...	N06210	100 (690)	43	43	420	60Ni-19Cr-19Mo-1.8Ta	Fittings	...
B or SB-366	...	N06230	110 (760)	43	43	420	53Ni-22Cr-14W-Co-Fe-Mo	Fittings	...
B or SB-366	...	N06455	100 (690)	43	43	420	61Ni-15Mo-16Cr	Fittings	...
B or SB-366	...	N06600	80 (550)	43	43	420	72Ni-15Cr-8Fe	Fittings	...
B or SB-366	...	N06625	100 (690)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Fittings	...
B or SB-366	...	N06985	90 (620)	45	45	420	47Ni-22Cr-20Fe-7Mo	Fittings	...
B or SB-366	...	N08020	80 (550)	45	45	420	35Ni-35Fe-20Cr-Cb	Fittings	...
B or SB-366	...	N08031	94 (650)	45	45	420	31Ni-31Fe-27Cr-7Mo	Fittings	...
B or SB-366	...	N08120	90 (620)	45	45	430	37Ni-33Fe-25Cr	Fittings	...
B or SB-366	...	N08330	70 (485)	46	45	420	35Ni-19Cr-1.25Si	Fittings	...
B or SB-366	...	N08367	95 (655)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Fittings	>0.187 (5)
B or SB-366	...	N08367	100 (690)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Fittings	≤0.187 (5)
B or SB-366	...	N08800	75 (515)	45	45	430	33Ni-42Fe-21Cr	Fittings	...
B or SB-366	...	N08825	85 (585)	45	45	430	42Ni-21.5Cr-3Mo-2.3Cu	Fittings	...
B or SB-366	...	N08925	87 (600)	45	8.2	420	25Ni-20Cr-6Mo-Cu-N	Fittings	...
B or SB-366	...	N08926	94 (650)	45	8.2	420	25Ni-20Cr-6Mo-Cu-N	Fittings	...
B or SB-366	...	N10001	100 (690)	44	44	410	62Ni-28Mo-5Fe	Fittings	...
B or SB-366	...	N10003	100 (690)	44	44	410	70Ni-16Mo-7Cr-5Fe	Fittings	...
B or SB-366	...	N10242	105 (725)	44	44	410	62Ni-25Mo-8Cr-2Fe	Fittings	...
B or SB-366	...	N10276	100 (690)	43	43	420	54Ni-16Mo-15Cr	Fittings	...
B or SB-366	...	N10362	105 (725)	43	43	420	62Ni-22Mo-15Cr	Fittings	...
B or SB-366	...	N10629	110 (760)	44	44	410	66Ni-28Mo-3Fe-1.3Cr-0.25Al	Fittings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing			
					15608 Group	P-No.			
Nonferrous (Cont'd)									
B or SB-366	...	N10665	110 (760)	44	44	410	65Ni-28Mo-2Fe	Fittings	...
B or SB-366	...	N10675	110 (760)	44	44	410	65Ni-29.5Mo-2Fe-2Cr	Fittings	...
B or SB-366	...	N12160	90 (620)	46	46	420	37Ni-30Co-28Cr-2.7Si	Fittings	...
B or SB-366	...	R20033	109 (750)	45	45	420	33Cr-31Ni-32Fe-1.5Mo-0.6Cu- N	Fittings	...
B or SB-366	...	R30556	100 (690)	45	45	420	21Ni-30Fe-22Cr-18Co-3Mo- 3W	Fittings	...
B or SB-367	C-2	R52550	50 (345)	51	51.4	500	Ti	Castings	...
B or SB-367	C-3	R52550	65 (450)	52	51.4	500	Ti	Castings	...
B or SB-369	...	C96200	45 (310)	34	34	500	87.5Cu-10Ni-Fe-Mn	Castings	...
B or SB-381	F-1	R50250	35 (240)	51	51.1	500	Ti	Forgings	...
B or SB-381	F-2	R50400	50 (345)	51	51.2	500	Ti	Forgings	...
B or SB-381	F-2H	R50400	58 (400)	51	51.2	500	Ti	Forgings	...
B or SB-381	F-3	R50550	65 (450)	52	51.3	500	Ti	Forgings	...
B or SB-381	F-7	R52400	50 (345)	51	52	500	Ti-Pd	Forgings	...
B or SB-381	F-7H	R52400	58 (400)	51	52	500	Ti-Pd	Forgings	...
B or SB-381	F-16	R52402	50 (345)	51	51.2	500	Ti-Pd	Forgings	...
B or SB-381	F-16H	R52402	58 (400)	51	51.2	500	Ti-Pd	Forgings	...
B or SB-381	F-26	R52404	50 (345)	51	51.2	500	Ti-Ru	Forgings	...
B or SB-381	F-26H	R52404	58 (400)	51	51.2	500	Ti-Ru	Forgings	...
B or SB-381	F-12	R53400	70 (485)	52	52	500	Ti-0.3Mo-0.8Ni	Forgings	...
B or SB-381	F-38	R54250	130 (895)	54	53	500	Ti-4Al-2.5V-1.5Fe	Forgings	...
B or SB-381	F-9	R56320	90 (620)	53	53	500	Ti-3Al-2.5V	Forgings	...
B or SB-381	F-28	R56323	90 (620)	53	53	500	Ti-3Al-2.5V-0.1Ru	Forgings	...
B or SB-395	...	C10200	30 (205)	31	31	300	99.95Cu-P	Smls. tube	...
B or SB-395	...	C12000	30 (205)	31	31	300	99.9Cu-P	Smls. tube	...
B or SB-395	...	C12200	30 (205)	31	31	300	99.9Cu-P	Smls. tube	...
B or SB-395	...	C14200	30 (205)	31	31	300	99.4Cu-As-P	Smls. tube	...
B or SB-395	...	C19200	38 (260)	31	31	300	99.7Cu-Fe-P	Smls. tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding		Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO 15608 Group				
Nonferrous (Cont'd)									
B or SB-395	...	C23000	40 (275)	32	32.1	300	85Cu-15Zn	Smls. tube	...
B or SB-395	...	C44300	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06As	Smls. tube	...
B or SB-395	...	C44400	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06Sb	Smls. tube	...
B or SB-395	...	C44500	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06P	Smls. tube	...
B or SB-395	...	C60800	50 (345)	35	35	360	95Cu-5Al	Smls. tube	...
