

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
A) For matl data info, P & A #'s,,see (Sec 9, QW Art-4,#422)... (For specific matl see ASME Sect 2-A matls)						
B) PWHT REQ'D column does not reflect comprehensive heat requirements for all matl, advise further research! (See Sec 8, UCS-56 & UHT-56)..... PreHeat req (See Sec 8 App R)						
C) Pink hi-lite means there is missing data and more information is required!						
	CoCr	SA-240,Type-304H (304H SS heat resistant plate)	ECoCr-A			
P1 to P1	SA-106,Gr-B (Carbon Steel smls pipe)	SA-106,Gr-B (Carbon Steel smls pipe)	E7018 ER80S-D2	ER80S-D2 E70T-1		
P1 to P8	SA-106,Gr-B (Carbon Steel smls pipe)	SA-312,Gr-TP304 (304 Stainless)	E309 ER309	ER309		
P1 to P8	SA-106,Gr-B (Carbon Steel smls pipe)	SA-312,Gr-TP304 (304L Stainless)	E309L-15 ER309L			
P1 to P8	SA-106,Gr-B (Carbon Steel smls pipe)	SA-312,Gr-TP316 (316 Stainless)	E309-16 ER309			
P1 to P4	SA-106,Gr-B (Carbon Steel smls pipe)	SA-335, Gr-P11	E8018-B2 ER80S-B2L		YES	
P1 to P5A	SA-106,Gr-B (Carbon Steel smls pipe)	SA-335, Gr-P22	E9018-B3 ER90S-B3L		YES	
P1 to P45	SA-106,Gr-B (Carbon Steel smls pipe)	SB-464, UNS No. NO80xx (NiCrMo pipe)	ER309			Includes alloys 8020, 8024, 8026
P1 to P1	SA-106,Gr-B (Carbon Steel smls pipe)	SA-106,Gr-C (Carbon Steel smls pipe)	E7018 ER80S-D2	ER80S-D2 E70T- 1		
P1 to P1	SA-178,Gr-A (Carbon steel tubes)	SA-178,Gr-A (Carbon steel tubes)	E6010 ER70S-2			
P1 to P1	SA-178,Gr-A (Carbon steel tubes)	SA-178,Gr-C (Carbon steel tubes)	E7018 ER80S-D2	ER80S-D2 E70T- 1		
P1 to P1	SA-178,Gr-C (Carbon steel tubes)	SA-178,Gr-C (Carbon steel tubes)	E7018 R70S-6	ER70S-6 E71T-1		
P1 to P1	SA-179 Cold drawn low carbon steel tubes	SA-179 Cold drawn low carbon steel tubes	E7018 ER70S-6	ER70S-6 E71T-1		
P1 to P1	SA-181,CI-60 (Carbon Steel Forgings)	SA-181,CI-60 (Carbon Steel Forgings)	E6010 ER80S-D2	ER80S-D2 E70T- 1		
P1 to P1	SA-181,CI-70 (Carbon Steel Forgings)	SA-181,CI-70 (Carbon Steel Forgings)	E7018 ER80S- D2	ER80S-D2 E70T- 1		
P3 to P3	SA-182,Gr-F1 (C-1/2Mo, High temp service)	SA-182,Gr-F1 (C-1/2Mo, High temp service)	E7018-A1 ER80S-D2	ER80S-D2 E81T1-A1		

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P8 to P8	SA-182,Gr-F10 (310 SS)	SA-182,Gr-F10 (310 SS)	E310-15 ER310	ER310		F10 not in current Sec. II
P4 to P4	SA-182,Gr-F11 (1 1/4 Cr 1/2 Mo)	SA-182,Gr-F11 (1 1/4 Cr 1/2 Mo)	E8018-CM ER80S-D2	ER80S-D2 E80T5-B2	YES	
P4 to P4	SA-182,Gr-F12 (1 Cr 1/2 Mo)	SA-182,Gr-F12 (1 Cr 1/2 Mo)	E8018-CM ER80S-D2	ER80S-D2 E80T5-B2	YES	
P3 to P3	SA-182,Gr-F2 (1/2 Cr 1/2 MO)	SA-182,Gr-F2 (1/2 Cr 1/2 MO)	E8018-CM ER80S-D2	ER80S-D2 E80T5-B2		
P5A to P5A	SA-182,Gr-F21 (3 Cr 1Mo)	SA-182,Gr-F21 (3 Cr 1Mo)	(3 E9018-B3 ER90S-B3L	ER90S-B3 E90T5-B3	YES	
P5A to P5A	SA-182,Gr-F22 (2 1/4 Cr 1 Mo)	SA-182,Gr-F22 (2 1/4 Cr 1 Mo)	E9018-B3 ER90S-B3L	ER90S-B3 E90T5-B3	YES	
P8 to P8	SA-182,Gr-F304 (304 SS)	SA-182,Gr-F304 (304 SS)	E308-15 ER308	ER308 E308T-1		
P8 to P8	SA-182,Gr-F310 (310 SS)	SA-182,Gr-F310 (310 SS)	E310-15 ER310	ER310		
P8 to P8	SA-182,Gr-F316 (316 SS)	SA-182,Gr-F316 (316 SS)	E316-15 ER316	ER316 E316T-1		
P8 to P8	SA-182,Gr-F316 (316 SS)	SA-249,Gr-TP317 (317 SS)	E308 ER308	ER308 E308T-1		
P8 to P8	SA-182,Gr-F316L (316L SS)	SA-182,Gr-F316L (316L SS)	E316L-15 ER316L	ER316L E316LT-1		
P8 to P8	SA-182,Gr-321 (321 SS)	SA-182,Gr-321 (321 SS)	E347-15 ER347	ER347 E347T-1		
P8 to P8	SA-182,Gr-347 (347 SS)	SA-182,Gr-347 (347 SS)	E347-15 ER347	ER347 E347T-1		
P8 to P8	SA-182,Gr-348 (348 SS)	SA-182,Gr-348 (348 SS)	E347-15 ER347	ER347		
P7 to P7	SA-182,Gr-F430 (17 Cr)	SA-182,Gr-F430 (17 Cr)	(17 E430-15 ER430	ER430		
P5B to P5B	SA-182,Gr-F5 (5 Cr 1/2 Mo)	SA-182,Gr-F5 (5 Cr 1/2 Mo)	E9018-B3 ER80S-B3	ER80S-B3 E90T1-B3	YES	
P5B to P5B	SA-182,Gr-F5a (5 Cr 1/2 Mo)	SA-182,Gr-F5a (5 Cr 1/2 Mo)	ER9018-B3 E90S-B3	ER90S-B3 E90T1-B3	YES	
P6 to P6	SA-182,Gr-F6a,C (13 CR, Tp410)	SA-182,Gr-F6a,C (13 CR, Tp410)	E410-15 ER410	ER410 E410T-1		
P1 to P1	SA-192 (Carbon Steel seamless boiler tubes)	SA-192 (Carbon Steel seamless boiler tubes)	E6010 ER80S- D2	ER80S-D2 E70T- 1		

