

AESTEIRON based in India - Asia's second largest country of steel production, is continuously evolving in the steel industry with major focus on stockpile supply ranges in Carbon Steel, Stainless Steel, Alloy Steel, Special and High Nickel Alloys and Customer design specific grades

AESTEIRON STEELS LLP





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MATERIAL	UNS	GRADE	CONFIGURATIONS									
			PIPE	TUBE	FITTINGS	FLANGES FORGINGS	PLATE	BAR				
Chrome Alloy Steel	K11522	P1/WP1/F1	ASTM A 335 ASME SA 335									
	K41545	P5/T5/WP5/F5/GR 5	ASTM A 335 ASME SA 691	ASTM A 213 ASME SA 213	ASTM A 234 ASME SA 234	ASTM A 182 ASME SA 182	ASTM A 387 ASME SA 387	ASTM A 336 ASME SA 336				
	S50400 K90941	P9/T9/WP9/F9/GR 9										
	K11597	P11/T11/WP11/GR 11										
	K21590	P22/T22/WP22/F22/GR 22										
	K91560 K90901	P91/T91/WP91/F91/GR 91										
Temp Stainless Steel	S30900 S30908 S30909	TP309S/H,WP309,F309H	ASTM A 312 ASME SA 312	ASTM A 213 ASME SA 249	ASTM A 403 ASME SA 403	ASTM A 182 ASME SA 182	ASTM A 240 A167 ASME SA 240 A167	ASTM A 276 ASME SA 276				
	S31000 S31008 S31009	TP309S/H,WP310H,F310/H										
	Austenitic Stainless Steel	S31254	S31254/WP31254/F44	ASTM A 312 ASME SA 312					ASTM A 213 ASME SA 213	ASTM A 403 ASME SA 403	ASTM A 182 ASME SA 182	ASTM A 240 ASME SA 240
S30400		TP304/WP304/F304/TYPE304										
S30403		TP304L/WP304L/F304L										
S31600		TP316,WP316,F316,TYPE316										
S31603		TP316L,WP316L,F316L,TYPE316L										
S31635		TP316Ti,WP316Ti,F316Ti,TYPE316Ti										
S31700		TP317,WP317,F317,TYPE317										
S31703		TP317L,WP317L,F317L,TYPE317L										
S32100		TP321,WP321,F321,TYPE321	ASTM A 358 ASME SA 358	ASTM A 249 ASME SA 249	ASTM A 403 ASME SA 403	ASTM A 182 ASME SA 182	ASTM A 240 ASME SA 240	ASTM A 276 ASME SA 276				
S34700		TP347,WP347,F347,TYPE347										
S30409		TP304H,WP304H,F304H,TYPE304H										
S31609		TP316H,WP316H,F316H,TYPE316H										
S31725		S31725,WP31725,TYPE317LM										
S32109		TP321H,WP321H,F321H,TYPE321H										
S34709	TP347H,WP347H,F347H,TYPE347H											
S31008	TP310,WP310,F310,TYPE310	A/SA 790/928	A/SA 789	A/SA 815					A/SA 240 B/SA 463	B/SA 473		
S31008	TP310S,WP310S,F310S,TYPE310S											
Duplex Steel	S31803	TP31803,WP31803,F51,TYPE 2205	A/SA 790/928	A/SA 789					A/SA 815	A/SA 240 B/SA 463	B/SA 473	
	S32750	TP32750,WP32750,F53,TYPE 2507										
	S32760	TP32760,WP32760,F55,TYPE 2205										
Martensitic Stainless Steel	S41000	TP410,WP4010,F6a		A/SA 268								
Alloy Carpenter 20	N08020		B/SB 464/729	B/SB 468/729					B/SB 462	B/SB 462	A/SA 240 B/SA 463	B/SA 473
Carbon Steel		GRADE A	A/SA 53/106/672	A/SA 178 A 500	A/SA 234	A/SA 105	A/SA 36/285	A/SA 29 A108				
		GRADE B		A 500								
		GRADE C		A/SA 178/210 A 500								
Low Temp Alloy steel		GRADE 1, WPL6,LF1	A/SA 333/671	A/SA 192/334	A/SA 420	A/SA 350	A/SA 36	A/SA 26 A108				
		GRADE 3,WP9,LF3										
		GRADE 6,WPL3,LF6										
AL6XN N08367	N08367		B/SB 675/690	B/SB 676	B/SB 462	B/SB 462	B/SB 688	B/SB 691				
Monel 400 N04400	N04400		B/SB 165	B/SB 163/165	B/SB 366	B/SB 564	B/SB 217	B/SB 164				
Inconel 600 N06600	N06600		B/SB 167	B/SB 163/165/167			B/SB 168	B/SB 166				
Inconel 625 N06625	N06625		B/SB 444/704	B/SB 444/705			B/SB 443	B/SB 446				
Inconel	N08800	Alloy 800	B/SB 407	B/SB 163/165			B/SB 366	B/SB 564	B/SB 168	A/SA 276/479		
	N08810	Alloy 800H			B/SB 409							
	N08811	Alloy 800HT										
Hastelloy	N10276	C276	B/BS 619/622	B/SB 622/626		B/SB 564	B/SB 575	B/SB 574				
Titanium			B/BS 861/862	B/BS 338			B/SB 265	B/SB 348				
Boiler/Heat Exchanger Tubes				A/SA 179/182/192 A519 (LOW) CARBON STEEL								
A1				A/SA 210 GRADE A-1								
Mechanical Stainless Tubing				A 511/554								

Stainless steel grades listed in EN, DIN, UNS, WNR & ISO Designation

Comparison of grades with similar composition from international standards of grades with similar composition from other important standards

EN/WNR	UNS	AISI	JIS	GB	ISO-Standards
1.4657()	N08020				X4NiCrCuMo35-20-4-3
1.4563	N08028				X1NiCrMoCu31-27-4
1.4864	R20033,N08330		SUH330	S33010	X13NiCr35-16
1.4978()	N08367		SUS836L		X2NiCrMoN25-21-7
1.4958					X5NiCrAlTi31-20
1.4959					X8NiCrAlTi32-20
1.4959	N08811				X8NiCrAlTi33-21
1.4876	N08800	"800"	NCF800		X8NiCrAlTi32-21
1.4959	N08810	"800H"	NCF800H		X7NiCrAlTi33-21
1.4479()	N08936				X1NiCrMoMnN34-27-6-5
1.4529	N08926	"926"			X1NiCrMoCuN25-20-7
1.4539	N08904	"904L"	SUS890L	S39042	X1NiCrMoCu25-20-5
1.4656()					X1NiCrMoCu22-20-5-2
1.4615					X3CrMnNiCu 15-8-53*]
1.4371	S20153				X2CrMnNiN17-7-5
1.4618					X9CrMnNiCu 17-8-5-2
1.4617()			SUS304J2		X6CrNiMnCu17-8-4-2
1.4372	S20100	201	SUS201	S35350	X12CrMnNiN17-7-5
1.4369					X11CrNiMnN19-8-6
1.4890()			SUH35	S35650	X53CrMnNiN21-9-4
1.4373	S20200	202	SUS202	S35450	X12CrMnNiN18-9-5
1.4597					X8CrMnCuN17-8-3
1.4982	S21500				X10CrNiMoMnNbV15-10-1
1.4318	S30153	"301LN"	SUS301L	S30153	X2CrNiN18-7
1.4319	S30100	301	SUS301	S30110	X5CrNi17-7
1.4310	S30100	301		S30110	X10CrNi18-8
1.4326()	S30215	"302Si"	SUS302B	S30240	X12CrNiSi18-9-3
1.4325	S30200	302	SUS302	S30210	X9CrNi18-9
1.4667()[1.4570]		"303Cu"	SUS303Cu		X12CrNiCuS18-9
1.4625()	S30323	303Se	SUS303Se	S30327	X12CrNiSe18-9
1.4305	S30300	303	SUS303	S30317	X10CrNiS18-9
1.4570	S30331	"303Cu+"			X6CrNiCuS18-9-2
1.4567	S30430		SUSXM7	S30488	X3CrNiCu18-9-4
1.4818	S30415			S30450	X6CrNiSiN19-10
1.4567			SUS304J1	S30480	X6CrNiCu17-8-2
1.4311	S30453	"304LN"	SUS304LN	S30453	X2CrNiN18-9
1.4650		"304LCu"	SUS304L	S30403	X2CrNiCu19-10
1.4948	S30409	"304H"		S30409	X7CrNi18-9
1.4567	S30431	"304Cu"	SUS304J3	S30480	X6CrNiCu18-9-2
1.4679()		"304Cu"	SUS304Cu	S30488	X6CrNiCu19-9-1
1.4315	S30451	304N	SUS304N1	S30458	X5CrNiN19-9
1.4306	S30403	304L	SUS304L	S30403	X2CrNi19-11
1.4307,[1.4306]	S30403	304L	SUS304L	S30403	X2CrNi18-9
1.4301	S30400	304	SUS304	S30408	X5CrNi18-9
1.4828					X15CrNiSi20-12
1.4884()	S30500		SUSXM15J1	S38148	X6CrNiSi18-13-4
1.4303	S30500	305	SUS305	S30510	X6CrNi18-12