B or SB-395	...	C68700	50 (345)	32	32.2	350	78Cu-20Zn-2Al	Smls. tube	...
B or SB-395	...	C70600	40 (275)	34	34	300	90Cu-10Ni	Smls. tube	...
B or SB-395	...	C70620	40 (275)	34	34	300	90Cu-10Ni	Smls. tube	...
B or SB-395	...	C71000	45 (310)	34	34	300	80Cu-20Ni	Smls. tube	...
B or SB-395	...	C71500	52 (360)	34	34	300	70Cu-30Ni	Smls. tube	...
B or SB-395	...	C71520	52 (360)	34	34	300	70Cu-30Ni	Smls. tube	...
B or SB-407	...	N08120	90 (620)	45	45	430	37Ni-33Fe-25Cr	Smls. pipe & tube	...
B or SB-407	...	N08800	75 (515)	45	45	430	33Ni-42Fe-21Cr	Smls. pipe & tube	...
B or SB-407	...	N08801	65 (450)	45	45	430	32Ni-45Fe-20.5Cr-Ti	Smls. pipe & tube	...
B or SB-407	...	N08810	65 (450)	45	45	430	33Ni-42Fe-21Cr	Smls. pipe & tube	...
B or SB-407	...	N08811	65 (450)	45	45	430	33Ni-42Fe-21Cr-Al-Ti	Smls. pipe & tube	...
B or SB-408	...	N08120	90 (620)	45	45	430	37Ni-33Fe-25Cr	Rod & bar	...
B or SB-408	...	N08800	75 (515)	45	45	430	33Ni-42Fe-21Cr	Rod & bar	...
B or SB-408	...	N08810	65 (450)	45	45	430	33Ni-42Fe-21Cr	Rod & bar	...
B or SB-408	...	N08811	65 (450)	45	45	430	33Ni-42Fe-21Cr-Al-Ti	Rod & bar	...
B or SB-409	...	N08120	90 (620)	45	45	430	37Ni-33Fe-25Cr	Plate, sheet & strip	...
B or SB-409	...	N08800	75 (515)	45	45	430	33Ni-42Fe-21Cr	Plate, sheet & strip	...
B or SB-409	...	N08810	65 (450)	45	45	430	33Ni-42Fe-21Cr	Plate, sheet & strip	...
B or SB-409	...	N08811	65 (450)	45	45	430	33Ni-42Fe-21Cr-Al-Ti	Plate, sheet & strip	...
B or SB-423	...	N08825	75 (515)	45	45	430	42Ni-21.5Cr-3Mo-2.3Cu	Smls. pipe & tube	...
B or SB-424	...	N08825	85 (585)	45	45	430	42Ni-21.5Cr-3Mo-2.3Cu	Plate, sheet & strip	...
B or SB-425	...	N08825	85 (585)	45	45	430	42Ni-21.5Cr-3Mo-2.3Cu	Rod & bar	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding		Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO				
					15608 Group				
Nonferrous (Cont'd)									
B or SB-434	...	N10003	100 (690)	44	44	430	70Ni-16Mo-7Cr-5Fe	Plate, sheet & strip	...
B or SB-434	...	N10242	105 (725)	44	44	410	62Ni-25Mo-8Cr-2Fe	Plate, sheet & strip	...
B or SB-435	...	N06002	95 (655)	43	43	420	47Ni-22Cr-9Mo-18Fe	Plate, sheet & strip	...
B or SB-435	...	N06230	110 (760)	43	43	420	53Ni-22Cr-14W-Co-Fe-Mo	Plate, sheet & strip	...
B or SB-435	...	N12160	90 (620)	46	46	420	37Ni-30Co-28Cr-2.7Si	Plate, sheet & strip	...
B or SB-435	...	R30556	100 (690)	45	45	420	21Ni-30Fe-22Cr-18Co-3Mo-3W	Plate, sheet & strip	...
B or SB-443	1	N06625	110 (760)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Plate & hot-rolled sheet	...
B or SB-443	1	N06625	120 (825)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Cold-rolled sheet & strip	...
B or SB-443	2	N06625	100 (690)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Plate, sheet & strip	...
B or SB-444	1	N06625	120 (825)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Smls. pipe & tube	...
B or SB-444	2	N06625	100 (690)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Smls. pipe & tube	...
B or SB-446	1	N06625	100 (690)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Rod & bar	≥4 (100) ≤10 (250) dia.
B or SB-446	1	N06625	120 (825)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Rod & bar	<4 (100) dia.
B or SB-446	2	N06625	100 (690)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Rod & bar	...
B or SB-462	...	N06022	100 (690)	43	43	420	55Ni-21Cr-13.5Mo	Forgings	...
B or SB-462	...	N06030	85 (585)	45	45	420	40Ni-29Cr-15Fe-5Mo	Forgings	...
B or SB-462	...	N06035	85 (585)	43	43	420	58Ni-33Cr-8Mo	Forgings	...
B or SB-462	...	N06045	90 (620)	46	45	420	46Ni-27Cr-23Fe-2.75Si	Forgings	...
B or SB-462	...	N06059	100 (690)	43	43	420	59Ni-23Cr-16Mo	Forgings	...
B or SB-462	...	N06200	100 (690)	43	43	420	59Ni-23Cr-16Mo-1.6Cu	Forgings	...
B or SB-462	...	N06686	100 (690)	43	43	430	58Ni-21Cr-16Mo-3.5N	Forgings	...
B or SB-462	...	N08020	80 (550)	45	45	420	35Ni-35Fe-20Cr-Cb	Forgings	...
B or SB-462	...	N08031	94 (650)	45	45	420	31Ni-33Fe-22Cr-6.5Mo-Cu-N	Forgings	...
B or SB-462	...	N08367	95 (655)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Forgings	...
B or SB-462	...	N10276	100 (690)	43	43	420	54Ni-16Mo-15Cr	Forgings	...
B or SB-462	...	N10362	105 (725)	43	43	420	62Ni-22Mo-15Cr	Forgings	...
B or SB-462	...	N10629	110 (760)	44	44	410	66Ni-28Mo-3Fe-1.3Cr-0.25Al	Forgings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous (Cont'd)									
B or SB-462	...	N10665	110 (760)	44	44	410	65Ni-28Mo-2Fe	Forgings	...
B or SB-462	...	N10675	110 (760)	44	44	410	65Ni-29.5Mo-2Fe-2Cr	Forgings	...