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P4 to P4	SA-199, Gr T11	SA-199, Gr T11	E8018-B2 ER80S-B2	ER80S-B2 E80C-B2	YES	SA-199 - Deleted spec
P5A to P5A	SA-199, Gr T21	SA-199, Gr T21	E9018-B3 ER90S-B3	ER90S-B3 E90T5-B3	YES	SA-199 - Deleted spec
P5A to P5A	SA-199, Gr T22	SA-199, Gr T22	E9018-B3 ER90S-B3	ER90S-B3	YES	SA-199 - Deleted spec
P4 to P4	SA-199, Gr T3b	SA-199, Gr T3b	E9018-B3 ER90S-B3	ER90S-B3 E90C-B3	YES	SA-199 - Deleted spec
P5A to P5A	SA-199, Gr T4	SA-199, Gr T4	E9018-B3 ER90S-B3	ER90S-B3 E90C-B3	YES	SA-199 - Deleted spec
P5B to P5B	SA-199, Gr T5	SA-199, Gr T5	E8018-B6-15 ER80S-B6	ER80S-B6 E8018-B6T-1	YES	SA-199 - Deleted spec
P4 to P4	SA-202,Gr-A (Alloy Steel, Cr, Mn, Si)	SA-202,Gr-A (Alloy Steel, Cr, Mn, Si)	E7018-A1 ER80S-D2	ER80S-D2 E81T1-A1	YES	
P4 to P4	SA-202,Gr-B (Alloy Steel, Cr, Mn, Si)	SA-202,Gr-B (Alloy Steel, Cr, Mn, Si)	E8018-B2 ER80S-B2	ER80S-D2	YES	
P9A to P9A	SA-203,Gr-A (Alloy Steel, Nickel)	SA-203,Gr-A (Alloy Steel, Nickel)	E8018-C1 ER80S-Ni2	ER80S-Ni2 E81T1-Ni2		
P9A to P9A	SA-203,Gr-B (Alloy Steel, Nickel)	SA-203,Gr-B (Alloy Steel, Nickel)	E8018-C1 ER80S-Ni2	ER80S-Ni2 E81T1-Ni2		
P9B to P9B	SA-203,Gr-D (Alloy Steel, Nickel)	SA-203,Gr-D (Alloy Steel, Nickel)	E8018-C2 ER80S-Ni3	ER80S-Ni3		
P9B to P9B	SA-203,Gr-E (Alloy Steel, Nickel)	SA-203,Gr-E (Alloy Steel, Nickel)	ER80S-Ni3 ER80S-Ni3	ER80S-Ni3		
P3 to P3	SA-204,Gr-A (Alloy Steel, Molybdenum)	SA-204,Gr-A (Alloy Steel, Molybdenum)	E7018-A1 ER80S-D2	ER80S-D2		
P3 to P3	SA-204,Gr-B (Alloy Steel, Molybdenum)	SA-204,Gr-B (Alloy Steel, Molybdenum)	E7018-A1 ER80S-D2	ER80S-D2		
P3 to P5B	SA-204,Gr-B (Alloy Steel, Molybdenum)	SA-387,Gr-5 (5Cr1/2Mo plate)	ER80S-B6		YES	
P3 to P43	SA-204,Gr-B (Alloy Steel, Molybdenum)	SB-168 , UNS No. NO66xx	ENiCrFe-5 ERNiCr-3	ERNiCr-3		High Nickel/Chrome, need final two digits to determine composition
P3 to P3	SA-204,Gr-C (Alloy Steel, Molybdenum)	SA-204,Gr-C (Alloy Steel, Molybdenum)	E10018,M			
P3 to P3	SA-209,Gr-T1 (C 1/2Mo Boiler tube)	SA-209,Gr-T1 (C 1/2Mo Boiler tube)	E7018 ER80S-D2	ER80S-D2 E70T-1		
P3 to P3	SA-209,Gr-T1a (C 1/2Mo Boiler tube)	SA-209,Gr-T1a (C 1/2Mo Boiler tube)	E7018 ER80S-D2	ER80S-D2 E70T-1		

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P3 to P3	SA-209,Gr-T1b (C 1/2Mo Boiler tube)	SA-209,Gr-T1b (C 1/2Mo Boiler tube)	E7018 ER80S-D2	ER80S-D2 E70T-1		
P1 to P1	SA-210,Gr-C (Medium CS Boiler tubes)	SA-210,Gr-C (Medium CS Boiler tubes)	E7018 ER80S-D2	ER80S-D2 E70T-1		
P4 to P4	SA-213,Gr-T11 (1 1/4CR,1/2Mo tubes)	SA-213,Gr-T11 (1 1/4CR,1/2Mo tubes)	(1 E8018-B2 ER80S-B2	ER80S E80C-B2	YES	
P4 to P4	SA-213,Gr-T12 (1 CR,1/2Mo tubes)	SA-213,Gr-T12 (1 CR,1/2Mo tubes)	ER80S-B2 ER80S-B2	ER80S-B2 E80C-B2	YES	
P10B to P10B	SA-213,Gr-T17 (1 Cr tubes)	SA-213,Gr-T17 (1 Cr tubes)		ER80S-B2 E80C-B2		
P3 to P3	SA-213,Gr-T2 (1/2CR, 1/2MO tubes)	SA-213,Gr-T2 (1/2CR, 1/2MO tubes)	E8018-B2 ER80S-B2	ER80S-B2 E80C-B2		
P5A to P5A	SA-213,Gr-T21 (3 CR,1/2Mo tubes)	SA-213,Gr-T21 (3 CR,1/2Mo tubes)	E9018-B3 ER90S-B3	ER90S-B3 E90T1-B3	YES	
P5A to P5A	SA-213,Gr-T22 (1/4 Cr 1 Mo tube)	SA-213,Gr-T22 (2 1/4 Cr 1 Mo tube)	E9018-B3 ER90S-B3	ER90S-B3	YES	
P4 to P4	SA-213,Gr-T3b	SA-213, Gr T3b	E9018-B3 ER90S-B3	ER90S-B3 E90T1-B3	YES	
P5B to P5B	SA-213,Gr-T5 (5 Cr 1/2 Mo tube)	SA-213,Gr-T5 (5 Cr 1/2 Mo tube)	E8018-B6-15 ER80S-B6	ER80S-B6 E8018-B6T-1	YES	
P5B to P5B	SA-213,Gr-T5b (5 Cr 1/2 Mo tube)	SA-213,Gr-T5b (5 Cr 1/2 Mo tube)	E8018-B6-15 ER80S-B6	ER80S-B6 E8018-B6T-1	YES	
P5B to P5B	SA-213,Gr-T5c (5 Cr 1/2 Mo tube)	SA-213,Gr-T5c (5 Cr 1/2 Mo tube)	E8018-B6-15 ER80S-B6	ER80S-B6 E8018-B6T-1	YES	
P8 to P8	SA-213,Gr-TP304 (304 SS Tube)	SA-213,Gr-TP304 (304 SS Tube)	E308-15 ER308	ER308 E308T-1		
P8 to P8	SA-213,Gr-TP304L (304L SS Tube)	SA-213,Gr-TP304L (304L SS Tube)	E308-L-16 ER308L	ER308L E308LT-1		
P8 to P8	SA-213,Gr-TP310 (310 SS Tube)	SA-213,Gr-TP310 (310 SS Tube)	E310Cb-15 ER310	ER310		
P8 to P8	SA-213,Gr-TP316 (316 SS Tube)	SA-213,Gr-TP316 (316 SS Tube)	E316-16 ER316	ER316 E316T-1		
P8 to P8	SA-213,Gr-TP316L (316L SS Tube)	SA-213,Gr-TP316L (316L SS Tube)	E316-16 ER316L	ER316L E316LT-1		
P8 to P8	SA-213,Gr-TP321 (321 SS Tube)	SA-213,Gr-TP321 (321 SS Tube)	E347-15 ER347	ER347 E347T-1		
P8 to P8	SA-213,Gr-TP347 (347 SS Tube)	SA-213,Gr-TP347 (347 SS Tube)	E347-15 ER347	ER347 E347T-1		

