EN 10253-4 Chemical composition (cast analysis) of austenitic stainless steels, in % by mass

Steel grade Steel name	Steel number	C max. b	Si max.	Mn max.	P max.	S max.	N	Cr	Cu	Mo	Nb	Ni	Ti	Others
X2CrNi18-9	1.4307	0,030	1,00	2,00	0,045 a	0,015 a	≤ 0,10	17,5-19,5	—	—	—	8,0-10,5	—	—
X2CrNi19-11	1.4306	0,030	1,00	2,00	0,045 a	0,015 a	≤ 0,10	18,0-20,0	—	—	—	10,0-12,0	—	—
X2CrNiN18-10	1.4311	0,030	1,00	2,00	0,045 a	0,015 a	0,12-0,22	17,0-19,5	—	—	—	8,5-11,5	—	—
X5CrNi18-10	1.4301	0,07	1,00	2,00	0,045 a	0,015 a	≤ 0,10	17,0-19,5	—	—	—	8,0-10,5	—	—
X6CrNiTi18-10	1.4541	0,08	1,00	2,00	0,045 a	0,015 a	—	17,0-19,0	—	—	—	9,0-12,0	5×C-0,70	—
X6CrNiNb18-10	1.455	0,08	1,00	2,00	0,045 a	0,015 a	—	17,0-19,0	—	—	10×C-1,00	9,0-12,0	—	—
X1CrNi25-21	1.4335	0,020	0,25	2,00	0,025	0,010	≤ 0,10	24,0-26,0	—	≤ 0,20	—	20,0-22,0	—	—
X2CrNiMo17-12-2	1.4404	0,030	1,00	2,00	0,045 a	0,015 a	≤ 0,10	16,5-18,5	—	2,00-2,50	—	10,0-13,0	—	—
X5CrNiMo17-12-2	1.4401	0,07	1,00	2,00	0,045 a	0,015 a	≤ 0,10	16,5-18,5	—	2,00-2,50	—	10,0-13,0	—	—
X6CrNiMoTi17-12-2	1.4571	0,08	1,00	2,00	0,045 a	0,015 a	—	16,5-18,5	—	2,00-2,50	—	10,5-13,5	5×C-0,70	—
X2CrNiMo17-12-3	1.4432	0,030	1,00	2,00	0,045 a	0,015 a	≤ 0,11	16,5-18,5	—	2,50-3,0	—	10,5-13,0	—	—
X2CrNiMoN17-13-3	1.4429	0,030	1,00	2,00	0,045 a	0,015 a	0,12-0,22	16,5-18,5	—	2,50-3,0	—	11,0-14,0	—	—
X3CrNiMo17-13-3	1.4436	0,05	1,00	2,00	0,045 a	0,015 a	≤ 0,10	16,5-18,5	—	2,50-3,0	—	10,5-13,0	—	—
X2CrNiMo18-14-3	1.4435	0,030	1,00	2,00	0,045 a	0,015 a	≤ 0,10	17,0-19,0	—	2,50-3,0	—	12,5-15,0	—	—
X2CrNiMoN17-13-5	1.4439	0,030	1,00	2,00	0,045 a	0,015 a	0,12-0,22	16,5-18,5	—	4,0-5,0	—	12,5-14,5	—	—
X2NiCrMoN18-15-4	1.4438	0,030	1,00	2,00	0,045 a	0,015 a	≤ 0,10	17,5-19,5	—	3,0-4,0	—	13,0-16,0	—	—
X1NiCrMoCu31-27-4	1.4563	0,020	0,70	2,00	0,030	0,010	≤ 0,10	26,0-28,0	0,70-1,50	3,0-4,0	—	30,0-32,0	—	—
X1NiCrMoCu25-20-5	1.4539	0,020	0,70	2,00	0,030	0,010	≤ 0,15	19,0-21,0	1,20-2,00	4,0-5,0	—	24,0-26,0	—	—
X1CrNiMoCuN20-18-7	1.4547	0,020	0,70	1,00	0,030	0,010	0,18-0,25	19,5-20,5	0,50-1,00	6,0-7,0	—	17,5-18,5	—	—
X1NiCrMoCuN25-20-7	1.4529	0,020	0,50	1,00	0,030	0,010	0,15-0,25	19,0-21,0	0,50-1,50	6,0-7,0	—	24,0-26,0	—	—