B or SB-462	...	R20033	109 (750)	45	45	420	33Cr-31Ni-32Fe-1.5Mo-0.6Cu-N	Forgings	...
B or SB-463	...	N08020	80 (550)	45	45	420	35Ni-35Fe-20Cr-Cb	Plate, sheet & strip	...
B or SB-463	...	N08024	80 (550)	45	45	420	37Ni-33Fe-23Cr-4Mo	Plate, sheet & strip	...
B or SB-463	...	N08026	80 (550)	45	45	420	35Ni-30Fe-24Cr-6Mo-3Cu	Plate, sheet & strip	...
B or SB-464	...	N08020	80 (550)	45	45	420	35Ni-35Fe-20Cr-Cb	Welded pipe	...
B or SB-464	...	N08024	80 (550)	45	45	420	37Ni-33Fe-23Cr-4Mo	Welded pipe	...
B or SB-464	...	N08026	80 (550)	45	45	420	35Ni-30Fe-24Cr-6Mo-3Cu	Welded pipe	...
B or SB-466	...	C70600	38 (260)	34	34	300	90Cu-10Ni	Smls. pipe & tube	...
B or SB-466	...	C70620	38 (260)	34	34	300	90Cu-10Ni	Smls. pipe & tube	...
B or SB-466	...	C71000	45 (310)	34	34	300	80Cu-20Ni	Smls. pipe & tube	...
B or SB-466	...	C71500	52 (360)	34	34	300	70Cu-30Ni	Smls. pipe & tube	...
B or SB-466	...	C71520	52 (360)	34	34	300	70Cu-30Ni	Smls. pipe & tube	...
B or SB-467	...	C70600	38 (260)	34	34	300	90Cu-10Ni	Welded pipe	>4.5 (115) O.D.
B or SB-467	...	C70600	40 (275)	34	34	300	90Cu-10Ni	Welded pipe	≤4.5 (115) O.D.
B or SB-467	...	C70620	38 (260)	34	34	300	90Cu-10Ni	Welded pipe	>4.5 (115) O.D.
B or SB-467	...	C70620	40 (275)	34	34	300	90Cu-10Ni	Welded pipe	≤4.5 (115) O.D.
B or SB-467	...	C71500	45 (310)	34	34	300	70Cu-30Ni	Welded pipe	>4.5 (115) O.D.
B or SB-467	...	C71500	50 (345)	34	34	300	70Cu-30Ni	Welded pipe	≤4.5 (115) O.D.
B or SB-467	...	C71520	45 (310)	34	34	300	70Cu-30Ni	Welded pipe	>4.5 (115) O.D.
B or SB-467	...	C71520	50 (345)	34	34	300	70Cu-30Ni	Welded pipe	≤4.5 (115) O.D.
B or SB-468	...	N08020	80 (550)	45	45	420	35Ni-35Fe-20Cr-Cb	Welded tube	...
B or SB-468	...	N08024	80 (550)	45	45	420	37Ni-33Fe-23Cr-4Mo	Welded tube	...
B or SB-468	...	N08026	80 (550)	45	45	420	35Ni-30Fe-24Cr-6Mo-3Cu	Welded tube	...
B or SB-473	...	N08020	80 (550)	45	45	420	35Ni-35Fe-20Cr-Cb	Bar	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous (Cont'd)									
B491	3003	A93003	14 (97)	21	22.1	200	Al-Mn-Cu	Extruded tube	...
B or SB-493	R60702	R60702	55 (380)	61	61	600	99.2Zr	Forgings	...
B or SB-493	R60705	R60705	70 (485)	62	62	600	95.5Zr+2.5Cb	Forgings	...
B or SB-505	...	C95200	68 (470)	35	35	360	88Cu-9Al-3Fe	Castings	...
B or SB-511	...	N08330	70 (485)	46	45	420	35Ni-19Cr-1.25Si	Bars & shapes	...
B or SB-514	...	N08120	90 (620)	45	45	430	37Ni-33Fe-25Cr	Welded pipe	...
B or SB-514	...	N08800	75 (515)	45	45	430	33Ni-42Fe-21Cr	Welded pipe	...
B or SB-514	...	N08810	65 (450)	45	45	430	33Ni-42Fe-21Cr	Welded pipe	...
B or SB-515	...	N08120	90 (620)	45	45	430	37Ni-33Fe-25Cr	Welded tube	...
B or SB-515	...	N08800	75 (515)	45	45	430	33Ni-42Fe-21Cr	Welded tube	...
B or SB-515	...	N08810	65 (450)	45	45	430	33Ni-42Fe-21Cr	Welded tube	...
B or SB-515	...	N08811	65 (450)	45	45	430	33Ni-42Fe-21Cr-Al-Ti	Welded tube	...
B or SB-516	...	N06025	98 (675)	43	43	420	63Ni-25Cr-10Fe-2Al-Ti-Y-Zr	Welded tube	...
B or SB-516	...	N06045	90 (620)	46	45	420	46Ni-27Cr-23Fe-2.75Si	Welded tube	...
B or SB-516	...	N06600	80 (550)	43	43	420	72Ni-15Cr-8Fe	Welded tube	...
B or SB-517	...	N06025	98 (675)	43	43	420	63Ni-25Cr-10Fe-2Al-Ti-Y-Zr	Welded pipe	...
B or SB-517	...	N06045	90 (620)	46	45	420	46Ni-27Cr-23Fe-2.75Si	Welded pipe	...
B or SB-517	...	N06600	80 (550)	43	43	420	72Ni-15Cr-8Fe	Welded pipe	...
B or SB-523	R60702	R60702	55 (380)	61	61	600	99.2Zr	Smls. & welded tube	...
B or SB-523	R60705	R60705	80 (550)	62	62	600	95.5Zr+2.5Cb	Smls. & welded tube	...
B or SB-535	...	N08330	70 (485)	46	45	420	35Ni-19Cr-1.25Si	Smls. pipe & tube	...
B or SB-536	...	N08330	70 (485)	46	45	420	35Ni-19Cr-1.25Si	Plate, sheet & strip	...
B or SB-543	...	C12200	30 (205)	31	31	300	99.9Cu-P	Welded tube	...
B or SB-543	...	C19400	45 (310)	31	31	300	97.5Cu-P	Welded tube	...
B or SB-543	...	C23000	40 (275)	32	32.1	300	85Cu-15Zn	Welded tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous (Cont'd)									
B or SB-543	...	C44300	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06As	Welded tube	...
