

CHEMICAL COMPOSITION (ISO 3506)

Group	Grade	Chemical composition % (m/m) ¹⁾									Notes
		C	Si	Mn	P	S	Cr	Mo	Ni	Cu	
Austenitic	A1	0.12	1	6.5	0.2	0.15 to 0.35	16 to 19	0.7	5 to 10	1.75 to 2.25	2) 3) 4)
	A2	0.1	1	2	0.05	0.03	15 to 20	- ⁵⁾	8 to 19	4	7) 8)
	A3	0.08	1	2	0.045	0.03	17 to 19	- ⁵⁾	9 to 12	1	9)
	A4	0.08	1	2	0.045	0.03	16 to 18.5	2 to 3	10 to 15	1	8) 10)
	A5	0.08	1	2	0.045	0.03	16 to 18.5	2 to 3	10.5 to 14	1	9) 10)
Martensitic	C1	0.09 to 0.15	1	1	0.05	0.03	11.5 to 14	-	1	-	10)
	C3	0.17 to 0.25	1	1	0.04	0.03	16 to 18	-	1.5 to 2.5	-	
	C4	0.08 to 0.15	1	1.5	0.06	0.15 to 0.35	12 to 14	0.6	1	-	2) 10)
Ferritic	F1	0.12	1	1	0.04	0.03	15 to 18	- ⁶⁾	1	-	11) 12)

Notes:

- 1 A description of the groups and grades of stainless steels also entering into their specific properties and application is given in annex A.
- 2 Examples for stainless steel which are standardized in ISO 683-13 and in ISO 4954 are given in annexed B and C respectively.

- ¹⁾ Values are maximum unless otherwise indicated.
- ²⁾ Sulfur may be replaced by selenium.
- ³⁾ If the nickel content is below 8%, the minimum manganese content must be 5%.
- ⁴⁾ There is no minimum limit to the copper content provided that the nickel content is greater than 8%.
- ⁵⁾ Molybdenum may be present at the discretion of the manufacturer. However, if for some applications limiting of the molybdenum content is essential, this must be stated at the of ordering by the purchaser.
- ⁶⁾ Molybdenum may be present at the discretion of the manufacturer.
- ⁷⁾ If the chromium content is below 17%, the minimum nickel content should be 12%.
- ⁸⁾ For austenitic stainless steels having a maximum carbon content of 0.03%, nitrogen may be present to a maximum of 0.22%.
- ⁹⁾ Must contain titanium $\geq 5 \times C$ up to 0.8% maximum for stabilization and be marked appropriately in accordance with this table, or must contain niobium (columbium) and/or tantalum $\geq 10 \times C$ up to 1.0% maximum for stabilization and be marked appropriately in accordance with this table.
- ¹⁰⁾ At the discretion of the manufacturer the carbon content may be higher where required to obtain the specified mechanical properties at larger diameters, but shall not exceed 0.12% for austenitic steels.
- ¹¹⁾ May contain titanium $\geq 5 \times C$ up to 0.8% maximum.
- ¹²⁾ May contain niobium (columbium) and/or tantalum $\geq 10 \times C$ up to 1% maximum.