Available in Sheets Plates Pipes Tubes Round bar Fittings & Flanges

EN/WNR	UNS	AISI	JIS	GB	ISO-Standards
1.4835	S30815				X7CrNiSiN21-11
1.4824[]			SUH37	S30850	X20CrNi22-11
1.4496[]			SUS317J2		X4CrNiMoN25-14-1
1.4833	S30908	"309S"	SUH309	S30908	X18CrNi23-13
1.4950	S30908	309S	SUS309S	S30908	X6CrNi23-13
1.4537					X1CrNiMoCuN25-25-5
1.4335	S31002				X1CrNi25-21
1.4466	S31050			S31053	X1CrNiMoN25-22-2
1.4845	S31008	"310S"	SUS310S	S31008	X8CrNi25-21
1.4845	S31008	"310S"	SUH310	S31020	X23CrNi25-21
1.4951	S31008	310S	SUS310S	S31008	X6CrNi25-20
1.4659	S31266				X1CrNiMoCuNW24-22-6
1.4547	S31254		SUS312L	S31252	X1CrNiMoCuN20-18-7
1.4971			SUH661		X5CrNiCoMoWmN21-20-20-3-3-2
1.4841	S31400	314			X15CrNiSi25-21
1.4660[]			SUS315J1		X6CrNiCuSiMo19-10-3-2
1.4648[]			SUS315J2		X6CrNiSiCuMo19-13-3-3-1
1.4665[]			SUS316J1		X6CrNiMoCu18-12-2-2
1.4571	S31635	316Ti	SUS316Ti	S31668	X6CrNiMoTi17-12-2
1.4449					X3CrNiMo18-12-3
1.4647[]			SUS316J1L	S31683	X2CrNiMoCu18-14-2-2
1.4432	S31603		SUS316L	S31603	X2CrNiMo17-12-3
1.4580	S31640			S31678	X6CrNiMoNb17-12-2
1.4867[]			SUH31		X40CrNi15-14
1.4578					X3CrNiCuMo17-11-3-2
1.4910					X3CrNiMoBN17-13-3
1.4429	S31653	"316LN"	SUS316LN	S31653	X2CrNiMoN17-12-3
1.4406	S31653	"316LN"	SUS316LN	S31653	X2CrNiMoN17-11-2
1.4495[]	S31651	316N	SUS316N	S31658	X6CrNiMoN17-12-3
1.4435	S31603	316L	SUS316L	S31603	X2CrNiMo18-14-3
1.4404	S31603	316L	SUS316L	S31603	X2CrNiMo17-12-2
1.4494[]	S31620	316F	SUS316F		X6CrNiMoS17-12-3
1.4401	S31600	316	SUS316	S31608	X5CrNiMo17-12-2
1.4436	S31600	316	SUS316	S31608	X3CrNiMo17-12-3
1.4476[]			SUS317J1	S31794	X3CrNiMo18-16-5
1.4438	S31703		SUS317J1	S31703	X2CrNiMo19-14-4
1.4483[]	S31726			S31723	X2CrNiMoN18-15-5
1.4879[]			SUH38		X30CrNiMoPB20-11-2
1.4439	S31726			S31723	X2CrNiMoN17-13-5
1.4445[]	S31700	317	SUS317	S31708	X6CrNiMo19-13-4
1.4434	S31753	"317LN"	SUS317LN	S31753	X2CrNiMoN18-12-4
1.4941	S32109			S32169	X6CrNiTiB18-10
1.4940, 1.4541	S32109	"321H"	SUS321H	S32169	X7CrNiTi18-10
1.4541	S32100	321	SUS321	S32168	X6CrNiTi18-10
1.4652	S32654			S32652	X1CrNiMoCuN24-22-8
1.4565	S34565			S34553	X2CrNiMnMoN25-18-6-5
1.4961					X8CrNiNb16-13
1.4912	S34709	"347H"	SUS347H		X7CrNiNb18-10
1.4550	S34700	347	SUS347	S34778	X6CrNiNb18-10
1.4854	S35315				X6NiCrSiN25-25
1.4389[]	S38400	384	SUD384	S38408	X6NiCr18-16
1.4980, 1.4606	S66286[]	"660"	SUH660	S51525	X6NiCrTiMoVB25-15-2