B or SB-543	...	C44400	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06Sb	Welded tube	...
B or SB-543	...	C44500	45 (310)	32	32.2	300	71Cu-28Zn-1Sn-0.06P	Welded tube	...
B or SB-543	...	C68700	50 (345)	32	32.2	350	78Cu-20Zn-2Al	Welded tube	...
B or SB-543	...	C70400	38 (260)	34	34	300	95Cu-5Ni	Welded tube	...
B or SB-543	...	C70600	40 (275)	34	34	300	90Cu-10Ni	Welded tube	...
B or SB-543	...	C70620	40 (275)	34	34	300	90Cu-10Ni	Welded tube	...
B or SB-543	...	C71500	52 (360)	34	34	300	70Cu-30Ni	Welded tube	...
B or SB-543	...	C71520	52 (360)	34	34	300	70Cu-30Ni	Welded tube	...
B547	Alclad 3003	A83003	13 (90)	21	...	200	Al-Mn-Cu	Welded tube	...
B547	3003	A93003	14 (97)	21	22.1	200	Al-Mn-Cu	Welded tube	...
B547	5083	A95083	40 (275)	25	22.4	220	Al-4.4Mg-Mn	Welded tube	...
B547	5454	A95454	31 (215)	22	22.3	220	Al-2.7Mg-Mn	Welded tube	...
B547	6061	A96061	24 (165)	23	23.1	220	Al-Mg-Si-Cu	Welded tube	...
B or SB-550	R60702	R60702	55 (380)	61	61	600	99.2Zr	Bar & wire	...
B or SB-550	R60705	R60705	80 (550)	62	62	600	95.5Zr+2.5Cb	Bar & wire	...
B or SB-551	R60702	R60702	55 (380)	61	61	600	99.2Zr	Plate, sheet & strip	...
B or SB-551	R60705	R60705	80 (550)	62	62	600	95.5Zr+2.5Cb	Plate, sheet & strip	...
B or SB-564	...	N04400	70 (485)	42	42	400	67Ni-30Cu	Forgings	...
B or SB-564	...	N06022	100 (690)	43	43	420	55Ni-21Cr-13.5Mo	Forgings	...
B or SB-564	...	N06025	84 (580)	43	43	420	63Ni-25Cr-10Fe-2Al-Ti-Y-Zr	Forgings	>4 (100) ≤12 (300)
B or SB-564	...	N06025	98 (675)	43	43	420	63Ni-25Cr-10Fe-2Al-Ti-Y-Zr	Forgings	≤4 (100)
B or SB-564	...	N06035	85 (585)	43	43	420	58Ni-33Cr-8Mo	Forgings	...
B or SB-564	...	N06045	90 (620)	46	45	420	46Ni-27Cr-23Fe-2.75Si	Forgings	...
B or SB-564	...	N06059	100 (690)	43	43	420	59Ni-23Cr-16Mo	Forgings	...
B or SB-564	...	N06200	100 (690)	43	43	420	59Ni-23Cr-16Mo-1.6Cu	Forgings	...
B or SB-564	...	N06210	100 (690)	43	43	420	60Ni-19Cr-19Mo-1.8Ta	Forgings	...
B or SB-564	...	N06230	110 (760)	43	43	420	53Ni-22Cr-14W-Co-Fe-Mo	Forgings	...
B or SB-564	...	N06600	80 (550)	43	43	420	72Ni-15Cr-8Fe	Forgings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing			
					15608 Group	P-No.			
Nonferrous (Cont'd)									
B or SB-564	...	N06617	95 (655)	43	46	420	52Ni-22Cr-13Co-9Mo	Forgings	...
B or SB-564	...	N06625	110 (760)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Forgings	>4 (100) ≤10 (250)
B or SB-564	...	N06625	120 (825)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Forgings	≤4 (100)
B or SB-564	...	N06686	100 (690)	43	43	430	58Ni-21Cr-16Mo-3.5W	Forgings	...
B or SB-564	...	N06690	85 (585)	43	43	420	58Ni-29Cr-9Fe	Forgings	...
B or SB-564	...	N08031	94 (650)	45	45	420	31Ni-31Fe-27Cr-7Mo	Forgings	...
B or SB-564	...	N08120	90 (620)	45	45	430	37Ni-33Fe-25Cr	Forgings	...
B or SB-564	...	N08367	95 (655)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Forgings	...
B or SB-564	...	N08800	75 (515)	45	45	430	33Ni-42Fe-21Cr	Forgings	...
B or SB-564	...	N08810	65 (450)	45	45	430	33Ni-42Fe-21Cr	Forgings	...
B or SB-564	...	N08811	65 (450)	45	44	430	33Ni-42Fe-21Cr-Al-Ti	Forgings	...
B or SB-564	...	N08825	85 (585)	45	45	430	42Ni-21.5Cr-3Mo-2.3Cu	Forgings	...
B or SB-564	...	N10242	105 (725)	44	44	410	62Ni-25Mo-8Cr-2Fe	Forgings	...
B or SB-564	...	N10276	100 (690)	43	43	420	54Ni-16Mo-15Cr	Forgings	...
B or SB-564	...	N10362	105 (725)	43	43	420	62Ni-22Mo-15Cr	Forgings	...
B or SB-564	...	N10629	110 (760)	44	44	410	66Ni-28Mo-3Fe-1.3Cr-0.25Al	Forgings	...
B or SB-564	...	N10665	110 (760)	44	44	410	65Ni-28Mo-2Fe	Forgings	...
B or SB-564	...	N10675	110 (760)	44	44	410	65Ni-29.5Mo-2Fe-2Cr	Forgings	...
B or SB-564	...	N12160	90 (620)	46	46	420	37Ni-30Co-28Cr-2.7Si	Forgings	...
B or SB-564	...	R20033	109 (750)	45	45	420	33Cr-31Ni-32Fe-1.5Mo-0.6Cu-N	Forgings	...
B or SB-572	...	N06002	95 (655)	43	43	420	47Ni-22Cr-9Mo-18Fe	Rod	...
B or SB-572	...	N06230	110 (760)	43	43	420	53Ni-22Cr-14W-Co-Fe-Mo	Rod	...
B or SB-572	...	N12160	90 (620)	46	46	420	37Ni-30Co-28Cr-2.7Si	Rod	...
B or SB-572	...	R30556	100 (690)	45	45	420	21Ni-30Fe-22Cr-18Co-3Mo-3W	Rod	...