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P8 to P8	SA-213,Gr-TP348 (348 SS Tube)	SA-213,Gr-TP348 (348 SS Tube)	E347-15 ER347	ER347		
P1 to P1	SA-214 (Carbon Steel RW tubes)	SA-214 (Carbon Steel RW tubes)	E7018-A1 ER80S-D2	ER80S-D2		
P1 to P1	SA-216,Gr-WCA (C.S Hi temp casting)	SA-216,Gr-WCA (C.S Hi temp casting)	E7018 ER70S-3	ER70S-3 E70T-1		
P1 to P1	SA-216,Gr-WCB (C.S Hi temp casting)	SA-216,Gr-WCB (C.S Hi temp casting)	E7018 ER70S-3	ER70S-3 E70T-1		
P1 to P1	SA-216,Gr-WCC (C.S Hi temp casting)	SA-216,Gr-WCC (C.S Hi temp casting)	E7018 ER70S-3	ER70S-3 E70T-1		
P6 to P6	SA-217,Gr-CA15 (13Cr1/2Mo hi temp casting)	SA-217,Gr-CA15 (13Cr1/2Mo hi temp casting)	E410-15 ER410	ER410 ER410T-1		
P3 to P3	SA-217,Gr-WC1 (C1/2Mo hi temp casting)	SA-217,Gr-WC1 (C1/2Mo hi temp casting)	E7018 ER70S-3	ER70S-6 E70T-1		
P4 to P4	SA-217,Gr-WC4 (NiCrMo hi temp casting)	SA-217,Gr-WC4 (NiCrMo hi temp casting)	E8018-B2 ER80S-B2	ER80S-B2 E80C B2	YES	
P4 to P4	SA-217,Gr-WC5 (NiCrMo hi temp casting)	SA-217,Gr-WC5 (NiCrMo hi temp casting)	E8018-B2 ER80S-B2	ER80S-B2 E80C B2	YES	
P5A to P5A	SA-217,Gr-WC9 (CrMo hi temp casting)	SA-217,Gr-WC9 (CrMo hi temp casting)	E9018-B3 ER90S-B3	ER90S-B3 E90C B3	YES	
P10A to P10A	SA-225,Gr-C (MnVaNi plate)	SA-225,Gr-C (MnVaNi plate)	E11018-M	E11018-M		
P10A to P10A	SA-225,Gr-D (MnVaNi plate)	SA-225,Gr-D (MnVaNi plate)	E8018-C3 ER80S-D2	ER80S-D2 E81T1-Ni2		
P1 to P1	SA-226 (Carbon Steel RW tubes)	SA-226 (Carbon Steel RW tubes)	E7018 ER80S-D2	ER80S-D2 E70T- 1		SA 226 deleted from ASME Sect. II
P3 to P3	SA-234,Mking-WP1 (C1/2Mo pipe fittings)	SA-234,Mking-WP1 (C1/2Mo pipe fittings)	E7018 ER80S-D2	ER80S-D2 E70T- 1		
P4 to P4	SA-234,Mking-WP11 (1 1/4Cr1/2Mo pipe fittings)	SA-234,Mking-WP11 (1 1/4Cr1/2Mo pipe fittings)	E8018-B1 ER80S-B2	ER80S-B2 E80C B2	YES	
P5A to P5A	SA-234,Mking-WP22 (2 1/4Cr1Mo pipe fittings)	SA-234,Mking-WP22 (2 1/4Cr1Mo pipe fittings)	ER90S-B3 ER90S-B3	ER90S-B3 E90C B3	YES	
P5B to P5B	SA-234,Mking-WP5 (5Cr1/2Mo pipe fittings)	SA-234,Mking-WP5 (5Cr1/2Mo pipe fittings)	E8018-B6-15 ER80S-B6	ER80S-B6 E8018-B6T-1	YES	
P1 to P1	SA-234,Mking-WPB (CrMo pipe fittings)	SA-234,Mking-WPB (CrMo pipe fittings)	E6010 ER80S-D2	ER80S-D2 E70T- 1		
P1 to P1	SA-234,Mking-WPC (CrMo pipe fittings)	SA-234,Mking-WPC (CrMo pipe fittings)	E6010 ER80S-D2	ER80S-D2 E70T- 1		

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P8 to P8	SA-240,Type-302 (302 SS heat resistant plate)	SA-240,Type-302 (302 SS heat resistant plate)	E308-15 ER308	ER308 E308T-1		
P8 to P8	SA-240,Type-304 (304 SS heat resistant plate)	SA-240,Type-304 (304 SS heat resistant plate)	E308-16 ER308	ER308 E308T-1		
P8 to P42	SA-240,Type-304 (304 SS heat resistant plate)	SB-127 , UNS No. NO4400 (63Ni30Cu plate)	ENiCrFe-3 ERNiCr-3	ERNiCr-3		
P8 to P41	SA-240,Type-304 (304 SS heat resistant plate)	SB-162 , UNS No. NO2200, 2201 (Nickel-99%)	Eni-1	ERNi-1		
P8 to P43	SA-240,Type-304 (304 SS heat resistant plate)	SB-168 , UNS No. NO66xx	ENiCrFe-5 ERNiCr-3	ERNiCr-3		Multiple 6600 series alloys, need more info
P8 to P44	SA-240,Type-304 (304 SS heat resistant plate)	SB-333 , UNS No. NO10001 (Nickel Molybdenum plate)	ERNiMo-7			
P8 to P45	SA-240,Type-304 (304 SS heat resistant plate)	SB-409 , UNS No. NO88xx (NiFeCr plate)	ENiCrFe-3 ERNiCr-3			Includes alloys 8800, 8810, 8811
P8 to P43	SA-240,Type-304 (304 SS heat resistant plate)	SB-435 , UNS No. NO6002 (NiFeCr plate)	ENiCrMo-2			
P8 to P8	SA-240,Type-304H (304H SS heat resistant plate)	SA-240,Type-304H (304H SS heat resistant plate)	E308H-16	ER308 E308T-1		
P8 to P9B	SA-240,Type-304L (304L SS heat resistant plate)	SA-203,Gr-E (Alloy Steel, Nickel plate)	ENiCrFe-3			
P8 to P8	SA-240,Type-304L (304L SS heat resistant plate)	SA-240,Type-304L (304L SS heat resistant plate)	E308L-16 ER308L	ER308L E308T-1		
P8 to P1	SA-240,Type-304L (304L SS heat resistant plate)	SA-516,Gr-60 (Carbon Steel)		ER309L		
P8 to P45	SA-240,Type-304L (304L SS heat resistant plate)	SB-625 , UNS No. NO89xx (NiCrMoCu Plate)	ENiCrMo-3			Multiple 8900 series alloys, need more info
P8 to P8	SA-240,Type-309S (309S heat resistant SS plate)	SA-240,Type309S (309S heat resistant SS plate)	E309 ER309	ER309		
P8 to P8	SA-240,Type-316 (316 heat resistant SS plate)	SA-240,Type 316 (316 heat resistant SS plate)	E316-16 ER316			
P8 to P43	SA-240,Type-316 (316 heat resistant SS plate)	SB-168 , UNS No. NO66	ENiCrFe-5 ERNiCr-3	ERNiCr-3		Multiple 6600 series alloys, need more info
P8 to P45	SA-240,Type-316 (316 heat resistant SS plate)	SB-409 , UNS No. NO88xx (NiFeCr plate)	ENiCrFe-2			Includes alloys 8800, 8810, 8811
P8 to P8	SA-240,Type-316L (316L SS heat resistant plate)	SA-240,Type-316L (316L SS heat resistant plate)	E316L-16 ER316L	ER316L E316LT-1		
P8 to P43	SA-240,Type-316L (316L SS heat resistant plate)	SB-168 , UNS No. NO66	ENiCrFe-3			Multiple 6600 series alloys, need more info

