



NATAL STAINLESS STEEL

Steel Grades

Principal analyses

AST Name	AST No.	SS	W.-Nr	EN-No.	ASTM	C Max	Cr	Ni	Mo	N	Other s	Properties
17-9	4301T	2333	1.4301	1.4301	-	0.05	17.3	8.6	-		-	Good resistance to general corrosion in oxidizing solutions and resistant to intergranular corrosion. Oxidation resistant to 800 – 850°C. Very good weldability.
18-9	4301R	2333	1.4301	1.4301	304	0.05	18.3	8.6	-		-	
18-10Ti	4541T	2337	1.4541	1.4541	321	0.08	17.3	9.1	-		Ti	
18-9L	4307T	2352	-	1.4307	304L	0.030	18.3	9.1	-		-	
18-10L	4306T	2352	1.4306	1.4306	304L	0.030	18.3	10.1	-		-	
17-11-2	4401T	2347	1.4401	1.4401	316	0.05	17.0	10.6	2.1		-	More resistant than the 18-9 steels to general corrosion in reducing solutions and to pitting and crevice corrosion. Improved heat resistance. Very good weldability.
17-11-2L	4404T	2348	1.4404	1.4404	316L	0.030	17.0	11.1	2.1		-Ti	
17-11-2Ti	4571T	2350	1.4571	1.4571	316Ti	0.05	17.0	11.1	2.1		-	
17-11-2.5	4436T	2343	-	1.4436	316	0.05	17.0	10.6	2.6		-	
17-12-2.5	4436W	2343	1.4436	1.4436	316	0.05	17.0	11.1	2.6		-	
17-12-2.5L	4432T	2353	-	1.4432	316L	0.030	17.0	11.6	2.6		-	
17-13-2.5L	4435T	2353	1.4435	1.4435	316L	0.030	17.3	12.6	2.6		-	
Chloride resistant duplex steels												
SAF*2304™	4362T	2327	1.4362	1.4362	S32304	0.030	23.0	4.8	-	0.10		The ferritic-austenitic steels have high strength, good weldability and very good resistance to stress corrosion. The resistance of SAF*2304™ to general corrosion, pitting and crevice corrosion is the same as that of the 17-11-2 steels. 2205 is equivalent to 904L and SAF*2507™ to 254 SMO®.
2205	4462T	2377	1.4462	1.4462	S31803	0.030	22.0	5.7	3.0	0.17		
SAF*2507™	4410T	2328	-	1.4410	S32750	0.025	25.0	7.0	3.8	0.27		
Chloride resistant austenitic steels												
904L	4539T	2562	1.4539	1.4539	N08904	0.020	20.0	25.0	4.5	-	Cu	Acid resistant steel, i.e. high resistance in technical sulphuric acid and phosphoric acid. Good resistance to pitting and crevice corrosion in brackish water and other media. High stress corrosion resistance. Good weldability.
254 SMO®	4547T	2378	-	1.4547	S31254	0.020	20.0	18.0	6.1	0.20	Cu	Seawater resistant steel, i.e. very high resistance to pitting and crevice corrosion. High resistance to general corrosion in strong acids (even in the presence of chloride) and stress corrosion. High strength. Good weldability.
654 SMO®	4652T	-	-	1.4652	S32654	0.020	24.0	22.0	7.3	0.50	Mn	High strength steel with extreme resistance to corrosion. Corrosion resistance on a level with nickel alloys of type 625 and C276. Good weldability.
Austenitic high temperature steels												
153 MATM	4818T	2372	1.4891	1.4818	S30415	0.06	18.5	9.5	-	0.15	Si, Ce	Oxidation resistant up to 1000 – 1050°C in air. High creep strength. Very little tendency to long term embrittlement at high temperatures. Good weldability.
253 MATM	4835T	2368	1.4893	1.4835	S30815	0.10	21.0	11.0	-	0.17	Si, Ce	Heat resistant up to 1100 – 1150°C in air. High creep strength. Little tendency to long term embrittlement at high temperatures. Good weldability.



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?	EN No.	Strength at 20°C EN min. values				Strength at high temperatures EN min. values N/mm2								Coefficient of linear expansion 20 – 100°C 10 ⁻⁶ • C-1	Thermal conductivity 20°C W/m°C
		Rp1,0 N/mm2	Rp1,0 N/mm2	Rm N/mm2	A5 %	Rp0,2				Rp1,0					
						20°C	100°C	200°C	400°C	20°C	100°C	200°C	400°C		
?	1.4301	210	520	45	210	157	127	98	250	191	157	125	16	15	
	1.4501	200	500	40	200	176	157	125	240	208	186	156	17	15	
	1.4307 1.4306	200	500	45	200	147	118	89	240	181	147	116	17	15	
?	1.4401	220	260	520	45	220	177	147	115	260	211	177	144	16	15
	1.4404	220	260	520	45	220	166	137	108	260	199	167	135	16	15
	1.4571	220	260	520	40	220	185	167	135	260	213	196	164	16	15
	1.4436 1.4436	220	260	530	40	220	177	147	115	260	211	177	144	16	15
	1.4432 1.4435	220	260	520	45	220	165	137	108	260	200	165	135	16	15
?	1.4362	400		630	25	400	330	280						13	15
	1.4362	460		640	25	460	360	315						13	15
	1.4362	530		730	20	530	450	400						13	15
?	1.4539	220	260	520	35	320	205	175	125	260	235	205	155	16	12
	1.4547	300	340	650	40	300	230	190	160	340	270	225	190	16.5	14
	1.4652	430	470	750	40	430	350	315	295	470	390	355	330	15	9
						** EN – Rp1,0 100.000h N/mm2				** EN – Rm 100.000h N/mm2					
						600°C	700°C	800°C	900°C	600°C	700°C	800°C	900°C	200-800°C	
?	1.4878	190	230	500	40					65	22	10		17	15
	1.4818	290	330	600	40	80	26	9	3	88	35	14	5	19	15
	1.4835	310	350	650	40	80	26	11	6	88	35	15	8	19	15