B or SB-573	...	N10003	100 (690)	44	44	430	70Ni-16Mo-7Cr-5Fe	Rod	...
B or SB-573	...	N10242	105 (725)	44	44	410	62Ni-25Mo-8Cr-2Fe	Rod	...
B or SB-574	...	N06022	100 (690)	43	43	420	55Ni-21Cr-13.5Mo	Rod	...
B or SB-574	...	N06035	85 (585)	43	43	420	58Ni-33Cr-8Mo	Rod	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding		Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO 15608 Group				
Nonferrous (Cont'd)									
B or SB-574	...	N06059	100 (690)	43	43	420	59Ni-23Cr-16Mo	Rod	...
B or SB-574	...	N06200	100 (690)	43	43	420	59Ni-23Cr-16Mo-1.6Cu	Rod	...
B or SB-574	...	N06210	100 (690)	43	43	420	60Ni-19Cr-19Mo-1.8Ta	Rod	...
B or SB-574	...	N06455	100 (690)	43	43	420	61Ni-16Mo-16Cr	Rod	...
B or SB-574	...	N06686	100 (690)	43	43	430	58Ni-21Cr-16Mo-3.5W	Rod	...
B or SB-574	...	N10276	100 (690)	43	43	420	54Ni-16Mo-15Cr	Rod	...
B or SB-574	...	N10362	105 (725)	43	43	420	62Ni-22Mo-15Cr	Rod	...
B or SB-575	...	N06022	100 (690)	43	43	420	55Ni-21Cr-13.5Mo	Plate, sheet & strip	...
B or SB-575	...	N06035	85 (585)	43	43	420	58Ni-33Cr-8Mo	Plate, sheet & strip	...
B or SB-575	...	N06059	100 (690)	43	43	420	59Ni-23Cr-16Mo	Plate, sheet & strip	...
B or SB-575	...	N06200	100 (690)	43	43	420	59Ni-23Cr-16Mo-1.6Cu	Plate, sheet & strip	...
B or SB-575	...	N06210	100 (690)	43	43	420	60Ni-19Cr-19Mo-1.8Ta	Plate, sheet & strip	...
B or SB-575	...	N06455	100 (690)	43	43	420	61Ni-16Mo-16Cr	Plate, sheet & strip	...
B or SB-575	...	N06686	100 (690)	43	43	430	58Ni-21Cr-16Mo-3.5W	Plate, sheet & strip	...
B or SB-575	...	N10276	100 (690)	43	43	420	54Ni-16Mo-15Cr	Plate, sheet & strip	...
B or SB-575	...	N10362	105 (725)	43	43	420	62Ni-22Mo-15Cr	Plate, sheet & strip	...
B or SB-581	...	N06007	85 (585)	45	43	420	47Ni-22Cr-19Fe-6Mo	Rod	>0.75 (19) ≤3.5 (90) dia.
B or SB-581	...	N06007	90 (620)	45	43	420	47Ni-22Cr-19Fe-6Mo	Rod	≥0.3125 (8) ≤0.75 (19) dia.
B or SB-581	...	N06030	85 (585)	45	45	420	40Ni-29Cr-15Fe-5Mo	Rod	...
B or SB-581	...	N06975	85 (585)	45	45	430	49Ni-25Cr-18Fe-6Mo	Rod	...
B or SB-581	...	N06985	85 (585)	45	45	420	47Ni-22Cr-20Fe-7Mo	Rod	>0.75 (19) ≤3.5 (90) dia.
B or SB-581	...	N06985	90 (620)	45	45	420	47Ni-22Cr-20Fe-7Mo	Rod	≥0.3125 (8) ≤0.75 (19) dia.
B or SB-581	...	N08031	94 (650)	45	45	420	31Ni-31Fe-27Cr-7Mo	Rod	...
B or SB-582	...	N06007	85 (585)	45	43	420	47Ni-22Cr-19Fe-6Mo	Plate	>0.75 (19) ≤2.5 (65)
B or SB-582	...	N06007	90 (620)	45	43	420	47Ni-22Cr-19Fe-6Mo	Plate, sheet & strip	≤0.75 (19)
B or SB-582	...	N06030	85 (585)	45	45	420	40Ni-29Cr-15Fe-5Mo	Plate, sheet & strip	...
B or SB-582	...	N06975	85 (585)	45	45	430	49Ni-25Cr-18Fe-6Mo	Plate, sheet & strip	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous (Cont'd)									
B or SB-582	...	N06985	85 (585)	45	45	420	47Ni-22Cr-20Fe-7Mo	Plate	>0.75 (19) ≤2.5 (65)
B or SB-582	...	N06985	90 (620)	45	45	420	47Ni-22Cr-20Fe-7Mo	Plate, sheet & strip	≤0.75 (19)
B or SB-599	...	N08700	80 (550)	45	8.2	420	25Ni-47Fe-21Cr-5Mo	Plate, sheet & strip	...
B or SB-619	...	N06002	100 (690)	43	43	420	47Ni-22Cr-9Mo-18Fe	Welded pipe	...
B or SB-619	...	N06007	90 (620)	45	43	420	47Ni-22Cr-19Fe-6Mo	Welded pipe	...
B or SB-619	...	N06022	100 (690)	43	43	420	55Ni-21Cr-13.5Mo	Welded pipe	...
B or SB-619	...	N06030	85 (585)	45	45	420	40Ni-29Cr-15Fe-5Mo	Welded pipe	...
B or SB-619	...	N06035	85 (585)	43	43	420	58Ni-33Cr-8Mo	Welded pipe	...
B or SB-619	...	N06059	100 (690)	43	43	420	59Ni-23Cr-16Mo	Welded pipe	...
B or SB-619	...	N06200	100 (690)	43	43	420	59Ni-23Cr-16Mo-1.6Cu	Welded pipe	...
B or SB-619	...	N06210	100 (690)	43	43	420	60Ni-19Cr-19Mo-1.8Ta	Welded pipe	...
B or SB-619	...	N06230	110 (760)	43	43	420	53Ni-22Cr-14W-Co-Fe-Mo	Welded pipe	...
B or SB-619	...	N06455	100 (690)	43	43	420	61Ni-16Mo-16Cr	Welded pipe	...
B or SB-619	...	N06686	100 (690)	43	43	430	58Ni-21Cr-16Mo-3.5W	Welded pipe	...
