

# COLD WORK STEELS

## Available Product Shapes

Long Products

## Product Description

Shock resisting steel with high toughness and good wear resistance. Universally usable. Hardened and tempered to 145,03 - 159,53 ksi (1000 - 1100 MPa). Normally no further heat treatment is required.

## Applications

- > Cold Forming
- > Coining

Material designation	
~1.2358	SEL
~60CrMoV18-5	EN

## Chemical composition

C	Si	Mn	Cr	Mo	V
0.60	0.35	0.80	4.50	0.50	0.25

## Delivery condition

Annealed	
Hardness	max. 240 HB

Hardened and Tempered	
Hardness	280 - 311 HB

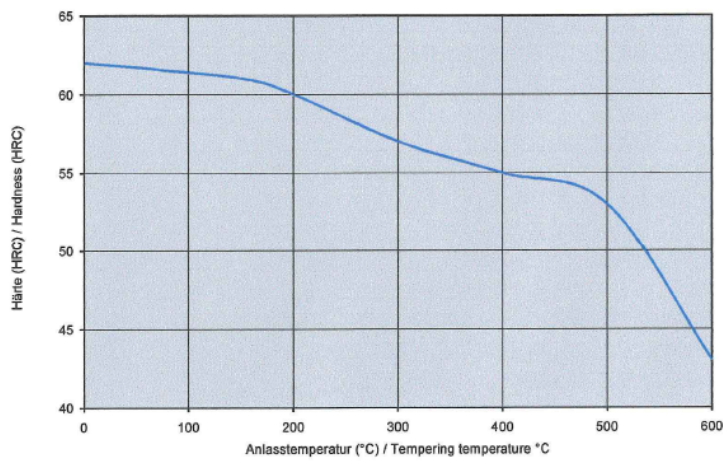
## Heat treatment

Annealing		
Temperature (°C / °F)	820 / 1508 - 860 / 1580	Slow controlled cooling in furnace at a rate of 50 to 68°F/hr (10 to 20°C/hr) down to approx. 1112°F (600°C), further cooling in air.

Stress relieving		
Temperature (°C / °F)	600 / 1112 - 650 / 1202	Slow cooling in furnace. Intended to relieve stresses set up by extensive machining, or in complex shapes. After through heating, hold in neutral atmosphere for 1-2 hours.

Hardening and Tempering		
Temperature (°C / °F)	950 / 1742 - 980 / 1796	Air, oil Holding time at hardening temperature: 15 to 30 minutes. After hardening, tempering to the desired working hardness, see tempering chart.

## Tempering chart



For more information see [www.voestalpine.com/boehler-edelstahl](http://www.voestalpine.com/boehler-edelstahl)

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ONE STEP AHEAD.