

FERRITIC AND MARTENSITIC STEELS, INCL. PRECIPITATION HARDENING STEELS

Available Product Variants

Plates

Product Description

Components for mechanical, marine and plant engineering, pump and compressor parts, sucker rods, curring surgical instruments.

Martensitic chromium steel with a carbon content permitting to obtain high tensile strength levels by heat treatment. Increased chromium content molybdenum addition account for good resistance to sea water, organic acids and nitric acid, as well as excellent resistance to crevice corrosion. The steel presents satisfactory high temperature strength, excellent wear resistance and good antifriction properties. Surface finish for optimum corrosion resistance: fine ground or polished.

Applications

- > Comp. for Chemical plants (incl. LNG, FGD, Urea, LDPE, etc.)
- > Other Oil and Gas + CPI comps.
- > Tubular Products, Flanges, Fittings

Technical data

Material designation		Standards	
1.4122	SEL	10088-1	EN ISO
X39CrMo17-1	EN	10088-2	
		10088-3	

Chemical composition (wt. %)

C	Si	Mn	Cr	Mo	Ni
0.38	0.4	0.65	16	1	0.8

Delivery condition

Annealed

Hardness (HB)	max. 280
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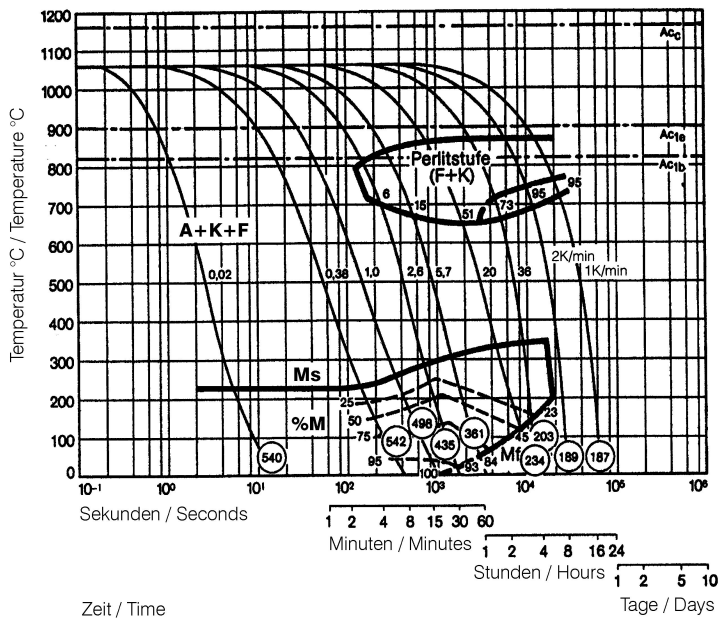
Heat treatment

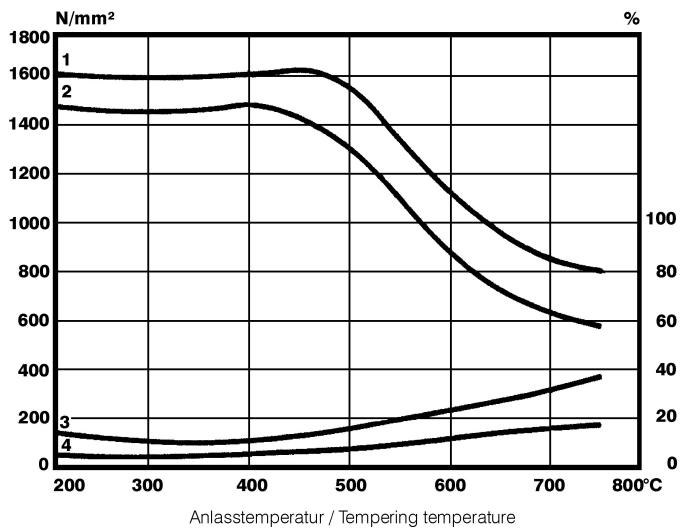
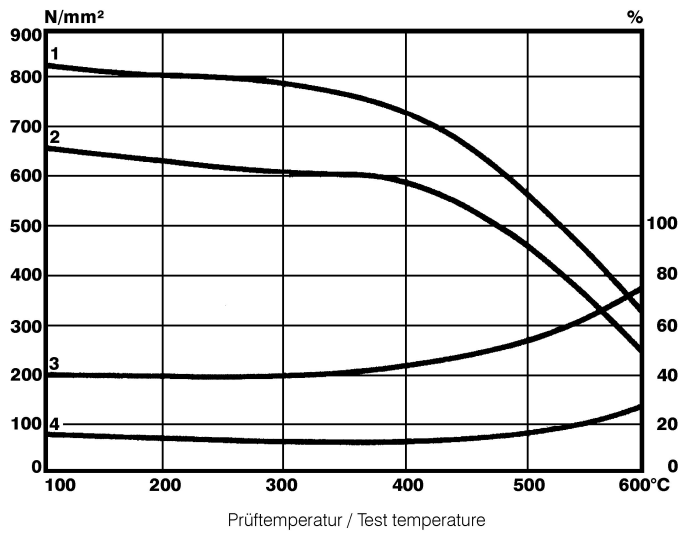
Annealing

