

FERRITIC AND MARTENSITIC STEELS, INCL. PRECIPITATION HARDENING STEELS

Product Description

Hardened cutting tools with excellent edge-holding property, such as knife blades, cutting surgical instruments, rotary knives for the meat processing industry, plate and knife-edge fulcrums, corrosion resistant roller bearings, valve needles and pistons for refrigerating machines.

Process Melting

VID

Properties

- > Toughness & Ductility: good
- > Wear Resistance: very high
- > Machinability: good
- > Dimensional stability: good
- > Polishability: good
- > Corrosion resistance: high

Applications

- > Comp. for Chemical plants (incl. LNG, FGD, Urea, LDPE, etc.)
- > General Components for Mechanical Engineering
- > Other Oil and Gas + CPI comps.
- > Tubular Products, Flanges, Fittings
- > Medical Instruments & Implants
- > Custom Hand Knives
- > Machine knife (for producers)
- > Packaging
- > CPI (incl. LNG, Urea)
- > Food processing Industry
- > Mechanical Engineering
- > Shearing / Machine Knives
- > Pill punching dies

Technical data

Material designation	
1.4528	SEL
X105CrCoMo18-2	EN

Chemical composition (wt. %)

C	Si	Mn	Cr	Mo	V	Co
1.08	0.4	0.4	17.3	1.1	0.1	1.5

Delivery condition

Annealed

Hardness (HB)	max. 265
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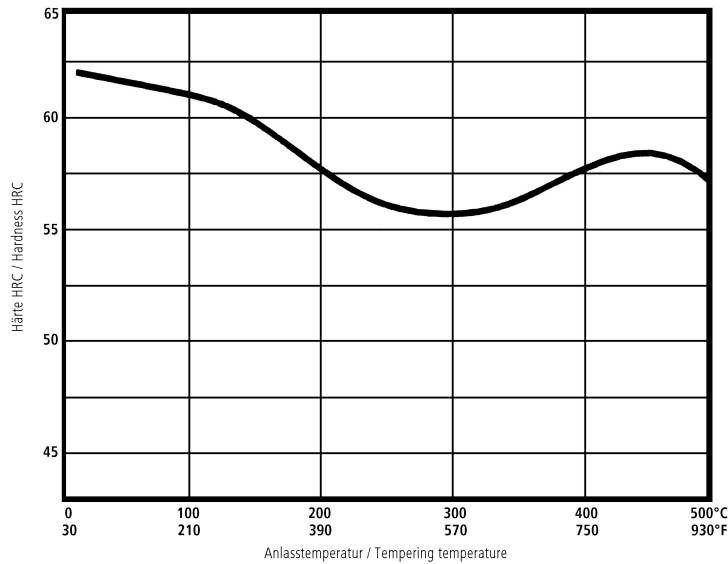
Heat treatment

Annealing

Temperature	800 to 850 °C 1472 to 1562 °F	Furnace
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Hardening and Tempering

Temperature	1030 to 1080 °C 1886 to 1976 °F	Oil
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Physical Properties

Temperature (°C °F)	20 68
Density (kg/dm ³ lb/in ³)	7.7 0.28
Thermal conductivity (W/(m.K) BTU (IT) ft/hr/ft ² /F)	15 8.67
Specific heat (J/(kg.K) BTU (IT) lb/F)	430 102.7
Spec. electrical resistance (Ohm.mm ² /m 10 ⁻⁴ Ohm.inch ² /ft)	0.8 3.78
Modulus of elasticity (10 ³ N/mm ² 10 ³ ksi)	223 32.34

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

Temperature (°C °F)	100 212	200 392	300 572	400 752	500 932
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	11.9 6.6

For more information see <https://www.voestalpine.com/boehler-edelstahl/de/>

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