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P8 to P45	SA-240,Type-316L (316L SS heat resistant plate)	SB-463 , UNS No. NO80xx (NiCrMo plate)	ERNiMo-3			Includes alloys 8020, 8024, 8026
P8 to P8	SA-240,Type-317 (317 SS heat resistant plate)	SA-240,Type-317 (317 SS heat resistant plate)	E317			
P8 to P8	SA-240,Type-317L (317L SS heat resistant plate)	SA-240,Type-317L (317L SS heat resistant plate)	E317L -15 ER317L	ER317L E317LT-1		
P8 to P8	SA-240,Type-321 (321 SS heat resistant plate)	SA-240,Type-321 (321 SS heat resistant plate)	E347 ER347	ER347		
P8 to P8	SA-240,Type-347 (347 SS heat resistant plate)	SA-240,Type-347 (347 SS heat resistant plate)	E347 ER317	ER347		
P8 to P8	SA-240,Type-348 (348 SS heat resistant plate)	SA-240,Type-348 (348 SS heat resistant plate)	E347-15 ER347	ER347		
P7 to P7	SA-240,Type-405 (405 heat resistant plate)	SA-240,Type-405 (405 heat resistant plate)	E410 ER410	ER410		
P6 to P8	SA-240,Type-410 (410 heat resistant plate)	SA-240,Type-304L (304L SS heat resistant plate)	E309L-16			
P6 to P7	SA-240,Type-410 (410 heat resistant plate)	SA-240,Type-405 (405 heat resistant plate)	E410 ER410	ER410		
P6 to P6	SA-240,Type-410 (410 heat resistant plate)	SA-240,Type-410 (410 heat resistant plate)	R410 ER410	ER410		
P6 to P7	SA-240,Type-410 (410 heat resistant plate)	SA-240,Type-410S (410S heat resistant plate)	E309-16			
P7 to P7	SA-240,Type-410S (410S heat resistant plate)	SA-240,Type-410S (410S heat resistant plate)	E309 ER309	ER309 E309LT-1		
P7 to P7	SA-240,Type-430 (430 heat resistant plate)	SA-240,Type-430 (430 heat resistant plate)	E430-15 ER430	ER430		
P8 to P8	SA-249,Gr-316L (316L tubes)	SA-249,Gr-316L (316L tubes)	E316L-15 ER316L	ER316L E316LT-1		
P8 to P8	SA-249,Gr-TP304 (304 tubes)	SA-249,Gr-TP304 (304 tubes)	E308 ER308	ER308 E308T-1		
P8 to P8	SA-249,Gr-TP304L (304L tubes)	SA-249,Gr-TP304L (304L tubes)	E308L ER308L	ER308L E308LT-1		
P8 to P8	SA-249,Gr-TP309 (309 tubes)	SA-249,Gr-TP309 (309 tubes)	E309-15 ER309	ER309 E309T-1		
P8 to P8	SA-249,Gr-TP310 (310 tubes)	SA-249,Gr-TP317 (317 tubes)	E317 ER317Cb	ER317Cb		
P8 to P8	SA-249,Gr-TP310 (310 tubes)	SA-249,Gr-TP310 (310 tubes)	E310 ER310	ER310		

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P8 to P8	SA-249,Gr-TP316 (316 tubes)	SA-249,Gr-TP316 (316 tubes)	E316 ER316	ER316		
P8 to P8	SA-249,Gr-TP316H (316H tubes)	SA-249,Gr-TP316H (316H tubes)	E316-15 ER316	ER316 E316T-1		
P8 to P8	SA-249,Gr-316L (316L tubes)	SA-249,Gr-316L (316L tubes)	E316L ER316L	ER316L E316LT-1		
P8 to P8	SA-249,Gr-TP317 (317 tubes)	SA-249,Gr-TP317 (317 tubes)	E317			
P8 to P8	SA-249,Gr-TP321 (321 tubes)	SA-249,Gr-TP321 (321 tubes)	E347 ER347	ER347		
P8 to P8	SA-249,Gr-TP347 (347 tubes)	SA-249,Gr-TP347 (347 tubes)	E347 ER347	ER347		
P8 to P8	SA-249,Gr-TP348 (348 tubes)	SA-249, Gr TP348	E347-15 ER347	ER347		
P1 to P1	SA-266,Class-1,2,3 (Carbon Steel forgings)	SA-266,Class-1,2,3 (Carbon Steel forgings)	E7018 ER70S-3	ER70S-5 E70T-1		
P7 to P7	SA-268,Gr-TP430 (430 general purpose tubing)	SA-268,Gr-TP430 (430 general purpose tubing)	E430-15 ER430	ER430		
P1 to P1	SA-283,Gr-A (Carbon Steel plate)	SA-283,Gr-A (Carbon Steel plate)	E7014 ER70S-3	ER70S-3 E70T-1		
P1 to P1	SA-283,Gr-B (Carbon Steel plate)	SA-283,Gr-B (Carbon Steel plate)	E7014 ER70S-3	ER70S-3 E70T-1		
P1 to P8	SA-283,Gr-C (Carbon Steel plate)	SA-240,Type-304 (304 SS heat resistant plate)		ER309L		
P1 to P1	SA-283,Gr-C (Carbon Steel plate)	SA-283,Gr-C (Carbon Steel plate)	E7014 ER70S-3	ER70S-3 E70T-1		
P1 to P1	SA-283,Gr-D (Carbon Steel plate)	SA-283,Gr-D (Carbon Steel plate)	E7014 ER70S-3	ER70S-3 E70T-1		
P1 to P1	SA-285,Gr-A (Carbon Steel plate)	SA-285,Gr-A (Carbon Steel plate)	E7018 ER70S-6	ER70S-6 E71T-1		
P1 to P42	SA-285,Gr-A (Carbon Steel plate)	SB-127, UNS No. NO4400 (63Ni30Cu plate)	ENiCu-7			
P1 to P1	SA-285,Gr-B (Carbon Steel plate)	SA-285,Gr-B (Carbon Steel plate)	E7018 ER70S-6	ER70S-6 E71T-1		
P1 to P8	SA-285,Gr-C (Carbon Steel plate)	SA-240,Type-304 (304 SS heat resistant plate)	E309 ER309	ER309		
P1 to P8	SA-285,Gr-C (Carbon Steel plate)	SA-240,Type-316 (316 heat resistant SS plate)	E309 ER309	ER309		

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P1 to P8	SA-285,Gr-C (Carbon Steel plate)	SA-240,Type-316L (316L SS heat resistant plate)	ENiCrFe-3	E316LT-1		
P1 to P1	SA-285,Gr-C (Carbon Steel plate)	SA-285,Gr-C (Carbon Steel plate)	E7018 ER70S-6	ER70S-6 E71T-1		
P1 to P5A	SA-285,Gr-C (Carbon Steel plate)	SA-387,Gr-22, (2 1/4Cr plate)	E7018 ER70S-6	ER70S-6 E71T-1	YES	
P1 to P5A	SA-285,Gr-C (Carbon Steel plate)	SA-387,Gr-22, (2 1/4Cr plate)	E7018 ER70S-6	ER70S-6 E71T-1	YES	
P1 to P42	SA-285,Gr-C (Carbon Steel plate)	SB-127 ,UNS No.-NO4400 (NiCu plate)	ENiCu-7			
P1 to P41	SA-285,Gr-C (Carbon Steel plate)	SB-162 ,UNS-No.-NO2200, 2201 (Nickel-99%)	Eni-1 ERNi-1	ER1T-1		
P1 to P43	SA-285,Gr-C (Carbon Steel plate)	SB-168 , UNS No. NO66	ERNiCr-3			Multiple 6600 series alloys, need more info
P1 to P45	SA-285,Gr-C (Carbon Steel plate)	SB-409 , UNS No. NO88xx (NiFeCr plate)	ENiCrFe-2 ERNiCr-3	ERNiCr-3		Includes alloys 8800, 8810, 8811
P1 to P45	SA-285,Gr-C (Carbon Steel plate)	SB-463 , UNS No. NO80xx (NiCrMo plate)	E320-15			Includes alloys 8020, 8024, 8026
P1 to P44	SA-285,Gr-C (Carbon Steel plate)	SB-575 ,UNS-No.-N10276 (Low Carbon NiMoCrW plate)	ENiCrFe-2			
P3 to P3	SA-285,Gr-C (Carbon Steel plate)	SA-302,Gr-C (Alloy steel plate MnMoNi)	E9018-M	E91T1-K2		
P8 to P8	SA-312,Gr-TP304 (304 pipe)	SA-312,Gr-TP304 (304 pipe)	E308-15 ER308	ER308 E308T-1		
P8 to P1	SA-312,Gr-TP304 (304 pipe)	SA-53,Gr-B , -ERW Carbon Steel pipe)				
P8 to P45	SA-312,Gr-TP304 (304 pipe)	SB-464 , UNS No. NO80xx (NiCrMo pipe)	ENiCrMo-3 ER320			Includes alloys 8020, 8024, 8026
P8 to P8	SA-312,Gr-TP304H (304H pipe)	SA-312,Gr-TP304H (304H pipe)	E308H-16 ER308H			
P8 to P8	SA-312,Gr-TP304L (304L pipe)	SA-312,Gr-TP304L (304L pipe)	E308L ER308L	ER308L		
P8 to P8	SA-312,Gr-TP309 (309 pipe)	SA-312,Gr-TP309 (309 pipe)	E309-15 ER309	ER309 E309T-1		
P8 to P8	SA-312,Gr-TP310 (310 pipe)	SA-312,Gr-TP310 (310 pipe)	E310-15 ER310	ER310		
P8 to P8	SA-312,Gr-TP316 (316 pipe)	SA-312,Gr-TP316 (316 pipe)	E316 ER316	ER316		