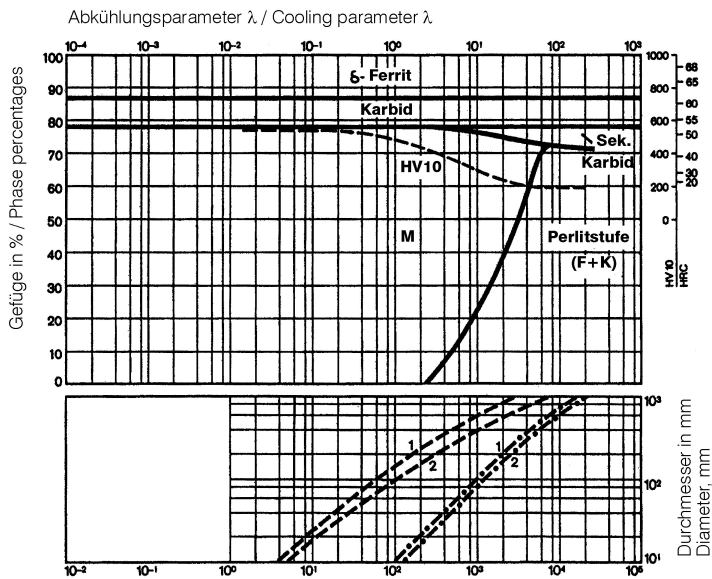
Temperature	750 to 850 °C 1,382 to 1,562 °F	Furnace, air
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Hardening and Tempering

Temperature	980 to 1,060 °C 1,796 to 1,940 °F	Oil
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Kühlzeit von 800°C auf 500°C in Sekunden / Cooling time in sec. from 800°C to 500°C

Physical Properties

Density	7.7 0.28	[kg/dm ³ lb/in ³]
Thermal conductivity	15 8.67	[W/(m.K) BTU/ft h °F]
Specific heat	430 102.7037	[kJ/kg K BTU/lb °F]
Spec. electrical resistance	0.8 3.78	[Ohm.mm ² /m 10 ⁻⁴ Ohm.inch ² /ft]
Modulus of elasticity	215 31.18	[10 ³ N/mm ² 10 ³ ksi]

Thermal Expansions between 20°C | 68°F and ...

Temperature (°C °F)	100 212	200 392	300 572	400 752
Thermal expansion (10 ⁻⁶ m/(m.K) 10 ⁻⁶ inch/inch.°F)	10.4 5.8	10.8 6	11.2 6.2	11.6 6.4

The data contained in this brochure is merely for general information and therefore shall not be binding on the company. We may be bound only through a contract explicitly stipulating such data as binding. Measurement data are laboratory values and can deviate from practical analyses. The manufacture of our products does not involve the use of substances detrimental to health or to the ozone layer.

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ONE STEP AHEAD.