

**SIDEX**

solutions provider for the steel industry



Dasa-Rägister

UNI EN ISO 9001:2015
IQ-0120-01**ASTM A182 F11****Product Description**

This is a chromium-molybdenum based low alloy-steel grade. It is characterized by 1 to 1.5% chromium – an average of 1%, hence the numerical nomenclature. All of our material is supplied in F11 Class 2 (CL 2), although we can also supply Class 1 or Class 3 upon request.

Low alloy steels are usually used to achieve better hardenability, which in turn improves their other mechanical properties. They are also used to increase corrosion resistance in certain environmental conditions.

Heat Treatment: Annealing – heat to min. of 1650°F [900°C] and furnace cool for maximum strength and hardness. [ø] Normalizing and tempering – heat to min. of 1650°F [900°C], air cool, heat to min. of 1150°F [620°C], and air cool.

		Chemical Composition									
Grade		C	Mn	P	S	Si	Ni	Cr	Mo	Ti	Nb
F11 CL2	min	0.10	0.30			0.50		1.00	0.44		
	max	0.20	0.80	0.040	0.04	1.00	...	1.50	0.65
F11 CL1	min	0.05	0.30			0.50		1.00	0.44		
	max	0.15	0.60	0.030	0.03	1.00	...	1.50	0.65
F11 CL3	min	0.10	0.30			0.50		1.00	0.44		
	max	0.20	0.80	0.040	0.04	1.00	...	1.50	0.65

		Tensile and Hardness Requirements				
Grade		Tensile Strength, Min., ksi [Mpa]	Yield Strength, Min., ksi [Mpa]	Elongation I 2 in. [50 mm] or 4D, Min., %	Reduction of Area, Min., %	Brinell Hardness Number
F11 CL2		70 [485]	40 [275]	20.00	30.00	143-207
F11 CL1		60 [415]	30 [205]	20.00	45.00	121-174
F11 CL3		75 [515]	45 [310]	20.00	30.00	156-207