B or SB-619	...	N06975	85 (585)	45	45	430	49Ni-25Cr-18Fe-6Mo	Welded pipe	...
B or SB-619	...	N06985	90 (620)	45	45	420	47Ni-22Cr-20Fe-7Mo	Welded pipe	...
B or SB-619	...	N08031	94 (650)	45	45	420	31Ni-31Fe-27Cr-7Mo	Welded pipe	...
B or SB-619	...	N08320	75 (515)	45	8.2	430	26Ni-22Cr-5Mo-Ti	Welded pipe	...
B or SB-619	...	N10001	100 (690)	44	44	410	62Ni-28Mo-5Fe	Welded pipe	...
B or SB-619	...	N10242	105 (725)	44	44	410	62Ni-25Mo-8Cr-2Fe	Welded pipe	...
B or SB-619	...	N10276	100 (690)	43	43	420	54Ni-16Mo-15Cr	Welded pipe	...
B or SB-619	...	N10362	105 (725)	43	43	420	62Ni-22Mo-15Cr	Welded pipe	...
B or SB-619	...	N10629	110 (760)	44	44	410	66Ni-28Mo-3Fe-1.3Cr-0.25Al	Welded pipe	...
B or SB-619	...	N10665	110 (760)	44	44	410	65Ni-28Mo-2Fe	Welded pipe	...
B or SB-619	...	N10675	110 (760)	44	44	410	65Ni-29.5Mo-2Fe-2Cr	Welded pipe	...
B or SB-619	...	N12160	90 (620)	46	46	420	37Ni-30Co-28Cr-2.7Si	Welded pipe	...
B or SB-619	...	R20033	109 (750)	45	45	420	33Cr-31Ni-32Fe-1.5Mo-0.6Cu- N	Welded pipe	...
B or SB-619	...	R30556	100 (690)	45	45	420	21Ni-30Fe-22Cr-18Co-3Mo- 3W	Welded pipe	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous (Cont'd)									
B or SB-620	...	N08320	75 (515)	45	8.2	430	26Ni-22Cr-5Mo-Ti	Plate, sheet & strip	...
B or SB-621	...	N08320	75 (515)	45	8.2	420	26Ni-22Cr-5Mo-Ti	Rod	...
B or SB-622	...	N06002	100 (690)	43	43	420	47Ni-22Cr-9Mo-18Fe	Smls. pipe & tube	...
B or SB-622	...	N06007	90 (620)	45	43	420	47Ni-22Cr-19Fe-6Mo	Smls. pipe & tube	...
B or SB-622	...	N06022	100 (690)	43	43	420	55Ni-21Cr-13.5Mo	Smls. pipe & tube	...
B or SB-622	...	N06030	85 (585)	45	45	420	40Ni-29Cr-15Fe-5Mo	Smls. pipe & tube	...
B or SB-622	...	N06035	85 (585)	43	43	420	58Ni-33Cr-8Mo	Smls. pipe & tube	...
B or SB-622	...	N06059	100 (690)	43	43	420	59Ni-23Cr-16Mo	Smls. pipe & tube	...
B or SB-622	...	N06200	100 (690)	43	43	420	59Ni-23Cr-16Mo-1.6Cu	Smls. pipe & tube	...
B or SB-622	...	N06210	100 (690)	43	43	420	60Ni-19Cr-19Mo-1.8Ta	Smls. pipe & tube	...
B or SB-622	...	N06230	110 (760)	43	43	420	53Ni-22Cr-14W-Co-Fe-Mo	Smls. pipe & tube	...
B or SB-622	...	N06455	100 (690)	43	43	420	61Ni-16Mo-16Cr	Smls. pipe & tube	...
B or SB-622	...	N06686	100 (690)	43	43	430	58Ni-21Cr-16Mo-3.5W	Smls. pipe & tube	...
B or SB-622	...	N06975	85 (585)	45	45	430	49Ni-25Cr-18Fe-6Mo	Smls. pipe & tube	...
B or SB-622	...	N06985	90 (620)	45	45	420	47Ni-22Cr-20Fe-7Mo	Smls. pipe & tube	...
B or SB-622	...	N08031	94 (650)	45	45	420	31Ni-31Fe-27Cr-7Mo	Smls. pipe & tube	...
B or SB-622	...	N08320	75 (515)	45	8.2	430	26Ni-22Cr-5Mo-Ti	Smls. pipe & tube	...
B or SB-622	...	N10001	100 (690)	44	44	410	62Ni-28Mo-5Fe	Smls. pipe & tube	...
B or SB-622	...	N10242	105 (725)	44	44	410	62Ni-25Mo-8Cr-2Fe	Smls. pipe & tube	...
B or SB-622	...	N10276	100 (690)	43	43	420	54Ni-16Mo-15Cr	Smls. pipe & tube	...
B or SB-622	...	N10362	105 (725)	43	43	420	62Ni-22Mo-15Cr	Smls. pipe & tube	...
B or SB-622	...	N10629	110 (760)	44	44	410	66Ni-28Mo-3Fe-1.3Cr-0.25Al	Smls. pipe & tube	...
B or SB-622	...	N10665	110 (760)	44	44	410	65Ni-28Mo-2Fe	Smls. pipe & tube	...
B or SB-622	...	N10675	110 (760)	44	44	410	65Ni-29.5Mo-2Fe-2Cr	Smls. pipe & tube	...
B or SB-622	...	N12160	90 (620)	46	46	420	37Ni-30Co-28Cr-2.7Si	Smls. pipe & tube	...
B or SB-622	...	R20033	109 (750)	45	45	420	33Cr-31Ni-32Fe-1.5Mo-0.6Cu-N	Smls. pipe & tube	...
B or SB-622	...	R30556	100 (690)	45	45	420	21Ni-30Fe-22Cr-18Co-3Mo-3W	Smls. pipe & tube	...
B or SB-625	...	N08031	94 (650)	45	45	420	31Ni-31Fe-27Cr-7Mo	Plate, sheet & strip	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous (Cont'd)									
B or SB-625	...	N08904	71 (490)	45	8.2	420	44Fe-25Ni-21Cr-Mo	Plate, sheet & strip	...
B or SB-625	...	N08925	87 (600)	45	8.2	420	25Ni-20Cr-6Mo-Cu-N	Plate, sheet & strip	...
B or SB-625	...	N08926	94 (650)	45	8.2	420	25Ni-20Cr-6Mo-Co-N	Plate, sheet & strip	...