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P8 to P8	SA-312,Gr-TP316L (316L pipe)	SA-312,Gr-TP316L (316L pipe)	E316L ER316L	ER316L E316LT-1		
P8 to P8	SA-312,Gr-TP317 (317 pipe)	SA-312,Gr-TP317 (317 pipe)	E317-15 ER317	ER317		
P8 to P8	SA-312,Gr-TP321 (321 pipe)	SA-312,Gr-TP321 (321 pipe)	E347-15 ER347	ER347 E347T-1		
P8 to P8	SA-312,Gr-TP347 (347 pipe)	SA-312,Gr-TP347 (347 pipe)	E347-15 ER347	ER347 E347T-1		
P8 to P8	SA-312,Gr-TP348 (348 pipe)	SA-312,Gr-TP348 (348 pipe)	E347-15 ER347	ER347		
P1 to P8	SA-333,Gr-1 (Carbon Steel pipe for low temp service)	SA-240,Type-304 (304 SS heat resistant plate)	ER309			
P1 to P1	SA-333,Gr-1 (Carbon Steel pipe for low temp service)	SA-333,Gr-1 (Carbon Steel pipe for low temp service)	E8018-C3 ER80S-NiL	ER80S-NiL		
P9B to P9B	SA-333,Gr-3 (Carbon Steel pipe for low temp service)	SA-333,Gr-3 (Carbon Steel pipe for low temp service)	E8018-C2 ER80S-Ni3			
P4 to P4	SA-333,Gr-4 (Carbon Steel pipe for low temp service)	SA-333,Gr-4 (Carbon Steel pipe for low temp service)	E8018-C2 ER80S-Ni3	ER80S-Ni3 E80C-Ni3	YES	
P1 to P8	SA-333,Gr-6 (Carbon Steel pipe for low temp service)	SA-312,Gr-TP304 (304 SS pipe)	E309 ER309			
P1 to P8	SA-333,Gr-6 (Carbon Steel pipe for low temp service)	SA-312,Gr-TP304L (304L SS pipe)				
P1 to P8	SA-333,Gr-6 (Carbon Steel pipe for low temp service)	SA-312,Gr-TP316 (316 SS pipe)	ER309-16 ER309			
P1 to P8	SA-333,Gr-6 (Carbon Steel pipe for low temp service)	SA-312,Gr-TP316L (316L SS pipe)	ER309			
P1 to P1	SA-333,Gr-6 (Carbon Steel pipe for low temp service)	SA-333,Gr-6 (Carbon Steel pipe for low temp service)	E8018-C3 ER80S-NiL	ER80S-NiL		
P1 to P1	SA-333,Gr-6 (Carbon Steel pipe for low temp service)	SA-350,Gr-LF2 (Low Alloy forgings)	E7018-1 ER70S-1			
P1 to P8	SA-333,Gr-6 (Carbon Steel pipe for low temp service)	SA-358,Gr-316L (316L electric fusion welded pipe)	ER309L			
P1 to P1	SA-333,Gr-6 (Carbon Steel pipe for low temp service)	SA-537,Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	E7018 ER70S-2		yes	
P3 to P3	SA-335,Gr-P1 (C 1 1/2Mo pipe for high temp service)	SA-335,Gr-P1 (C 1 1/2Mo pipe for high temp service)	E7018-A1 ER80S-D2	ER80S-D2		
P4 to P8	SA-335,Gr-P11 (1 1/4Cr1/2Mo pipe for high temp service)	SA-312,Gr-TP304 (304 SS pipe)	ER309			

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P4 to P4	SA-335,Gr-P11 (1 1/4Cr1/2Mo pipe for high temp service)	SA-335,Gr-P11 (1 1/4Cr1/2Mo pipe for high temp service)	E8018-B2 ER80S-B2	ER80S-B2	YES	
P4 to P5A	SA-335,Gr-P11 (1 1/4Cr1/2Mo pipe for high temp service)	SA-335,Gr-P22 (2 1/4Cr1Mo pipe for high temp service)	E8018-B2 ER80S-B2	ER80S-B2	YES	
P3 to P3	SA-335,Gr-P2 (1/2Cr1/2Mo pipe for high temp service)	SA-335,Gr-P2 (1/2Cr1/2Mo pipe for high temp service)	E8018-B2 ER80S-B2	ER80S-B2		
P5A to P5A	SA-335,Gr-P22 (2 1/4Cr1Mo pipe for high temp service)	SA-335,Gr-P22 (2 1/4Cr1Mo pipe for high temp service)	E9018-B3 ER90S-B3	ER90S-B3	YES	
P5B to P6	SA-335,Gr-P5 (5Cr1/2Mo pipe for high temp service)	SA-268, Gr TP410	E410-16 ER410			
P5B to P5B	SA-335,Gr-P5 (5Cr1/2Mo pipe for high temp service)	SA-335,Gr-P5 (5Cr1/2Mo pipe for high temp service)	E8018-B6 ER80S-B6	ER80S-B6	YES	
P5B to P5B	SA-335,Gr-P9 (9Cr1Mo pipe for high temp service)	SA-335,Gr-P9 (9Cr1Mo pipe for high temp service)	E8018-B8I		YES	
P5B to P5B	SA-335,Gr-P91 (9Cr1Mo pipe for high temp service)	SA-335,Gr-P91 (9Cr1Mo pipe for high temp service)			YES	
P3 to P3	SA-352,Gr-LC1 (Steel castings for low temp service)	SA-352,Gr-LC1 (Steel castings for low temp service)	E7018-A1 ER80S-D2	ER80S-D2		
P9A to P9A	SA-352,Gr-LC2 (NiCrMo castings for low temp service)	SA-352,Gr-LC2 (NiCrMo castings for low temp service)	E8018-C1 ER80S-Ni2	ER80S-Ni2 E80C-Ni2		
P9B to P9B	SA-352,Gr-LC3 (3-1/2%-Ni castings for low temp service)	SA-352,Gr-LC3 (3-1/2%-Ni castings for low temp service)	E8018-C2 ER80S-Ni2	ER80S-Ni2 E80C-Ni3		
P8 to P8	SA-358,Gr-304 (304 SS Electric fusion welded pipe)	SA-358,Gr-304 (304 SS Electric fusion welded pipe)	E308-15 ER308	ER308 E308T-1		
P8 to P8	SA-358,Gr-304L (304L SS Electric fusion welded pipe)	SA-358,Gr-304L (304L SS Electric fusion welded pipe)	E308L-15 ER308L	ER308L E308LT-1		
P8 to P8	SA-358,Gr-309 (309 SS Electric fusion welded pipe)	SA-358,Gr-309 (309 SS Electric fusion welded pipe)	E309-15 ER309	ER309 E309T-1		
P8 to P8	SA-358,Gr-310 (310 SS Electric fusion welded pipe)	SA-358,Gr-310 (310 SS Electric fusion welded pipe)	E310-15 ER310	ER310		
P8 to P8	SA-358,Gr-316 (316 SS Electric fusion welded pipe)	SA-358,Gr-316 (316 SS Electric fusion welded pipe)	E316-15 ER316	ER316 E316T-1		
P8 to P8	SA-358,Gr-316L (316L SS Electric fusion welded pipe)	SA-358,Gr-316L (316L SS Electric fusion welded pipe)	ER316L	E316LT-1		
P8 to P8	SA-358,Gr-321 (321 SS Electric fusion welded pipe)	SA-358,Gr-321 (321 SS Electric fusion welded pipe)	E347-15 ER347	ER347 E347T-1		
P8 to P8	SA-358,Gr-348 (348 SS Electric fusion welded pipe)	SA-358,Gr-348 (348 SS Electric fusion welded pipe)	E347-15 ER347	ER347		