Elements not listed in this table shall not be intentionally added to the steel without the agreement of the purchaser except for finishing the cast. All appropriate precautions are to be taken to avoid the addition of such elements from scrap and other materials used in production which would impair mechanical properties and the suitability of the steel.

a For fittings welded without filler material the sum of sulphur and phosphorus shall maximum 0,040 %.

b If the manufacturer's starting material is plate or strip, then carbon content can be limited to two decimal places, see EN 10028-7:2016.

EN 10253-4 Chemical composition (cast analysis) of austenitic stainless steels, in % by mass

Steel grade Steel name	Steel number	C max. b	Si max.	Mn max.	P max.	S max.	N	Cr	Cu	Mo	Nb	Ni	Ti	Others
X2CrNiMoN22-5-3	1.4462	0,030	1,00	2,00	0,035	0,015	0,10-0,22	21,0-23,0	—	2,50-3,5	—	4,5-6,5	—	—
X2CrNiN23-4	1.4362	0,030	1,00	2,00	0,035	0,015	0,05-0,20	22,0-24,0	0,10-0,60	0,10-0,60	—	3,5-5,5	—	—
X2CrNiMoN25-7-4 a	1.4410 a	0,030	1,00	2,00	0,035	0,015	0,20-0,35	24,0-26,0	—	3,0-4,5	—	6,0-8,0	—	—
X2CrNiMoCuWN25-7-4	1.4501	0,030	1,00	1,00	0,035	0,015	0,20-0,30	24,0-26,0	0,50-1,00	3,0-4,0	—	6,0-8,0	—	W: 0,50-1,00
X1CrNiMoCuN25-6-3	1.4507	0,030	0,70	2,00	0,035	0,015	0,15-0,30	24,0-26,0	1,00-2,50	2,7-4,0	—	5,5-8,0	—	—

Elements not listed in this table shall not be intentionally added to the steel without the agreement of the purchaser except for finishing the cast. All appropriate precautions are to be taken to avoid the addition of such elements from scrap and other materials used in production which would impair mechanical properties and the suitability of the steel.

a Patented steel grade.

Permissible deviations of the product analysis from specified limits		
Element	Limiting value for the cast analysis in accordance with Table 2 and Table 3% by mass	Permissible deviation of the product analysis a% by mass
C	≤ 0,030	+0,005
	> 0,030 ≤ 0,08	+0,01
Si	≤ 1,00	+0,05
Mn	≤ 1,00	+0,03
	> 1,00 ≤ 2,00	+0,04
P	≤ 0,030	+0,003
	> 0,030 to ≤ 0,045	+0,005
S	≤ 0,015	+0,003
N	≤ 0,35	+0,01
Cr	> 16,50 ≤ 20,00	+0,20
	> 20,00 ≤ 28,00	+0,25
Cu	≤ 1,00	+0,07
	> 1,00 ≤ 2,50	+0,10
Mo	≤ 0,60	+0,03
	> 0,60 ≤ 1,75	+0,05
	> 1,75 ≤ 7,00	+0,10
Nb	≤ 1,00	+0,05
Ni	≤ 1,00	+0,03
	> 1,00 ≤ 5,00	+0,07
	> 5,00 ≤ 10,00	+0,10
	> 10,00 ≤ 20,00	+0,15
	> 20,00 ≤ 32,00	+0,20
Ti	≤ 0,70	+0,05
W	≤ 1,00	+0,05
The plus tolerance applies to the maximum values shown in Table 2 and Table 3.		
The minus tolerance applies to minimum values shown in Table 2 and Table 3.		
a If several product analyses are carried out on one cast, and the contents of an individual element determined lie outside the permissible range of the chemical composition specified for the cast analysis, then it is only allowed to exceed the permissible maximum value or to fall short of the permissible minimum value, but not both for one cast.		