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EN/WNR	UNS	AISI	JIS	GB	ISO-Standards
1.4460	S31200			S22553	X3CrNiMoN27-5-2
1.4481()	S31260		SUS329J4L	S25583	X2CrNiMoN25-7-3
1.4424	S31500				X2CrNiMoSiMnN19-5-3-2-2
1.4462	S32205.53	F51,F60	SUS329J3L	S22053	X2CrNiMoN22-5-3
1.4162	S32101				X2CrMnNiN22-5-1*]
1.4062	S32202				X2CrNiN22-2*]
1.4362	S32304			S23043	X2CrNiN23-4
1.4507	S32550			S25554	X3CrNiMoCuN26-6-3-2
1.4507	S32520				X2CrNiMoCuN25-6-3
1.4501	S32760			S27603	X2CrNiMoCuWN25-7-4
1.4410	S32750			S25073	X2CrNiMoN25-7-4
1.4658()	S32707				X2CrNiMoCoN28-8-5-1*]
1.4477	S32906				X2CrNiMoN29-7-2*]
1.4480()	S32900	329	SUS329J1		X6CrNiMo26-4-2
1.4485()	S33207				X2CrNiMoN31-8-4
1.4523	S18235				X2CrMoTiS18-2
1.4724					X10CrAlSi13
1.4002	S40500	405	SUS405	S11348	X6CrAl13
1.4516	S40975				X6CrNiTi12
1.4720	S40900	409	SUH409L	S11163	X2CrTi12
1.4030()			SUS410L	S11203	X2Cr12
1.4003	S41003			S11213	X2CrNi12
1.4000	S41008		SUS410S	S41008	X6Cr13
1.4595					X1CrNb15
1.4589					X5CrNiMoTi15-2
1.4012()	S42900	429	SUS429	S11510	X10Cr15
1.4742					X10CrAlSi18
1.4017					X6CrNi17-1
1.4511			SUS430LX		X3CrNb17
1.4664()			SUS430J1L		X2CrCuTi18
1.4520			SUS430LX		X2CrTi17
1.4510	S43035	439	SUS430LX	S11863	X3CrTi17
1.4004()	S43020	430F	SUS430F	S11717	X7CrS17
1.4016	S43000	430	SUS430	S11710	X6Cr17
1.4113	S43400	434	SUS434	S11790	X6CrMo17-1
1.4609()			SUS436J1L		X2CrMo19
1.4513()	S43600	436	SUS436L	S11862	X2CrMoNbTi18-1
1.4526	S43600	436		S11770	X6CrMoNb17-1
1.4509	S43940		SUS430LX	S11873	X2CrTiNb18
1.4764()			SUSH21		X8CrAl19-3
1.4521	S44400	444	SUS444	S11972	X2CrMoTi18-2
1.4621	S44500				X2CrNbCu21
1.4128()					X2CrMo23-1
1.4762					X10CrAlSi25
1.4129()					X2CrMo23-2
1.4750()	S44660				X2CrMoNi27-4-2
1.4131(), 1.4749	S44627		SUSXM27	S12791	X1CrMo26-1
1.4749	S44600	446	SUH446	S12550	X15CrN26
1.4135()	S44700		SUS447J1	S13091	X1CrMo30-2
1.4119()			SUD410J1	S45710	X13CrMo13
1.4024			SUS410		X15Cr13

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Martensitic steel / Precipitation Hard steel

EN/WNR	UNS	AISI	JIS	GB	ISO-Standards
1.4006	S41000	410	SUS410	S41010	X12Cr13
1.4415					X2CrNiMoV13-5-2
1.4313	S41500		SUSF6NM	S41595	X3CrNiMo13-4
1.4642()			SUS410F2		X13CrPb13
1.4005	S41600	416	SUS416	S41617	X12CrS13
1.4038()	S42000				X52Cr13
1.4039()					X60Cr13
1.4419				S35830	X38CrMo14
1.4110					X55CrMo14
1.4116					X50CrMoV15
1.4035					X46CrS13
1.4034	S42000			S42040	X46Cr13
1.4643()			SUS420F2		X33CrPb13
1.4029	S42020	420F	SUS420F	S42037	X33CrS13
1.4031	S42000	420		S42040	X39Cr13
1.4028	S42000	420	SUS420J2	S42030	X30Cr13
1.4021	S42000	420	SUS420J1	S42020	X20Cr13
1.4923					X22CrMoNiV12-1
1.4929()	S42200	422	SUH616	S47220	X23CrMoWMNiV12-1-1
1.4058()			SUS429J1		X33Cr16
1.4019, 1.4104	S43020	430F		S11717	X14CrS17
1.4418					X4CrNiMo16-5-1
1.4123					X40CrMoVN16-2
1.4057	S43100	431	SUS431	S43120	X17CrNi16-2
1.4122					X39CrMo17-1
1.4766()			SUH4	S48380	X80CrSiNi20-2
1.4025()		"440F"	SUS440F	S44097	X110CrS17
1.4023()	S44004	440C	SUS440C	S44096	X110Cr17
1.4041()	S44003	440B	SUS440B	S44080	X85Cr17
1.4040()	S44002	440A	SUS440A	S44070	X68Cr17
1.4916()			SUH600	S46250	X18CrMnMoNbVN12
1.4534	S13800			S51380	X3CrNiMoAl13-8-3
1.4594					X5CrNiMoCuNb14-5
1.4532	S15700			S51570	X8CrNiMoAl15-7-2
1.4542	S17400	"630"	SUS630	S51740	X5CrNiCuNb16-4
1.4568	S17700	"631"	SUS631	S51700	X7CrNiAl17-7
1.4457()	S35000			S51750	X9CrNiMoN17-5-3
1.4530					X1CrNiMoAlTi12-9-2
1.4596					X1CrNiMoAlTi12-10-2
1.4546()	S46910				X2CrNiMoCuAlTi12-9-4-3*)
1.4644()	S66220				X4NiCrMoTiMnSiB26-14-3-2

Available in Sheets Plates Pipes Tubes Round bar Fittings & Flanges

A : austenitic steel

F : ferritic steel

AF : austenitic-ferritic steel

PH : Precipitation Hardening steel

AESTEIRON



COMPARISON OF MATERIAL FROM WORLD STEEL STANDARD



ASTM STANDARDS	UNS	JAPANESE-KOREAN			EUROPEAN-GERMAN		
		JIS-KS	JIS-KS	Remark	DIN Type	DIN	Material
A36 Structural Steel	K02600	SMS400A/SM400A	D3515/G3106	[23]	St44-2 St44-2	17100 17100	1.0044 1.0044
A48 Gray Cast Iron Casings Class No. 25	F11701	GC200/FC200	D4310/G5501	-	GG20	1691	0.6020
A53 Welded & Seamless Steel Pipe Grade A Pipe	K02504	SPPS38/STPG370	D3562/G3454	[16]	St37.2 St35	1626 1629	1.0036 1.0308
Grade B Pipe	K03055	SPPS42/STPG410	D3562/G3454	[16]	St45 St42-2	1629 1626	1.0408 1.0040
A105 Carbon Steel Forgings for piping Componets	K03504	SFVC2A/SFVC2A	D122/G3202	[22]	19Mn5	17155	1.0482
A106 Seamless C-Steel Pipe for High Temp. Service Grade A	K02501	SPHT38/STPT370	D3570/G3456	[16] [30]	St35.8	17175	1.0305
Grade B	K03006	SPHT42/STPT410	D3570/G3456	[16] [30]	St45.8	17175	1.0405
A126 Gray Iron Casings for Valves, Flanges and Pipe Fittings Grade A Pipe	F11501	GC200/FC200	D4301/G5501	-	GG15	1691	0.6015
Grade B Pipe	F12102	GC250/FC250	D4301/G5501	-	GG25	1691	0.6025
A131 Structural Steel for Ships Grade A	K02300	SWS400A/SM400A	D3515/G3106	-	St44-2	17100	1.0044
Grade B	K02102	SWS400B/SM400B	D3515/G3106	-	R St44-2	17100	1.0044
Grade D & E	K02101	SWS400C/SM400C	D3515/G3106	[1]	St44-3	17100	1.0044
A134 Electric-Fusion(Arc) -Welded Steel Pipe		SPW400/STPY400	K3583/G3457	[19]	-	-	-
A139 Electric-Fusion(Arc) -Welded Steel Pipe Grade A Pipe	K03003	-	-	[3]	-	-	-
Grade B Pipe	K03004	-	-	[3]	-	-	-
A167 Stainless & Heat- Resisting Cr-Ni Steel Plate Sheet & Strip Grade 304	S30400	STS304/SUS304	D3705/G4304	-	X5CrNi18 9	17440	1.4301
Grade 304L	S30403	STS304L/SUS304L	D3705/G4304	-	X2CrNi18 9	17440	1.4306
Grade 316	S31600	STS316/SUS316	D3705/G4304	-	X5CrNiMo18 10	17440	1.4401
Grade 316L	S31603	STS316L/SUS316L	D3705/G4304	-	X2CrNiMo18 10	17440	1.4404
Grade 321	S32100	STS321/SUS321	D3705/G4304	-	X10CrNiTi18 9	17440	1.4541
Grade 347	S34700	STS347/SUS347	D3705/G4304	-	X10CrNiNb18 9	17440	1.4550
A176 Stainless & Heat- Resisting Cr Steel Plate Sheet & Strip Type 405	S40500	STS405/SUS405	D3705/G4304	-	X5CrAl 13	17440	1.4002
Type 410	S41000	STS410/SUS410	D3705/G4304	-	X10Cr 13	17440	1.4006
Type 410S	S41008	STS410S/SUS410S	D3705/G4304	-	X7Cr 13	17440	1.4000
A178 C-Steel Electric- Resistance Welded Boiler Tube Grade A Tubes	K01200	STBH340/STB35	D3563/G3461	-	St 37.8	17177	1.0315
Grade C Tubes	K03503	STBH410/STB42	D3563/G3461	-	St 42.8	17177	1.0498