B or SB-625	...	R20033	109 (750)	45	45	420	33Cr-31Ni-32Fe-1.5Mo-0.6Cu-N	Plate, sheet & strip	...
B or SB-626	...	N06002	100 (690)	43	43	420	47Ni-22Cr-9Mo-18Fe	Welded tube	...
B or SB-626	...	N06007	90 (620)	45	43	420	47Ni-22Cr-19Fe-6Mo	Welded tube	...
B or SB-626	...	N06022	100 (690)	43	43	420	55Ni-21Cr-13.5Mo	Welded tube	...
B or SB-626	...	N06030	85 (585)	45	45	420	40Ni-29Cr-15Fe-5Mo	Welded tube	...
B or SB-626	...	N06035	85 (585)	43	43	420	58Ni-33Cr-8Mo	Welded tube	...
B or SB-626	...	N06059	100 (690)	43	43	420	59Ni-23Cr-16Mo	Welded tube	...
B or SB-626	...	N06200	100 (690)	43	43	420	59Ni-23Cr-16Mo-1.6Cu	Welded tube	...
B or SB-626	...	N06210	100 (690)	43	43	420	60Ni-19Cr-19Mo-1.8Ta	Welded tube	...
B or SB-626	...	N06230	110 (760)	43	43	420	53Ni-22Cr-14W-Co-Fe-Mo	Welded tube	...
B or SB-626	...	N06455	100 (690)	43	43	420	61Ni-16Mo-16Cr	Welded tube	...
B or SB-626	...	N06617	95 (655)	43	46	420	52Ni-22Cr-13Co-9Mo	Welded tube	...
B or SB-626	...	N06686	100 (690)	43	43	430	58Ni-21Cr-16Mo-3.5W	Welded tube	...
B or SB-626	...	N06975	85 (585)	45	45	430	49Ni-25Cr-18Fe-6Mo	Welded tube	...
B or SB-626	...	N06985	90 (620)	45	45	420	47Ni-22Cr-20Fe-7Mo	Welded tube	...
B or SB-626	...	N08031	94 (650)	45	45	420	31Ni-31Fe-27Cr-7Mo	Welded tube	...
B or SB-626	...	N08320	75 (515)	45	8.2	430	26Ni-22Cr-5Mo-Ti	Welded tube	...
B or SB-626	...	N10001	100 (690)	44	44	410	62Ni-28Mo-5Fe	Welded tube	...
B or SB-626	...	N10242	105 (725)	44	44	410	62Ni-25Mo-8Cr-2Fe	Welded tube	...
B or SB-626	...	N10276	100 (690)	43	43	420	54Ni-16Mo-15Cr	Welded tube	...
B or SB-626	...	N10362	105 (725)	43	43	420	62Ni-22Mo-15Cr	Welded tube	...
B or SB-626	...	N10629	110 (760)	44	44	410	66Ni-28Mo-3Fe-1.3Cr-0.25Al	Welded tube	...
B or SB-626	...	N10665	110 (760)	44	44	410	65Ni-28Mo-2Fe	Welded tube	...
B or SB-626	...	N10675	110 (760)	44	44	410	65Ni-29.5Mo-2Fe-2Cr	Welded tube	...
B or SB-626	...	N12160	90 (620)	46	46	420	37Ni-30Co-28Cr-2.7Si	Welded tube	...
B or SB-626	...	R20033	109 (750)	45	45	420	33Cr-31Ni-32Fe-1.5Mo-0.6Cu-N	Welded tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous (Cont'd)									
B or SB-626	...	R30556	100 (690)	45	45	420	21Ni-30Fe-22Cr-18Co-3Mo-3W	Welded tube	...
B or SB-649	...	N08904	71 (490)	45	8.2	420	44Fe-25Ni-21Cr-Mo	Bar & wire	...
B or SB-649	...	N08925	87 (600)	45	8.2	420	25Ni-20Cr-6Mo-Cu-N	Bar & wire	...
B or SB-649	...	N08926	94 (650)	45	8.2	420	25Ni-20Cr-6Mo-Cu-N	Bar & wire	...
B or SB-649	...	R20033	109 (750)	45	45	420	33Cr-31Ni-32Fe-1.5Mo-0.6Cu-N	Bar & wire	...
B or SB-653	R60702	R60702	55 (380)	61	61	600	99.2Zr	Smls. & welded fittings	...
B or SB-658	R60702	R60702	55 (380)	61	61	600	99.2Zr	Smls. & welded pipe	...
B or SB-658	R60705	R60705	80 (550)	62	62	600	95.5Zr+2.5Cb	Smls. & welded pipe	...
B or SB-668	...	N08028	73 (505)	45	45	420	31Ni-31Fe-29Cr-Mo	Smls. tube	...
B or SB-672	...	N08700	80 (550)	45	8.2	420	25Ni-47Fe-21Cr-5Mo	Bar & wire	...
B or SB-673	...	N08904	71 (490)	45	8.2	420	44Fe-25Ni-21Cr-Mo	Welded pipe	...
B or SB-673	...	N08925	87 (600)	45	8.2	420	25Ni-20Cr-6Mo-Cu-N	Welded pipe	...
B or SB-673	...	N08926	94 (650)	45	8.2	420	25Ni-20Cr-6Mo-Cu-N	Welded pipe	...
B or SB-674	...	N08354	93 (640)	45	45	420	35Ni-23Cr-7.5Mo-N	Welded tube	...
B or SB-674	...	N08904	71 (490)	45	8.2	420	44Fe-25Ni-21Cr-Mo	Welded tube	...
B or SB-674	...	N08925	87 (600)	45	8.2	420	25Ni-20Cr-6Mo-Cu-N	Welded tube	...
B or SB-674	...	N08926	94 (650)	45	8.2	420	25Ni-20Cr-6Mo-Cu-N	Welded tube	...
B or SB-675	...	N08367	95 (655)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Welded pipe	>0.187 (5)
B or SB-675	...	N08367	100 (690)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Welded pipe	≤0.187 (5)
B or SB-676	...	N08367	95 (655)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Welded tube	>0.187 (5)
B or SB-676	...	N08367	100 (690)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Welded tube	≤0.187 (5)
B or SB-677	...	N08904	71 (490)	45	8.2	420	44Fe-25Ni-21Cr-Mo	Smls. pipe & tube	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO	Brazing P-No.			
