

# ACCIAI RAPIDI

## Granulometria disponibile

Prodotti lunghi

## Descrizione del prodotto

Acciaio rapido al vanadio-molibdeno-tungsteno con elevata resistenza all'usura.

## Percorso di fusione

Airmelted

## Proprietà

- > Durezza e duttilità : alto
- > Resistenza all'usura : molto alto
- > Resistenza alla compressione : alto
- > Stabilità dei bordi : molto alto
- > Macinabilità : buono
- > Durezza a caldo (durezza rossa) : alto

## Applicazioni

- > Punte speciali elicoidali

## Dati tecnici

Corrispondenze		Standard	
1.3344	SEL	4957	EN ISO
HS6-5-3	EN		

## Analisi chimica

C	Si	Mn	Cr	Mo	V	W
1,21	0,25	0,3	4,1	5	2,9	6,2

**Proprietà del materiale**

	Resistenza alla compressione	Macinabilità	Durezza a caldo	Tenacità	Resistenza all'usura	Resistenza al taglio
<b>BÖHLER S607</b>	★★★	★★★	★★★	★★	★★★	★★★
<b>BÖHLER S200</b>	★★★	★★	★★★	★★	★★★	★★
<b>BÖHLER S400</b>	★★★	★★★	★★★	★★★	★★	★★
<b>BÖHLER S401</b>	★★	★★★	★★	★★★	★★	★★★
<b>BÖHLER S404</b>	★★	★★★	★★	★★★	★★	★★
<b>BÖHLER S430</b>	★★	★★★	★★	★★★	★★	★★
<b>BÖHLER S500</b>	★★★★	★★★	★★★★	★★	★★★	★★★
<b>BÖHLER S600</b>	★★★	★★★	★★★	★★	★★	★★★
<b>BÖHLER S630</b>	★★★	★★★	★★★	★★	★★	★★★
<b>BÖHLER S705</b>	★★★	★★★	★★★★	★★	★★	★★★★
<b>BÖHLER S730</b>	★★★	★★★	★★★★	★★	★★	★★★★

**Condizioni di consegna**
**Ricotto**

Durezza (HB)	max. 280
Resistenza alla trazione (N/mm <sup>2</sup> )	max. 6.551

**Trattamento termico**
**Annealing**

Temperatura	770 a 840 °C	Controlled slow cooling in furnace (10 - 20°C / h (50 - 68°F / h)) to approx. 600°C (1110°F), air cooling.
-------------	--------------	--

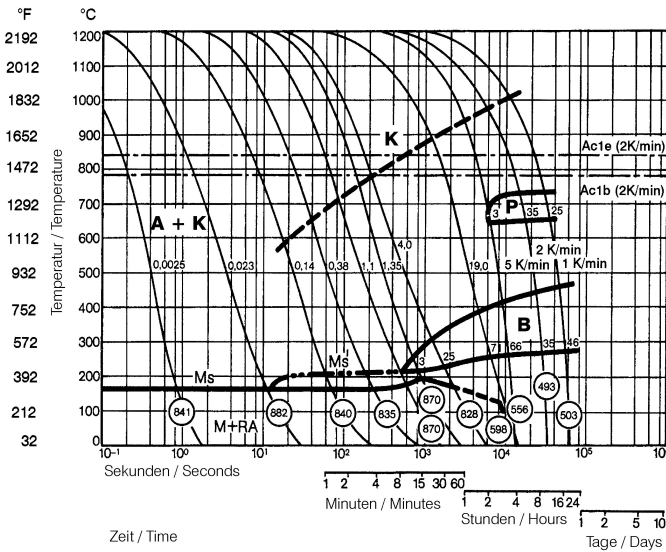
**Alleviare lo stress**

Temperatura	600 a 650 °C	Slow cooling furnace.    To relieve stresses set up by extensive machining or in tools of intricate shape.    After through heating, hold in neutral atmosphere for 1 to 2 hours.
-------------	--------------	---

**Tempra e rinvenimento**

Temperatura	1.190 a 1.230 °C	Salt bath, vacuum    Preheating: 1st stage ~ 500 °C, 2nd stage ~ 850 °C, 3rd stage ~1050 °C    Austenitising: 1190 - 1230 °C, holding time after complete heating 80 seconds, maximum 150 seconds, to avoid material damage due to overheating.   Quenching: oil, warm bath (500 - 550 °C), gas
Temperatura	550 a 570 °C	Slow heating to tempering temperature immediately after austenitising.    Dwell time in the furnace 1 hour per 20 mm material thickness (at least 1 hour)    Slow cooling to room temperature    3 tempering cycles recommended    Hardness see tempering chart