ASTM STANDARDS	UNS	JAPANESE-KOREAN			EUROPEAN-GERMAN		
		JIS-KS	JIS-KS	Remark	DIN Type	DIN	Material
A179 Seamless Cold Drawn Low-C Steel H/EX and Condenser Tubes	K01200	STBH340/STB35	D3563/G3461		St 35.4 St 35.8	1629 17175	1.0309 1.0305
A181 C-Steel Forgings for General Purpose Piping Class 60 Pipe	K03502	SFVC1/SFVC1	D4122/G3203	-	St 44-2	17100	1.0044
Class 70 Pipe		SFV2A/SFVC2A	D4122/G3202	-	C22 19 Mn 5 20 Mn 5	17200 - -	1.0402 1.0482 1.1153
A182 Forged or Rolled Alloy Steel Pipe, Flange and Valves for High Temp. Service							
Grade F1	K12822	SFVA F1/SFVA F1	D4123/G3203	{10}	16Mo 5	-	1.5423
Grade F5	K42544	SFVA F5B/SFVA F5B	D4123/G3203	{10}	12CrMo 19 5	-	1.73262
Grade F6a	-	-	-	{3}	X10Cr 13	17440	1.4006
Grade F11	K11572	SFVA F11/SFVA F11	D4123/G3203	{10}	13CrMo 44	17175	1.7335
Grade F12	K11564	SFVA F5B/SFVA F12	D4123/G3203	{10}	13CrMo 44	17176	1.7335
Grade F22	K21590	SFVA F22B/SFVA F22B	D4123/G3203	{10}	10CrMo 9 10	17177	1.7380
Grade F304	S30400	STSF304/SUSF304	D4115/G3214	-	X5CrNi 18 9	17440	1.4301
Grade F304H	S30409	STSF304H/SUSF304H	D4115/G3214	-	-	-	-
Grade F304L	S30403	STSF304L/SUSF304L	D4115/G3214	-	X2CrNi 18 9	17440	1.4306
Grade F310	S31000	STSF310S/SUSF310S	D4115/G3214	-	-	-	-
Grade F316	S31600	STSF316/SUSF316	D4115/G3214	-	X5CrNiMo 18 10	17440	1.4401
Grade F316H	S31609	STSF316H/SUSF316H	D4115/G3214	-	-	17440	-
Grade F316L	S31603	STSF316L/SUSF316L	D4115/G3214	-	X2CrNiMo 18 10	17440	1.4404
Grade F321	S32100	STSF321/SUSF321	D4115/G3214	-	X10CrNiTi 18 9	17440	1.4541
Grade F347	S34700	STSF347/SUSF347	D4115/G3214	-	X10CrNiNb 18 9	17440	1.4550
A192 Seamless C-Steel Boiler for High Pressure Service	K01201	STBH340/STB340	D3563/G3461	{30}	St 35.8	17175	1.0305
A193 Alloy Steel Bolting Material for High Temp. Service							
Grade B6	S41000	STS410/SUS410	D3706/G4303	{3a}	X7Cr 13	17440	1.4000
Grade B7	G41400	SNB7/SNB7	D3755/G4107	{3a}	42CrMo 4	17200	1.7225
Grade B7M	G41400	SNB7/SNB7	D3755/G4107	{3a} {20}	24CrMo 5	17200	1.7258
Grade B8	S30400	STS304/SUS304	D3706/G4303	{3a}	42CrMo 4	17200	1.7225
Grade B8C	S34700	STS347/SUS347	D3706/G4303	{3a}	X5CrNi 18 9	17440	1.4301
Grade B8M	S31600	STS316/SUS316	D3706/G4303	{3a}	X10CrNiNb 18 9	17440	1.4550
Grade B8T	S32100	STS321/SUS321	D3706/G4303	{3a}	X5CrNiMo 18 10	17440	1.4401
Grade B16	K14072	SNB16/SNB16	D3755/G4107	{3a}	X10CrNiTi 18 9	17440	1.4541
					40CrMoV 5 5	17240	1.7711
A194 C-and Alloy Steel Nuts for Bolts for High Temp. Service							
Grade 2H	K04002	SM45C/S45C	D3752/G4051	{3a}	C 35	17240	1.4181
Grade 4	K14510	-	-	{3}	24CrMo 5	17240	1.7258
Grade 6	S41000	STS410/SUS410	D3706/G4303	{3c}	x7Cr 13	17440	1.4000
Grade 6F [With sulfur]	-	-	-	{3}	-	-	-
Grade 8	S30400	STS304/SUS304	D3706/G4303	{3a}	X5CrNi 18 9	17440	1.4301
Grade 8M	S31600	STS316/SUS316	D3706/G4303	{3a}	X5CrNiMo 18 10	17440	1.4401
A199 Seamless Cold Drawn Intermediate Alloy Steel H/EX and Condenser Tubes							
T 5 Tubes	K41545	STHA24/STBA25	D3572/G3462	{35}	12CrMo 19 5	-	1.7362
T 11 Tubes	K11597	STHA22/STBA23	D3572/G3462	{35}	13CrMo 44	17175	1.7335
T 22 Tubes	K21590	STHA23/STBA24	D3572/G3462	{35}	10CrMo 9 10	17175	1.7380