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P1 to P8	SA-36 (Carbon structural steel)	SA-240, Type-304 (304 SS heat resistant plate)	E 309 ER309	ER309		
P1 to P8	SA-36 (Carbon structural steel)	SA-240, Type-304L (304L SS heat resistant plate)		ER309L		
P1 to P6	SA-36 (Carbon structural steel)	SA-240, Type-410 (410 heat resistant plate)	E309L-16			
P1 to P1	SA-36 (Carbon structural steel)	SA-36 (Carbon structural steel)	E7014 ER70S-3	ER70S-3 E70T-1		
P1 to P3	SA-36 (Carbon structural steel)	SA-533, Type-B, (MnMoNi plate)	E7018	ER70S-6	YES	
P1 to P31	SA-36 (Carbon structural steel)	SB-152, UNS-No.-C10200 (Copper Plate)	ERCuSi-A			
P1 to P45	SA-36 (Carbon structural steel)	SB-625, UNS-No-NO89xx (25/20 NiCr plate)	E309-16			Includes 8904, 8925, 8926, 8932
P3 to P3	SA-369, Gr-FP1 (C-1/2Mo Forged or bored pipe)	SA-369, Gr-FP1 (C-1/2Mo Forged or bored pipe)	E7018-A1 ER80S-D2	ER80S-D2 E81T1-A1		
P4 to P4	SA-369, Gr-FP11 (1 1/4Cr-1/2Mo Forged or bored pipe)	SA-369, Gr-FP11 (1 1/4Cr-1/2Mo Forged or bored pipe)	E8018-B2 ER80S-B2	ER80S-B2 E80C-B2	YES	
P4 to P4	SA-369, Gr-FP12 (1Cr-1/2Mo Forged or bored pipe)	SA-369, Gr-FP12 (1Cr-1/2Mo Forged or bored pipe)	E8018-B2 ER80S-B2	ER8S-B2 E80C-B2	YES	
P3 to P3	SA-369, Gr-FP2 (CrMo Forged or bored pipe)	SA-369, Gr-FP2 (CrMo Forged or bored pipe)	E8018-B2 ER80S-B2	ER8S-B2 E80C-B2		
P8 to P8	SA-376, Gr-TP304 (304 SS smls pipe for hi temp service)	SA-376, Gr-TP304 (304 SS smls pipe for hi temp service)	ER308			
P4 to P8	SA-387, Gr-11, (1 1/4Cr1/2Mo plate)	SA-240, Type-304 (304 SS heat resistant plate)	E309 ER309	ER309		
P4 to P4	SA-387, Gr-11, (1 1/4Cr1/2Mo plate)	SA-387, Gr-11, (1 1/4Cr1/2Mo plate)	E8018-B2 ER80S-B2	ER80S-B2 E81T1-B2	YES	
P4 to P8	SA-387, Gr-11, (1 1/4Cr1/2Mo plate)	SA-240, Type-304 (304 SS heat resistant plate)	E309 ER309	ER309		
P4 to P8	SA-387, Gr-11, (1 1/4Cr1/2Mo plate)	SA-240, Type-316 (316 SS heat resistant plate)	E309Cb-15			
P4 to P7	SA-387, Gr-11, (1 1/4Cr1/2Mo plate)	SA-240, Type-410S (410S heat resistant plate)	E309-16			
P4 to P4	SA-387, Gr-11, (1 1/4Cr1/2Mo plate)	SA-387, Gr-11, (1 1/4Cr1/2Mo plate)	E8018-B2 ER80S-B2	ER80S-B2	YES	
P5A to P8	SA-387, Gr-11, (1 1/4Cr1/2Mo plate)	SA-240, Type-304 (304 SS heat resistant plate)	ENiCrMo-3			

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P5A to P5A	SA-387,Gr-22 (1/4Cr1Mo plate)	SA-387,Gr-22 (1/4Cr1Mo plate)	E9018-B3 ER90S-B3	ER90S-B3	YES	
P5B to P8	SA-387,Gr-5, (5Cr1/2Mo plate)	SA-240,Type-316L (316L SS heat resistant plate)	E309 ER309	ER309		
P5B to P5B	SA-387,Gr-5, (5Cr1/2Mo plate)	SA-387,Gr-5, (5Cr1/2Mo plate)	E8018-B6 ER80S-B6	ER80S-B6	YES	
P5B to P8	SA-387,Gr-5, (5Cr1/2Mo plate)	SA-240,Type-316L (316L SS heat resistant plate)	E309 ER309	ER309		
P5B to P7	SA-387,Gr-5, (5Cr1/2Mo plate)	SA-240,Type-410S (410S heat resistant plate)	ENiCrFe-2			
P5B to P5B	SA-387,Gr-5, (5Cr1/2Mo plate)	SA-387,Gr-5, (5Cr1/2Mo plate)	E8018-B6 ER80S-B6	ER80S-B6		
P8 to P8	SA-409,Gr-TP304 (304 SS large dia. Pipe)	SA-312,Gr-TP347 (347 pipe)	E308 ER308	ER308 E308T-1		
P1 to P1	SA-414,Gr-G (Carbon steel plate)	SA-414,Gr-G (Carbon steel plate)	E6012 ER70S-3	ER70S-3 E70T-1		
P1 to P45	SA-515,Gr-60 (Carbon steel plate)	SB-409, UNS No. NO88xx (NiFeCr plate)	Eni-1			Includes alloys 8800, 8810, 8811
P1 to P3	SA-515,Gr-70 (Carbon steel plate)	SA-204,Gr-B (Alloy Steel, Molybdenum)	E7018 ER70S-3	ER70S-3 E70T-1		
P1 to P8	SA-515,Gr-70 (Carbon steel plate)	SA-240,Type-316L (316L heat resistant SS plate)				
P1 to P1	SA-515,Gr-70 (Carbon steel plate)	SA-515,Gr-70 (Carbon steel plate)	E7018 ER70S-3	ER70S-3 E70T-1		
P1 to P41	SA-515,Gr-70 (Carbon steel plate)	SB-162, UNS No. NO2200, 2201 (Nickel-99%)	ERNi-1			
P1 to P43	SA-515,Gr-70 (Carbon steel plate)	SB-168, UNS No. NO66	ENiCrFe-3			Multiple 6600 series alloys, need more info
P1 to P1	SA-515,Gr-70 (Carbon steel plate)	SA-515,Gr-70 (Carbon steel plate)	ER70S-2	ER70S-3		
P1 to P1	SA-515,Gr-55 (Carbon steel plate)	SA-515,Gr-70 (Carbon steel plate)	E7018 ER70S-2	E71T-1		
P1 to P8	SA-515,Gr-60 (Carbon steel plate)	SA-240,Type-304L (304L SS heat resistant plate)	E309-16			
P1 to P7	SA-515,Gr-60 (Carbon steel plate)	SA-240,Type-410S (410S heat resistant plate)		ER309L		
P1 to P1	SA-515,Gr-60 (Carbon steel plate)	SA-515,Gr-60 (Carbon steel plate)	E7018	ER70S-3		