					15608 Group				
Nonferrous (Cont'd)									
B or SB-677	...	N08925	87 (600)	45	8.2	420	25Ni-20Cr-6Mo-Cu-N	Smls. pipe & tube	...
B or SB-677	...	N08926	94 (650)	45	8.2	420	25Ni-20Cr-6Mo-Cu-N	Smls. pipe & tube	...
B or SB-688	...	N08367	95 (655)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Plate	>0.187 (5)
B or SB-688	...	N08367	100 (690)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Sheet & strip	≤0.187 (5)
B or SB-690	...	N08367	95 (655)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Smls. pipe & tube	>0.187 (5)
B or SB-690	...	N08367	100 (690)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Smls. pipe & tube	≤0.187 (5)
B or SB-691	...	N08367	95 (655)	45	8.2	420	46Fe-24Ni-21Cr-6Mo-N	Rod, bar & wire	...
B or SB-704	1	N06625	120 (825)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Welded tube	...
B or SB-704	2	N06625	100 (690)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Welded tube	...
B or SB-704	...	N08825	85 (585)	45	45	430	42Ni-21.5Cr-3Mo-2.3Cu	Welded tube	...
B or SB-705	1	N06625	120 (825)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Welded pipe	...
B or SB-705	2	N06625	100 (690)	43	43	430	60Ni-22Cr-9Mo-3.5Cb	Welded pipe	...
B or SB-705	...	N08825	85 (585)	45	45	430	42Ni-21.5Cr-3Mo-2.3Cu	Welded pipe	...
B or SB-709	...	N08028	73 (505)	45	45	420	31Ni-31Fe-29Cr-Mo	Plate, sheet & strip	...
B or SB-710	...	N08330	70 (485)	46	45	420	35Ni-19Cr-1.25Si	Welded pipe	...
B725	...	N02200	55 (380)	41	41	400	99.0Ni	Welded pipe	...
B725	...	N02201	50 (345)	41	41	400	99.0Ni-Low C	Welded pipe	...
B725	...	N04400	70 (485)	42	42	400	67Ni-30Cu	Welded pipe	...
B or SB-729	...	N08020	80 (550)	45	45	420	35Ni-35Fe-20Cr-Cb	Smls. pipe & tube	...
B730	...	N02200	55 (380)	41	41	400	99.0Ni	Welded tube	...
B730	...	N02201	50 (345)	41	41	400	99.0Ni-Low C	Welded tube	...
B730	...	N04400	70 (485)	42	42	400	67Ni-30Cu	Welded tube	...
B or SB-752	702C	R60702	55 (380)	61	61	600	99.2Zr	Castings	...
B or SB-752	705C	R60705	70 (485)	62	62	600	95.5Zr + 2.5Cb	Castings	...

Table QW/QB-422
Base Metal P-Numbers (Cont'd)

Spec. No.	Alloy, Type, or Grade	UNS No.	Minimum Specified Tensile, ksi (MPa)	Welding			Brazing P-No.	Nominal Composition	Typical Product Form	Nominal Thickness Limits, in. (mm)
				P-No.	ISO 15608					
					Group					
Nonferrous (Cont'd)										
B or SB-815	...	R31233	120 (825)	49	...	800	Co-26Cr-9Ni-5Mo-3Fe-2W	Rod	...	
B or SB-818	...	R31233	120 (825)	49	...	800	Co-26Cr-9Ni-5Mo-3Fe-2W	Plate, sheet & strip	...	
B819	C12200	C12200	30 (205)	...	NA	300	99.9Cu-P	Wrought pipe	...	
B or SB-861	1	R50250	35 (240)	51	51.1	500	Ti	Smls. pipe	...	
B or SB-861	2	R50400	50 (345)	51	51.2	500	Ti	Smls. pipe	...	
B or SB-861	2H	R50400	58 (400)	51	51.2	500	Ti	Smls. pipe	...	
B or SB-861	3	R50550	65 (450)	52	51.3	500	Ti	Smls. pipe	...	
B or SB-861	7	R52400	50 (345)	51	52	500	Ti-Pd	Smls. pipe	...	
B or SB-861	7H	R52400	58 (400)	51	52	500	Ti-Pd	Smls. pipe	...	
B or SB-861	16	R52402	50 (345)	51	51.2	500	Ti-Pd	Smls. pipe	...	
B or SB-861	16H	R52402	58 (400)	51	51.2	500	Ti-Pd	Smls. pipe	...	
B or SB-861	26	R52404	50 (345)	51	51.2	500	Ti-Ru	Smls. pipe	...	
B or SB-861	26H	R52404	58 (400)	51	51.2	500	Ti-Ru	Smls. pipe	...	
B or SB-861	12	R53400	70 (485)	52	52	500	Ti-0.3Mo-0.8Ni	Smls. pipe	...	
B or SB-861	38	R54250	130 (895)	54	53	500	Ti-4Al-2.5V-1.5Fe	Smls. pipe	...	
B or SB-861	9	R56320	90 (620)	53	53	500	Ti-3Al-2.5V	Smls. pipe	...	
B or SB-861	28	R56323	90 (620)	53	53	500	Ti-3Al-2.5V-0.1Ru	Smls. pipe	...	
B or SB-862	1	R50250	35 (240)	51	51.1	500	Ti	Welded pipe	...	
B or SB-862	2	R50400	50 (345)	51	51.2	500	Ti	Welded pipe	...	
B or SB-862	2H	R50400	58 (400)	51	51.2	500	Ti	Welded pipe	...	
B or SB-862	3	R50550	65 (450)	52	51.3	500	Ti	Welded pipe	...	
B or SB-862	7	R52400	50 (345)	51	52	500	Ti-Pd	Welded pipe	...	
B or SB-862	7H	R52400	58 (400)	51	52	500	Ti-Pd	Welded pipe	...	
B or SB-862	16	R52402	50 (345)	51	51.2	500	Ti-Pd	Welded pipe	...	
B or SB-862	16H	R52402	58 (400)	51	51.2	500	Ti-Pd	Welded pipe	...	
B or SB-862	26	R52404	50 (345)	51	51.2	500	Ti-Ru	Welded pipe	...	
B or SB-862	26H	R52404	58 (400)	51	51.2	500	Ti-Ru	Welded pipe	...	
B or SB-862	12	R53400	70 (485)	52	52	500	Ti-0.3Mo-0.8Ni	Welded pipe	...	