ASTM STANDARDS	UNS	JAPANESE-KOREAN			EUROPEAN-GERMAN		
		JIS-KS	JIS-KS	Remark	DIN Type	DIN	Material
A200 Seamless Intermediate Alloy Steel Still Tubes for Refinery Service T 5 Tubes T 11 Tubes T 22 Tubes	K41545 K11597 K21590	STHA24/STBA25 STHA22/STBA23 STHA23/STBA24	D3572/G3462 D3572/G3462 D3572/G3462	{32} {32} {32}	12CrMo 19 5 13CrMo 44 10CrMo 9 10	- 17175 17175	1.7362 1.7335 1.7380
A203 Nickel Steel Biler Plate Grade D Grade E	K31718 K32018	SL3N 225/SL3N 225 SL3N 275/SL3N 275	D3586/G3127 D3586/G3127	- -	10Ni 14 -	- -	1.5637 -
A204 Mo-Steel Plates for Boiler & Other Pressure Vessels Grade A Grade B	K11820 K12020	SB450M/SB450M SB480M/SB480M	D3560/G3103 D3560/G3103	- -	16Mo 5 16Mo 5	- -	1.5423 1.5423
A209 Seamless C-Mo Steel Boiler & Superheater Tubes Grade T1 Tubes Grade T1a Tubes	K11522 K12023	STHA12/STBA12 STHA13/STBA13	D3572/G3462 D3572/G3462	{30} {24} {30} {24}	16Mo 5 16Mo 5	- -	1.5423 1.5423
A210 Seamless Medium-Carbon Steel Boiler & Superheater Tubes Grade A-1 Tubes	K02707	STBH410/STB410	D3563/G3461	{30} {24}	St 45.8	17175	1.0405
A213 Seamless Alloy Steel Boiler and Heat Exchanger Tubes Grade T5 Tubes Grade T11 Tubes Grade T12 Tubes Grade T22 Tubes TP304 Tubes TP304L Tubes TP310 Tubes TP316 Tubes TP316L Tubes TP321 Tubes TP347 Tubes	K41545 K11597 K11562 K21590 S30400 S31403 S31000 S31600 S31603 S32100 S34700	STHA24/STBA25 STHA22/STBA23 STHA21/STBA22 STHA23/STBA24 STS305TB/SUS304TB STS304LTB/SUS304LTB STS310STB/SUS310STB STS316TB/SUS316TB STS316LTB/SUS316LTB STS321TB/SUS321TB STS347TB/SUS347TB	D3572/G3462 D3572/G3462 D3572/G3462 D3572/G3462 D3577/G3463 D3577/G3463 D3577/G3463 D3577/G3463 D3577/G3463 D3577/G3463 D3577/G3463 D3577/G3463	{30} {24} {30} {24} {30} {24} {30} {24} {30} {24} {30} {24} {30} {24} {30} {24} {30} {24} {30} {24} {30} {24} {30} {24}	12CrMo 19 5 13CrMo 44 13CrMo 44 10CrMo 9 10 X5CrNi 18 9 X2CrNi 18 9 X12CrNi 25 28 X5CrNiMo 18 10 X2CrNiMo 18 10 X10CrNiTi 18 9 X10CrNiNb 18 9	- 17175 17175 17175 17440 17440 - 17440 17440 17440 17440	1.7362 1.7335 1.7335 1.7380 1.4301 1.4306 1.4845 1.4401 1.4404 1.4541 1.4550
A214 Electric Resistance Welded Heat Exchanger and Condenser Tubes	K01807	STBH340/STB35 STBH410/STB42 STBH510/STB52	D3563/G3461 D3563/G3461 D3563/G3461	{24} {24} {24}	St 37-2	1626	1.0036
A216 C-Steel Casting Suitable for Fusion Welding for High Temp. Service WCA WCB	J02502 J03002	SCPH1/SCPH1 SCPH2/SCPH2	D4107/G5151 D4107/G5151	- -	GS-C 25 -	17245 -	1.0619 -
A217 Alloy Steel Casting for Pressure Containing Parts Suitable for High Temp. Service WC 1 WC 6 WC 9 C 5 C 12 CA 15	J12524 J12072 J21890 J42045 J82090 J91150	SCPH11/SCPH11 SCPH21/SCPH21 - SCPH61/SCPH61 - -	D4107/G5151 D4107/G5151 - D4107/G5151 - -	- - {3} - {3} {3}	GS-22Mo 4 GS-17CrMo 5 5 - GS-12CrMo 19 5 G-X-12CrMo 10 1 -	17245 17245 - - - -	1.5419 1.7357 - 1.7363 1.7389 -

ASTM STANDARDS	UNS	JAPANESE-KOREAN			EUROPEAN-GERMAN		
		JIS-KS	JIS-KS	Remark	DIN Type	DIN	Material
A234 Wrought C-and Alloy Piping Fitting for Moderate and Elevated Temp.							
Grade WPB Pipe	K03006	SPHT42/STPT42	D3750/G3456	[3b]	St 45.8	17175	1.0405
Grade WPC Pipe	K03501	SPHT49/STPT49	D3750/G3456	[3b]	-	-	-
Grade WP1 Pipe	K12821	SPA10/STPA12	D3753/G3458	[3b]	16Mo 5	-	1.5423
Grade WP5 Pipe	K41545	SPA24/STPA25	D3753/G3458	[3b]	12CrMo 19 5	-	1.7362
Grade WP11 Pipe	-	SPA22/STPA23	D3753/G3458	[3b]	13CrMo 44	17175	1.7335
Grade WP12 Pipe	K12062	SPA21/STPA22	D3753/G3458	[3b]	13CrMo 44	17175	1.7335
Grade WP22 Pipe	K21590	SPA23/STPA24	D3753/G3458	[3b]	10CrMo 9 10	17175	1.7380
A240 Heat resisting Cr and Cr-Ni Steel Plate and Sheet for Pressure Vessels							
Type 304	S30400	STS304/SUS304	D3693/G3601	-	X5CrNi 18 9	17440	1.4301
Type 304L	S30403	STS304L/SUS304L	D3693/G3601	-	X2CrNi 18 10	17440	1.4306
Type 316	S31600	STS316/SUS316	D3693/G3601	-	X5CrNiMo 18 10	17440	1.4401
Type 316L	S31603	STS316L/SUS316L	D3693/G3601	-	X2CrNiMo 18 10	17440	1.4404
Type 317	S31700	STS317/SUS317	D3693/G3601	-	-	-	-
Type 317L	S31703	STS317L/SUS317L	D3693/G3601	-	-	-	-
Type 321	S32100	STS321/SUS321	D3693/G3601	-	X10CrNiTi 18 9	17440	1.4541
Type 347	S34700	STS347/SUS347	D3693/G3601	-	X10CrNiNb 18 9	17440	1.4550
Type 405	S40500	STS405/SUS405	D3693/G3601	-	X7CrAl 13	17440	1.4002
Type 410	S41000	STS410/SUS410	D3693/G3601	-	X10Cr 13	17440	1.4006
Type 410S	S41008	STS410S/SUS410S	D3693/G3601	-	X7Cr 13	17440	1.4000
Type 430	S43000	STS430/SUS430	D3693/G3601	-	X8Cr 17	17440	1.4016
A252 Welded and Seamless Pipe Piles	-	-	-	[3]	-	-	-
A263 Corrosion Resisting Cr-Ni Steel Clad Plate, Sheet and Strip							
Type 405	S40500	STS405/SUS405	D3693/G3601	-	X7CrAl 13	17440	1.4002
Type 410S	S41008	STS410S/SUS410S	D3693/G3601	-	X7Cr 13	17440	1.4000
A264 Corrosion Resisting Cr Steel Clad Plate, Sheet and Strip							
Type 304	S30400	STS304/SUS304	D3693/G3601	-	X5CrNi 18 9	17440	1.4301
Type 304L	S30403	STS304L/SUS304L	D3693/G3601	-	X2CrNi 18 10	17440	1.4306
Type 316	S31600	STS316/SUS316	D3693/G3601	-	X5CrNiMo 18 10	17440	1.4401
Type 316L	S31603	STS316L/SUS316L	D3693/G3601	-	X2CrNiMo 18 10	17440	1.4404
Type 317	S31700	STS317/SUS317	D3693/G3601	-	-	-	-
Type 317L	S31703	STS317L/SUS317L	D3693/G3601	-	-	-	-
Type 321	S32100	STS321/SUS321	D3693/G3601	-	X10CrNiTi 18 9	17440	1.4541
Type 347	S34700	STS347/SUS347	D3693/G3601	-	X10CrNiNb 18 9	17440	1.4550
A265 Ni and Ni Base Alloy Clad Steel Plate 70/30 Ni-Cu	-	-	-	[3]	NiCu 30 Fe	17743	2.4360
A266 C-Steel Forgings for Pressure Vessels							
Class 1	K03506	SFVC/SFVC1	D4122/G3202	-	Ck22	17200	1.1151
Class 4	k03017	SFVC28/SFVC2B	D4122/G3202	-	CK22	17200	1.1151
A268 Seamless and Welded Ferritic and Martenitic Stainless Steel Tubing for General Service							
Type 405 Tubes	S40500	-	-	[3]	X7CrAl	17440	1.4002
Type 410 Tubes	S41000	STS405TB/SUS405TB	D3577/G3463	-	X10Cr 13	17440	1.4006