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P1 to P1	SA-515,Gr-60 (Carbon steel plate)	SA-515,Gr-70 (Carbon steel plate)	E7018-1 ER70S-2	E71T-1		
P1 to P1	SA-515,Gr-60 (Carbon steel plate)	SA-537,Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	E8010-G			
P1 to P1	SA-515,Gr-65 (Carbon steel plate)	SA-537,Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	E8010-G			
P1 to P9B	SA-515,Gr-70 (Carbon steel plate)	SA-203,Gr-D (Alloy Steel, Nickel plate)	E7018 ER70S-3	ER70S-3 E70T-1		
P1 to P9B	SA-515,Gr-70 (Carbon steel plate)	SA-203,Gr-E (Alloy Steel, Nickel plate)	E8018-C2			
P1 to P3	SA-515,Gr-70 (Carbon steel plate)	SA-203,Gr-B (Alloy Steel, Nickel plate)	E7018- ER70S-3	ER70S-3 E70T-1		
P1 to P3	SA-515,Gr-70 (Carbon steel plate)	SA-203,Gr-C (Alloy Steel, Nickel plate)	E7018 ER70S-3	ER70S-3 E70T-1		
P1 to P10H	SA-515,Gr-70 (Carbon steel plate)	SA-240, Gr S31803	E309LMo			Gr S31803 not in current SectII
P1 to P10H	SA-515,Gr-70 (Carbon steel plate)	SA-240, Gr S32550	ENiCrFe-3			Gr S32550 not in current SectII
P1 to P8	SA-515,Gr-70 (Carbon steel plate)	SA-240,Type-304 (304 SS heat resistant plate)	E309-16 ER309	E309T-1		
P1 to P8	SA-515,Gr-70 (Carbon steel plate)	SA-240,Type-304H (304H SS heat resistant plate)	ENiCrFe-2			
P1 to P8	SA-515,Gr-70 (Carbon steel plate)	SA-240,Gr-304L (304L SS heat resistant plate)	E309L-16	ER309L E309LT-1		
P1 to P8	SA-515,Gr-70 (Carbon steel plate)	SA-240,Type-316L (316L SS heat resistant plate)	ERNiCrFe-3	E309LT-1		
P1 to P7	SA-515,Gr-70 (Carbon steel plate)	SA-240,Type-410S (410S heat resistant plate)	E410-16			
P1 to P3	SA-515,Gr-70 (Carbon steel plate)	SA-302,Gr-C (Alloy steel plate MnMoNi)	E7018 ER70S-3	ER70S-3 E70T-1		
P1 to P4	SA-515,Gr-70 (Carbon steel plate)	SA-387SA-387,Gr-22, (2 1/4Cr plate)	E7018 ER70S-3	ER70S-3 E70T-1	YES	
P1 to P5A	SA-515,Gr-70 (Carbon steel plate)	SA-387,Gr-22 (2 1/4Cr1Mo plate)	E9018-B3		YES	
P1 to P5B	SA-515,Gr-70 (Carbon steel plate)	SA-387,Gr-5 (5Cr1/2Mo plate)	E8018-B1		YES	
P1 to P1	SA-515,Gr-70 (Carbon steel plate)	SA-515,Gr-70 (Carbon steel plate)	E7018			

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P1 to P1	SA-515,Gr-70 (Carbon steel plate)	SA-515,Gr-70 (Carbon steel plate)	E7018 ER70S-3	ER70S-3 E70T-1		
P1 to P42	SA-515,Gr-70 (Carbon steel plate)	SB-127, UNS No. NO4400 (63Ni30Cu plate)	ENiCrFe-2			
P1 to P41	SA-515,Gr-70 (Carbon steel plate)	SB-162, UNS No. NO2200, 2201 (Nickel-99%)	Eni-1	ERNi-1		
P1 to P41	SA-515,Gr-70 (Carbon steel plate)	SB-163,UNS-No.-NO2200, 2201 (Nickel-99%)	ENiCrFe-3			
P1 to P44	SA-515,Gr-70 (Carbon steel plate)	SB-333,UNSNo.-N1000 (NiMo plate)	ENiCrFe-2			Includes N10001, N10629, N10665, N10675
P1 to P45	SA-515,Gr-70 (Carbon steel plate)	SB-409, UNS No. NO88xx (NiFeCr plate)	ENiCrFe-2			Includes alloys 8800, 8810, 8811
P1 to P45	SA-515,Gr-70 (Carbon steel plate)	SB-424,UNS-No.-NO8821, 8825 (NiFeCrMoCu plate)	ENiCrMo-3			
P1 to P45	SA-515,Gr-70 (Carbon steel plate)	SB-425,UNS-No.-NO8821, 8825 (NiFeCrMoCu rod & bar)	ERNiCrMo-3			
P1 to P45	SA-515,Gr-70 (Carbon steel plate)	SB-463, UNS No. NO80xx (NiCrMo plate)	ENiCrMo-3	E309LT-1		Includes alloys 8020, 8024, 8026
P1 to P44	SA-515,Gr-70 (Carbon steel plate)	SB-574,UNS-No.-N10276 (Low Carbon NiMoCrW rod)	ENiCrMo-4			
P1 to P44	SA-515,Gr-70 (Carbon steel plate)	SB-575, UNS No. NO60xx		ENiCrMo-1		Multiple N60XX specs. Need more information
P1 to P44	SA-515,Gr-70 (Carbon steel plate)	SB-575,UNS-No.-N10276 (Low Carbon NiMoCrW plate)	ERNiCrFe-2 ERNiCrMo-10			
P1 to P45	SA-515,Gr-70 (Carbon steel plate)	SB-625, UNS No. NO89xx (NiCrMoCu Plate)				Multiple 8900 series alloys, need more info
P1 to P45	SA-515,Gr-70 (Carbon steel plate)	SB-688,UNS-No.-NO8366, N8367 (CrNiMoFe plate)	ENiCrMo-3			
P1 to P1	SA-53,Gr-A,-ERW Carbon Steel pipe)	SA-53,Gr-B,-ERW Carbon Steel pipe)	E7018 ER70S-2			
P1 to P5A	SA-53,Gr-B,-ERW Carbon Steel pipe)	SA-335,Gr-P22 (2 1/4Cr1Mo pipe for high temp service)	E6010 ER80S-D2	ER80S-D2 E70T-1	YES	
P1 to P1	SA-53,Gr-B,-ERW Carbon Steel pipe)	SA-53,Gr-B,-ERW Carbon Steel pipe)	E6010 ER70S-3	ER70S-3 E71T-1		
P1 to P1	SA-53,Gr-B,-ERW Carbon Steel pipe)	SA-53,Gr-B,-seamless Carbon Steel pipe)	E6010 ER70S-3	ER70S-3 E71T-1		
P1 to P3	SA-533,Type-A (MnMo plate)	SA-533,Type-A (MnMo plate)	E11018-M	E110T5-K4	YES	

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P1 to P9B	SA-537, Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	SA-203, Gr-E (Carbon Steel plate)	E8018-C2 ER80S-Ni3	ER80S-Ni3	YES	
P1 to P1	SA-537, Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	SA-533, Type-A (MnMo plate)	E7018 ER70S-3	ER70S-3 E70T-1	YES	
P1 to P1	SA-537, Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	SA-537, Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	E7018 ER70S-3	ER70S-3 E70T-1	YES	
P1 to P42	SA-533, Type-A (MnMo plate)	SB-127, UNS-No.-NO4400 (NiCu plate)	ENiCu-7			
P1 to P9B	SA-537, Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	SA-203, Gr-E (Carbon Steel plate)	E8018-C2 ER80S-Ni3	ER80S-Ni3	YES	
P1 to P9B	SA-537, Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	SA-203, Gr-E (Carbon Steel plate)	E8018-C2 ER80S-Ni3	ER80S-Ni3	YES	
P1 to P1	SA-537, Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	SA-537, Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	E10018-M		YES	
P1 to P1	SA-537, Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	SA-537, Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	E10018-M ER100S-1	ER100S-1 E100T-K3	YES	
P1 to P9B	SA-537, Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	SA-203, Gr-E (Carbon Steel plate)	E8018-C2 ER80S-Ni3	ER80S-Ni3	YES	
P1 to P1	SA-541, Gr1 (Carbon Steel forgings)	SA-537, Cl.-1<=2-1/2" (C MnSi Steel, heat treated plate)	E7018 ER70S-3	ER70S-3 E70S-3	YES	
P5C to P5C	SA-542, Type-A (2 1/4Cr1Mo plate)	SA-542, Type-A (2 1/4Cr1Mo plate)	E9018-B3 ER90S-B3	ER90S-B3	YES	
P10C to P10C	SA-612 (Carbon Steel for low temp service)	SA-612 (Carbon Steel for low temp service)	ER80S-D2	ER80S-D2 E110T5-K4		
P1 to P1	SA-671, Gr CC65 (Carbon Steel, killed, fine grain EFW pipe for low temp service)	SA-515, Gr-70 (Carbon steel plate)		ER80S-D2		
P1 to P1	SA-671, Gr CC70 (Carbon Steel, killed, fine grain EFW pipe for low temp service)	SA-671, Gr CC70 (Carbon Steel, killed, fine grain EFW pipe for low temp service)	E6010			
P42 to P42	SB-127, UNS No. NO4400 (63Ni30Cu plate)	SB-127, UNS No. NO4400 (63Ni30Cu plate)	ENiCu-7 ERNiCu-7	ERNiCu-7		
P42 to P43	SB-127, UNS No. NO4400 (63Ni30Cu plate)	SB-168, UNS No. NO66	ENiCrFe-3			High Nickel/Chrome, need final two digits to determine composition
P35 to P35	SB-148, UNS No. C952	SB-148, UNS No. C952	ERCuAl-A2			
P41 to P41	SB-160, UNS-No.-NO2200, N2201 (99% Ni rod & bar)	SB-160, UNS-No.-NO2200, N2201 (99% Ni rod & bar)	ENi-1 ERNi-1	ERNi-1		