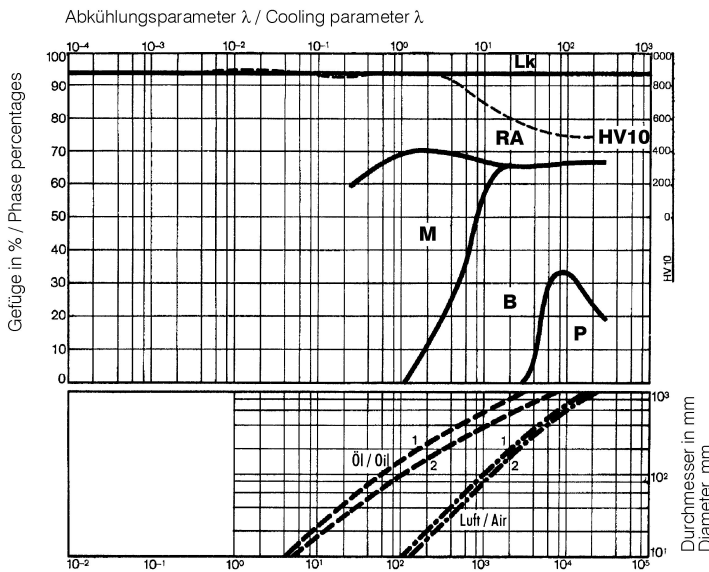
Continuous cooling CCT curves



Austenitising temperature: 1210°C (2210°F)  
Holding time: 180 seconds

- A....Austenite
- B....Bainite
- K....Carbide
- P....Pearlite
- M....Martensite
- RA...Retained Austenite

Quantitative phase diagram

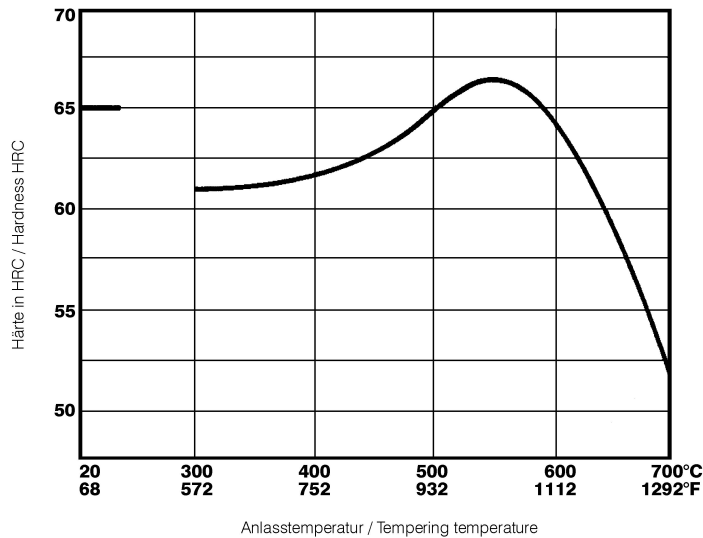


- A....Austenite
- B....Bainite
- K....Carbide
- P....Pearlite
- M....Martensite
- RA...Retained Austenite

- 1....Edge or Face
- 2....Core
- 3....Jominy test: distance from quenched end

Kühlzeit von 800°C auf 500°C in Sek. / Cooling time in sec. from 800°C to 500°C (1472 - 932°F)

## Tempering Chart



Hardening temperature: 1220°C (2228°F)

Holding time 3 x 2 hours  
Specimen size: square 25 mm

## Proprietà fisiche

Temperatura (°C)	20
Densità (kg/dm <sup>3</sup> )	8,1
Conducibilità termica (W/(m.K))	19
Capacità termica specifica (kJ/kg K)	0,46
Resistenza elettrica specifica (Ohm.mm <sup>2</sup> /m)	0,54
Modulo di elasticità (10 <sup>3</sup> N/mm <sup>2</sup> )	217

## Espansioni termiche

Temperatura (°C)	100	200	300	400	500	600	700
Espansione termica (10 <sup>-6</sup> m/(m.K))	11,5	11,7	12,2	12,4	12,7	13	12,9

For additional specifications and technical requirements, please contact our regional voestalpine BÖHLER sales companies.

*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.*

voestalpine BÖHLER Edelstahl GmbH & Co KG  
 Mariazeller Straße 25  
 8605 Kapfenberg, AT  
 T. +43/50304/20-0  
 E. info@bohler-edelstahl.at  
<https://www.voestalpine.com/bohler-edelstahl/de/>

**voestalpine**

ONE STEP AHEAD.