ASTM STANDARDS	UNS	JAPANESE-KOREAN			EUROPEAN-GERMAN		
		JIS-KS	JIS-KS	Remark	DIN Type	DIN	Material
A269 Seamless and Welded Austenitic Stainless Steel Tubing for General Service							
Type 304 Tubes	S30400	STS304TB/SUS304TB	D3577/G3463	-	X5CrNi 18 9	17440	1.4301
Type 304L Tubes	S30403	STS304LTB/SUS304LTB	D3577/G3463	-	X2CrNi 18 10	17440	1.4306
Type 316 Tubes	S31600	STS316TB/SUS316TB	D3577/G3463	-	X5CrNiMo 18 10	17440	1.4401
Type 316L Tubes	S31603	STS316LTB/SUS316LTB	D3577/G3463	-	X2CrNiMo 18 10	17440	1.4404
Type 317 Tubes	S31700	STS317TB/SUS317TB	D3577/G3463	-	-	-	-
Type 321 Tubes	S32100	STS321TB/SUS321TB	D3577/G3463	-	X10CrNiTi 18 9	17440	1.4541
Type 347 Tubes	S34700	STS347TB/SUS347TB	D3577/G3463	-	X10CrNiNb 18 9	17440	1.4550
A271 Seamless Austenitic Cr -Ni Steel Still Tubes for Refinery Service							
TP 304 Tubes	S30400	STS30TF/SUS304TF	D3587/G3467	-	X5CrNi 18 9	17440	1.4301
TP 304H Tubes	S30409	STS304HTF/SUS304HTF	D3587/G3467	-	X6CrNi 18 11	-	1.4948
TP 316 Tubes	S31600	STS316TF/SUS316TF	D3587/G3467	-	X5CrNiMo 18 10	17440	1.4401
TP 321 Tubes	S32100	STS321TF/SUS321TF	D3587/G3467	-	X10CrNiMo 18 9	17440	1.4541
TP 347 Tubes	S34700	STS347TF/SUS347TF	D3587/G3467	-	X10CrNiTi 18 10	17440	1.4550
TP 347H Tubes	S34709	STS347HTF/SUS347HTF	D3587/G3467	-	X8CrNiNb 16 13	-	1.4961
A276 Stainless Steel Heat Resisting Steel Bars and Shapes							
Type 304	S30400	STS304/SUS304	D3706/G4303	-	X5CrNi 18 9	17440	1.4301
Type 304L	S30403	STS306M/SUS304L	D3706/G4303	-	X2CrNi 18 10	17440	1.4306
Type 310	S31000	-	-	(3)	X12CrNi 25 21	-	1.4845
		STS310S/SUS310S	D3706/G4303	-	-	-	-
Type 316	S31600	STS316/SUS316	D3706/G4303	-	X5CrNiMo 18 10	17440	1.4401
Type 316L	S31603	STS316L/SUS316L	D3706/G4303	-	X2CrNiMo 18 10	17440	1.4404
Type 317L	-	STS317/SUS317	D3706/G4303	-	-	-	-
Type 321	S32100	STS321/SUS321	D3706/G4303	-	X10CrNiTi 18 9	17440	1.4541
Type 347	S34700	STS347/SUS347	D3706/G4303	-	X10CrNiNb 18 9	17440	1.4550
A283 Low and Intermediate Tensile Strength C-Steel Plates of Structural Quality							
Grade C		SS400/SS400	D3503/G3101	-	St 37-2	17100	1.0036
Grade D		SS400/SS400	D3503/G3101	-	St 44-3	17100	1.0044
A285 Low and Intermediate Tensile Strength C-Steel Plates of Pressure Vessels							
Grade A & B	K01700	-	-	(3)	HI	17155	1.0345
Grade C	k02801	SB410/SB410	D3560/G3103	-	HH	17155	1.0425
A297 Heat Resistant Fe-Cr and Fe-Cr-Ni Alloy Casting for General Application							
Grade HF	J92603	HRSC12/SCH12	D4105/G5122	-	G-X40CrNiSi 22 9	17465	1.4826
Grade HH	J93503	HRSC13/SCH13	D4105/G5122	-	G-X35CrNiSi 25 12	17465	1.4826
Grade HK	J94224	HRSC22/SCH22	D4105/G5122	-	G-X40CrNiSi 25 20	17465	1.4826
Grade HP	N08705	HRSC24/SCH24	D4105/G5122	-	G-X40CrNiSi 35 25	17465	1.4826
A299 C-Mn-Si Steel Plates for Pressure Vessels							
	K02803	SPPV355/SPV355	D3521/G3115	(15)	St 355	17102	1.0565
A302 Mn-Mo and Mn-Mo-Ni Steel Plates for Pressure Vessels							
Grade A	K12021	SBV1A/SBV1A	D3638/G3119	-	-	-	-
Grade B	K12022	SBV1B/SBV1B	D3638/G3119	-	-	-	-
A307 Low C-steel Threaded Standard							
Grade B		SS400/SS400	D3503/G3101	(3b)	5D[St 50.11]	267	-

