



Quality F12 (ASTM A182)

PROPERTIES AND EMPLOYEMENTS

F12 (13CrMo4-5) is a mild steel with chrome, very tough, it can be case-hardened, it can be welded and it is resistant to creep 550°C. It is used for the fabrication of tubes, boilers and superheaters or for the transportation of overheated steam with a high pressure. It is easily machinable, even at the raw state of rolling or normalised.

CORRESPONDENCE TO INTERNATIONAL DESIGNATIONS

Quality	Europe	Germany		France	Spain	G.B.	USA
	EN	DIN	W.n.	AFNOR	UNE	B.S.	ASTM
F12	13CrMo4-5	~13CrMo4-4	1,7335	~10CD6	F2631	621	ASTM A182 F12 ASME SA 182

CHEMICAL ANALYSIS



C	Mn	Si	P max	S max	Cr	Mo
0,10 ÷ 0,20	0,30 ÷ 0,80	0,50 ÷ 1,00	0,040	0,040	1,00 ÷ 1,50	0,44 ÷ 0,65

Concentration limits of the elements that are not indicated in the table can be deduced in the en 10020 regulation.

MECHANICAL CHARACTERISTICS

Steel	Normalisation temperature 900°C min – Tempering temperature 620°C min				
Symbolic	R _e min	R _m min	A min	Z min	Durezza HB
	N/mm ²		%	%	max
F12	275	485	20	30	143÷207

USUALLY AVAILABLE EX STOCK

M.T. Coloration	Quality	Heat treatment	Surface
	F12	Normalised and stress relieved	rolled / forged turned
	F12	Annealed	rolled