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P41 to P41	SB-161,UNS-No.-NO2200, N2201 (99% Ni smls pipe)	SB-161,UNS-No.-NO2200, N2201 (99% Ni smls pipe)	ENi-1 ERNi-1	ENi-1		
P41 to P41	SB-162,UNS-No.-NO2200, N2201 (99% Ni plate)	SB-162,UNS-No.-NO2200, N2201 (99% Ni plate)	ENi-1 ERNi-1			
P42 to P42	SB-165,UNS-No.-NO4400 (63Ni28Cu smls pipe)	SB-165,UNS-No.-NO4400 (63Ni28Cu smls pipe)	ENiCu-7 ERNiCu-7			
P43 to P43	SB-168, UNS No. NO66xx	SB-168, UNS No. NO66xx	ENiCrFe-5 ERNiCrFe-5	ERNiCrFe-5		High Nickel/Chrome, need final two digits to determine composition
P43 to P43	SB-168, UNS No. NO66xx	SB-168, UNS No. NO66xx				High Nickel/Chrome, need final two digits to determine composition
P34 to P34	SB-171,UNS-No.-C70600 (90Cu10Ni plate)	SB-171,UNS-No.-C70600 (90Cu10Ni plate)	ECuNi			
P34 to P34	SB-171,UNS-No.-C71500 (70Cu30Ni plate)	SB-171,UNS-No.-C71500 (70Cu30Ni plate)	ERCuNi ERCuNi	ERCuNi		
P21 to P21	SB-209,Alclad-3003 (99% Aluminum plate)	SB-209,Alclad-3003 (99% Aluminum plate)	ER4043			
P21 to P22	SB-209,Alclad-3003 (99% Aluminum plate)	SB-209,Alclad-3004 (99% Aluminum plate)		ER5654		
P23 to P25	SB-209-6061 (99% Aluminum plate)	SB-209-5456 (95Al,5Mn plate)		x		
P21 to P21	SB-209,Alclad-3003 (99% Aluminum plate)	SB-209,Alclad-3003 (99% Aluminum plate)	ER4043	x		
P22 to P22	SB-209,Alclad-3004 (99% Aluminum plate)	SB-209,Alclad-3004 (99% Aluminum plate)	ER4043	x		
P22 to P22	SB-209,Alclad-3004 (99% Aluminum plate)	SB-209,Alclad-3004 (99% Aluminum plate)	ER5654	x		
P22 to P23	SB-209,Alclad-3004 (99% Aluminum plate)	SB-209-6061 (99% Aluminum plate)	ER5654			
P25 to P25	SB-209-5456 (95Al,5Mn plate)	SB-209-5456 (95Al,5Mn plate)	ER5183	x		
P23 to P23	SB-209-6061 (99% Aluminum plate)	SB-209-6061 (99% Aluminum plate)	ER4043	x		
P21 to P22	SB-210,Alclad-3003 (99% Aluminum smls tube)	SB-209,Alclad-3004 (99% Aluminum plate)		ER5356		
P21 to P22	SB-210,Alclad-3003 (99% Aluminum smls tube)	SB-210-5052-5154 (Al,Mn smls tube)	ER5356			
P23 to P23	SB-210-6061/6063 (99% Aluminum smls pipe)	SB-210-6061/6063 (99% Aluminum smls pipe)	ER5356			

P numbers	1st Base metal	2nd Base metal	SMAW-best GTAW-best	GMAW-best FCAW-best	PWHT REQ'D	Notes
P25 to P25	SB-241-5083,5086,5456 (Al,Mn smls extruded pipe)	SB-241-5083,5086,5456 (Al,Mn smls extruded pipe)	ER5183	ER5183		
P51 to P51	SB-265,Grade-2 (Unalloyed Titanium plate)	SB-265,Grade-2 (Unalloyed Titanium plate)	ERTi-1			
P44 to P44	SB-333,UNSTNo.-N10xxx (NiMo plate)	SB-333,UNSTNo.-N10xxx (NiMo plate)	ENiMo-7 ERNiMo-7	ERNiMo-7		Includes N10001, N10629, N10665, N10675
P45 to P45	SB-409, UNS No. NO88xx (NiFeCr plate)	SB-409, UNS No. NO88xx (NiFeCr plate)	ERNiCr-3 ERNiCr-3	ERNiCr-3		Includes alloys 8800, 8810, 8811
P45 to P45	SB-423,UNS-No.-NO8825 (NiFeCrMoCu smls pipe)	SB-423,UNS-No.-NO8825 (NiFeCrMoCu smls pipe)	ERNiCrMo-3			
P45 to P45	SB-424,UNS-No.-NO8825 (NiFeCrMoCu plate)	SB-424,UNS-No.-NO8825 (NiFeCrMoCu plate)	ERNiCrMo-3	ERNiCrMo-3		
P32 to P32	SB-43,UNS-No.-C2300 (Red Brass smls pipe)	SB-43,UNS-No.-C2300 (Red Brass smls pipe)	ERCuSi-A			
P45 to P45	SB-463, UNS No. NO80xx (NiCrMo plate)	SB-625, UNS No. NO89xx (NiCrMoCu Plate)	ENiCrMo-3			SB-625 -Multiple 8900 series- alloys, need more info SB- 463 -Includes alloys 8020, 8024, 8026
P45 to P45	SB-463, UNS No. NO80xx (NiCrMo plate)	SB-463, UNS No. NO80xx (NiCrMo plate)	E320-15 ER320			Includes alloys 8020, 8024, 8026
P45 to P45	SB-464,NO8020-Annealed (NiCrCuMo pipe)	SB-464,NO8020-Annealed (NiCrCuMo pipe)	ERNiCrMo-3			
P34 to P34	SB-466,UNS-No.-C70600 (90Cu10Ni pipe)	SB-466,UNS-No.-C70600 (90Cu10Ni pipe)	ERCuNi			
P44 to P44	SB-574,UNS-No.-N10276 (Low Carbon NiMoCrW rod)	SB-574,UNS-No.-N10276 (Low Carbon NiMoCrW rod)	ERNiCrMo-4			
P44 to P45	SB-575, UNS No. NO60xx	SB-464,NO8020-Annealed (NiCrCuMo pipe)	ERNiCrMo-4			
P44 to P44	SB-575, UNS No. NO60xx	SB-575, UNS No. NO60	ENiCrMo-4 ERNiCrMo-4			Multiple N60XX specs. Need more information
P44 to P44	SB-575,UNS-No.-N10276 (Low Carbon NiMoCrW plate)	SB-575,UNS-No.-N10276 (Low Carbon NiMoCrW plate)	ERNiCrMo-4 ERNiCrMo-4			
P44 to P44	SB-619,UNS-No.-N102xx (NiCrMo alloy pipe)	SB-619,UNS-No.-N102xx (NiCrMo alloy pipe)	ERNiCrMo-4			Alloys in 102xx seris vary in composition, need exact alloy designation
P45 to P45	SB-625, UNS No. NO89xx (NiCrMoCu Plate)	SB-625, UNS No. NO89xx (NiCrMoCu Plate)	ENiCrMo-3 ERNiCrMo-3			Multiple 8900 series alloys, need more info

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