ASTM STANDARDS	UNS	JAPANESE-KOREAN			EUROPEAN-GERMAN		
		JIS-KS	JIS-KS	Remark	DIN Type	DIN	Material
A312 Seamless and Welded Austenitic Stainless Steel Pipe							
TP 304 Pipe	S30400	STS3014TP/SUS304TP	D3576/G3459	[16]	X5CrNi 18 9	17440	1.4301
TP 304H Pipe	S30409	STS304HTP/SUS304HTP	D3576/G3459	[16]	-	-	-
TP 304L Pipe	S30403	STS304LTP/SUS304LTP	D3576/G3459	[16]	X2CrNi 18 9	17440	1.4306
TP 310 Pipe	S31000	STS310STP/SUS310STP	D3576/G3459	[16]	-	-	-
TP 316 Pipe	S31600	STS316TP/SUS316TP	D3576/G3459	[16]	X5CrNiMo 18 10	17440	1.4401
TP 316H Pipe	S31609	STS316HTP/SUS316HTP	D3576/G3459	[16]	-	-	-
TP 316L Pipe	S31603	STS316LTP/SUS321LTP	D3576/G3459	[16]	X2CrNiMo 18 10	17440	1.4404
TP 321 Pipe	S32100	STS321TP/SUS321TP	D3576/G3459	[16]	X10CrNiTi 18 9	17440	1.4541
TP 347 Pipe	S34700	STS347TP/SUS347TP	D3576/G3459	[16]	X5CrNiNb 18 9	-	1.4543
TP 347H Pipe	S34709	STS347HTP/SUS347HTP	D3576/G3459	[16]	-	-	-
A320 Alloy Steel Bolting Material for Low Temp. Service							
L 7		SCM440/SCM440	D3711/G4105	[3a]	42CrMo 4	17200	1.7225
L 43		SMCM439/SNCM439	D3709/G4301	[3a]	-	-	-
B 8	S30400	STS304/SUS304	D3706/G4303	[3b]	X5CrNi 18 9	17440	1.4301
A325 High Strength Steel Bolts for Structural Steel Joints							
Type 1	K02706	SM33C/S33C	D3752/G4051	[3a]	Cq35	1654	1.1172
Type 2	D11900	-	-	-	22B2	1654	1.5508
A333 Seamless & Welded Pipe for Low Temp. Service							
Grade 1 Pipe	K03008	SPLT39/STPL380	D3569/G3460	[16]	TT St 41 N	-	1.0437
Grade 3 Pipe	K31918	SPLT46/STPL450	D3569/G3460	[16]	10Ni 14	-	1.5637
Grade 6 Pipe	K03006	-	-	[3]	TT St 45 N	-	1.0456
Grade 8 Pipe	K81340	SPLT70/STPL690	D3569/G3460	[16]	X8Ni 9	-	1.5662
A334 Seamless & Welded C-and Alloy Steel Tubes for Low Temp. Service							
Grade 1 Tubes	K03008	SPLT39/STPL380	D3571/G3464	-	TT St 41 N	-	1.0437
Grade 3 Tubes	K31918	SPLT46/STPL450	D3571/G3464	-	10Ni 14	-	1.5637
Grade 6 Tubes	K03006	-	-	[3]	TT St 45 N	-	1.0456
Grade 8 Tubes	K81340	SPLT70/STPL690	D3571/G3464	-	X8Ni 9	-	1.5662
A335 Seamless Ferritic Alloy Steel Pipe for High Temp. Service							
P 1 Pipe	K11522	SPA12/STPA12	D3573/G3458	[16]	16Mo 5	-	1.5423
P 5 Pipe	K41545	SPA25/STPA25	D3573/G3458	[16]	12CrMo 19 5	-	1.7362
P 9 Pipe	S50400	SPA26/STPA26	D3573/G3458	[16]	-	-	-
P 11 Pipe	K11597	SPA23/STPA23	D3573/G3458	[16]	13CrMo 44	17175	1.7335
P 12 Pipe	K11562	SPA22/STPA22	D3573/G3458	[16]	13CrMo 44	17175	1.7335
P 22 Pipe	K21590	SPA24/STPA24	D3573/G3458	[16]	10CrMo 9 10	17175	1.7380
A350 Forged or Rolled C-and Alloy Steel Flanges, Forged Fittings, and Valve for Low Temp. Service							
Grade LF1	K03009	SFL1/SFL1	D4125/G3205	-	TT 41	-	1.0437
Grade LF2	K03011	SFL2/SFL2	D4125/G3205	-	TT StE 315	17102	1.0508
Grade LF3	K32025	SFL3/SFL3	D4125/G3205	-	10Ni 14	-	1.5637
A351 Austenitic Steel Casting for High Temperature Service							
CF 8	J92600	SSC13/SCS13A	D4103/G5121	-	G-X CrNi 18 9	17445	1.4308
CF 8M	J92900	SSC14/SCS14A	D4103/G5121	-	G-X6 CrNiMo 18 10	17445	1.4408
CK 20	J94202	SSC18/SCS18	D4103/G5121	[3b]	G-X15 CrNiSi 25 20	-	1.4849
HK 40	J94204	HRSC22/SCH22	D4103/G5121	-	G-X40 CrNiMo 25 20	17445	1.4848

ASTM STANDARDS	UNS	JAPANESE-KOREAN			EUROPEAN-GERMAN		
		JIS-KS	JIS-KS	Remark	DIN Type	DIN	Material
A352 Ferritic Steel Castings for Low Temp. Service Grade LCB Grade LC2 Grade LC2	J03003 J22500 J31550	SCPL1/SCPL1 SCPL21/SCPL21 SCPL31/SCPL31	D4111/G5152 D4111/G5152 D4111/G5152	- - -	GS-CK24 - GS-10 Ni 14	1.1156 - 1.5638	- - -
A353 9% Nickel Steel Plate, Double Normalized and Tempered for Pressure Vessels	K81340	-	-	[3]	X8Ni 9	-	1.5662
A358 Electric Fusion Welded Austenitic Cr-Ni Alloy Steel Pipe for High Temp. Service Grade 304 Pipe Grade 310 Pipe Grade 316 Pipe Grade 321 Pipe Grade 347 Pipe	S30400 S31000 S31600 S32100 S34700	STS304TPY/SUS304TPY STS310STPY/SUS310STPY STS316TPY/SUS316TPY STS321TPY/SUS321TPY STS347TPY/SUS347TPY	D3588/G3468 D3588/G3468 D3588/G3468 D3588/G3468 D3588/G3468	- - - - -	X5CrNi 18 9 X12CrNi 25 21 X5CrNiMo 18 10 X10CrNiTi 18 9 X10CrNiNb 18 9	17440 - 17440 17440 17440	1.4301 1.4845 1.4401 1.4541 1.4550
A387 Cr-Mo Steel Plate for Boilers & Other Pressure Vessels Grade 5 Class 1 Class 2 Grade 11 Class 1 Class 2 Grade 12 Class 1 Class 2 Grade 21 Class 1 Class 2 Grade 22 Class 1 Class 2	K41545 K11789 K11757 K31545 K21590	SCMV6/SCMV6 - SCMV3/SCMV3 - SCMV2/SCMV2 - SCMV5/SCMV5 - SCMV4/SCMV4 -	D3543/G4109 - D3543/G4109 - D3543/G4109 - D3543/G4109 - D3543/G4109 -	- - - [3] - [3] - [3] - [3]	12CrMo 19 5 - 12CrMo 19 5 - - 13CrMo 44 - 13CrMo 44 - - - 10CrMo 9 10 - 10CrMo 9 10	- - - - 17155 17155 - - - - - - -	1.7362 1.7362 - - 1.7335 1.7335 - - - - 1.7380 1.7380
A395 Ferritic Ductile Iron Pressure Castings for Elevated Temperatures	K32800	-	-	[3]	-	-	-
A403 Wrought Austenitic Stainless Steel Piping, Fitting	S30400	-	-	[3]	-	-	-
A414 Carbon Steel Sheet for Pressure Vessels Grade B Grade D Grade C	K02201 K02505 K02503	SB410/SB410 SB410/SB410 -	D3560/G3103 D3560/G3103 -	- - [3]	HI HH HIH	17155 17155 17155	1.0345 1.0425 1.0435
A426 Centrifugally Cast Ferritic Alloy Steel Pipe for High Temp. Service CP 1 Pipe CP 12 Pipe CP 22 Pipe	J12501 J11562 J21890	SCPH-11CF/SCPH-11CF SCPH-21CF/SCPH-21CF SCPH-32CF/SCPH-32CF	D4112/G5202 D4112/G5202 D4112/G5202	- - -	- GS-17CrMo 55 GS-18CrMo 9 10	- 17245 -	- 1.7357 1.7379
A442 C-Steel Plates with Improved Transition Properties Grade 55 Grade 60	K02202 K02402	- SPPV235/SPB235	- D3521/G3115	[3] -	TT St 41N -	- -	1.0437 -
A447 Cr-Ni-Fe Alloy Casting for High Temperature Service Type 11	J93303	-	-	[3]	G-X35 CrNi 25 12	-	1.4831

ASTM STANDARDS	UNS	JAPANESE-KOREAN			EUROPEAN-GERMAN		
		JIS-KS	JIS-KS	Remark	DIN Type	DIN	Material
A451 Centrifugally Cast Austenitic Steel Pipe for High Temp. Service							
Grade CPF 8 Pipe	J92600	-	-	(3)	G-X6CrNi 18 9	17445	1.4308
Grade CPF 8C Pipe	J92710	-	-	(3)	G-X7CrNiNb 18 9	17445	1.4552
Grade CPF 8M Pipe	J92900	-	-	(3)	G-X5CrNiMo 18 9	17445	1.4408
Grade CPK 20 Pipe	J94202	-	-	(3)	G-X15CrNi 25 20	-	1.4840
A508 Quenched and tempered Vacuum Treated Carbon and Alloy Forgings for Pressure Vessel							
Class 1	K13502	-	-	(3)	-	-	-
Class 2	K12766	-	-	(3)	22NiMoCr 37	-	1.6571
Class 3	K12042	-	-	(3)	20MnMoNi 55	-	1.6310
A515 Carbon Steel Plates for Pressure Vessels for Intermediate and Higher Temp. Service							
Grade 55	K02001	-	-	(3)	HH	17155	1.0425
Grade 60	K02401	SB410/SB410	D3560/G3103	-	HHH	17155	1.0435
Grade 65	K02800	SB450/SB450	D3560/G3103	-	HIV	17155	1.0445
Grade 70	K03101	SB480/SB480	D3560/G3103	-	19Mn 5	17155	1.0485
A516 Carbon Steel Plates for Pressure Vessels for Moderate & Lower Temp. Service							
Grade 55	K01800	-	-	(3)	A St 41	17135	1.0426
Grade 60	K02100	SGV410/SGV410	D3540/G3118	-	A St 45	17135	1.0436
Grade 65	K02403	SGV450/SGV450	D3540/G3118	-	A St 45	17135	1.0436
Grade 70	K02700	SGV480/SGV480	D3540/G3118	-	A St 52	17135	1.0843
A536 Ductile Iron Castings Grade 60-40-18	F32800	-	-	(3)	-	-	-
A537 C-Mn-Si Steel Plates, Heat Treated for Pressure Vessel							
Class 1	K02400	SPPV355/SPV355N	D3521/G3115	-	19Mn 5	17155	1.0485
Class 2	K12437	SPPV450/SPV450Q	D3521/G3115	-	-	-	-
A542 Chromium-Molybdenum Steel Plates, Quenched & Tempered for Pressure Vessel							
Class 4	K21590	-	-	(3)	-	-	-
A553 9% Nickel Steel Plates, Quenched and Tempered for Pressure Vessel							
Type 1	K81340	SL9N 590/SL9N 590	D3586/G3127	-	-	-	-
A560 Chromium-Nickel Alloy Castings							
Grade 50 Cr-50Ni	R20500	-	-	(3)	-	-	-
Grade 60 Cr-40Ni	R20600	-	-	(3)	-	-	-
Grade 50 Cr-50Ni-Cb	-	-	-	(3)	-	-	-
A569 Hot Rolled C-Steel Sheets Commercial Quality		SHP 1/SPHC	D3501/G3131	-	St 37-2	1623-2	1.0112.5
A570 Hot Rolled C-Steel Sheets and Strip, Structural Quality							
Grade 30	K02502	SS330/SS330	D3503/G3101	(6)	St 37-2	17100	1.0036
Grade 36	K02502	SS400/SS400	D3503/G3101	-	St 37-2	17100	1.0036
Grade 40	K02502	SS400/SS400	D3503/G3101	(6)	St 44-2	17100	1.0036

ASTM STANDARDS	UNS	JAPANESE-KOREAN			EUROPEAN-GERMAN		
		JIS-KS	JIS-KS	Remark	DIN Type	DIN	Material
A573 Structural Carbon Steel Plates of Improved Toughness Grade 65 Grade 70	K02404 K02701	SGV450/SGV450 SGV480/SGV480	D3540/G3118 D3540/G3118	- -	St 44-3 St 52-3	17100 17100	1.0144 1.0570
A608 Centrifugally Cast High Alloy Tubing for Pressure Application at High Temp. Grade Hk40 Tubes	J94204	-	-	{3}	-	-	-
A611 Cold Rolled Carbon Structural Steel Sheet Grade B Grade C Grade D		SCP1-8D/SPCC8D SCP1-4/SPCC-4 SCP1-1/SPCC-1	D3512/G3141 D3512/G3141 D3512/G3141	{3a} {3a} {3a}	- St 12 -	- 1623-1 -	- 1.0330 -
A615 Deformed Billet-Steel Bars for Concrete Reinforcement Grade 40 Grade 60		SD30/SD295 SD40/SD390	D3504/G3112 D3504/G3112	- {6}	- B St 42/50 RU	- 488	- 1.0433
A633 Normalized High Strength Low Alloy Structural Steel Grade A Grade C Grade E	K01802 K12000 K12202	SLA1 325/SLA325 SLA1 360/SLA360 -	D3541/G3126 D3541/G3126 -	- - {3}	TStE 315 TStE 355 TStE 420	17102 17102 17102	1.0508 1.0566 1.8912
A645 5% Nickel Specially Heat Treated	K41583	-	-	-	-	-	-
A671 Electric-Fusion Welded Pipe for Atmospheric and Lower Temp.		-	-	{3}	-	-	-
A672 Electric-Fusion Welded Pipe for High Pressure Service at Moderate Temp.		-	-	{3}	-	-	-
A675 C-Steel Bars Hot Rolled Special Quality		-	-	{3}	-	-	-
A691 Electric-Fusion Welded C- and Alloy Steel Pipe for High Temp.		-	-	{3}	-	-	-
A743 Corrosion Resistant Fe- Cr-Fe-Cr-Ni and Ni Base Alloy Castings for General Application Grade CF-8 Grade CF-8M Grade CK-20 Grade CA-15 Grade CA-6NM	J92600 J92900 J94202 J91150 J91650	SSC 13/SCS 13A SSC 14/SCS 14A SSC 18/SCS 18 SSC 1/SCS 1 -	D4103/G5121 D4103/G5121 D4103/G5121 D4103/G5121 D4103/G5121	- - - - {3}	G-X6CrNi 18 9 G-X6CrNiMo 18 20 G-X15CrNi 25 20 G-X12Cr 14 -	17445 17445 - 17445 -	1.4308 1.4408 1.4840 1.4008 -

Interpretive Notes

- [1] Impact Test will be specified as per ASTM/ ASME Standard.
- [2] Open hearth process (siemens-Martin] superseded by basic oxygen and Electric Methods.
- [3] [a] Required steel will be Furnished to ASTM/ ASME standard.
[b] Inspection & Testing of Products Analysing chemical & mechanical properties of steel.
[c] Specifying heat-treatment test results acc. to ASTM/ ASME Standard.
- [4] Specifying heat-treatment results as per ASTM/ASME Standards.
- [5] Specify itemize strength required.
- [6] Tensile strength of substitute steel specifying minimum tensile & yeild strength as per ASTM Standard.
- [7] Hardness of steel Not to Exceed Limit as per ASTM Standard.
- [8] Specify content of carbon minimum & maximum.
- [9] Silicon content of 0.15 & 0.4 % or mentioning 0.35% Maximum.
- [10] Specifying JIS DIN ASTM UNS equivalentents are acceptable for all grades.
- [11] Dimension Tolerance will be considered as per ASTM Standard.



Pipe



Fittings



Fasteners



Coils



AESTEIRON
STEELS LLP



Metal Forging



Flanges

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