

# ACIERS À COUPE RAPIDE

## Segment d'application

Cutting Tools

## Variantes de produits disponibles

Produit long

## Description du produit

Böhler S430 "The eco-responsible choice!"

Tungsten-molybdenum-vanadium High Speed steel with Aluminum - with good toughness and machinability. The optimal choice for any application, aligning environmental sustainability and budgetary prudence.

## Procédé d'élaboration

Airmelted

## Propriétés

- > Ténacité et ductilité : élevé
- > Résistance à l'usure : bien
- > Résistance à la compression : bien
- > Stabilité des bords : élevé
- > Aptitude au meulage : bien
- > Dureté à chaud (dureté rouge) : bien

## Applications

- > Forets et tarauds

## Données techniques

Désignation normalisée	
1.3331	SEL
HS 2-2-2 Al	Market grade

## Composition chimique

C	Si	Mn	Cr	Mo	V	W	Al
0,87	0,5	0,28	4	2,1	2,1	2,1	+

## Comparaison des caractéristiques

	Résistance à la compression	Capacité à être meulé	Dureté à chaud	Ténacité	Résistance à l'usure abrasive	Stabilité du tranchant
<b>BÖHLER S430</b>	★★	★★★	★★	★★★	★★	★★
<b>BÖHLER S200</b>	★★★	★★	★★★	★★	★★★	★★
<b>BÖHLER S400</b>	★★★	★★★	★★★	★★★	★★	★★
<b>BÖHLER S401</b>	★★	★★★	★★	★★★	★★	★★★
<b>BÖHLER S404</b>	★★	★★★	★★	★★★	★★	★★
<b>BÖHLER S405</b>	★★★	★★★	★★	★★★	★★	★★
<b>BÖHLER S500</b>	★★★★	★★★	★★★★	★★	★★★	★★★
<b>BÖHLER S600</b>	★★★	★★★	★★★	★★	★★	★★★
<b>BÖHLER S607</b>	★★★	★★★	★★★	★★	★★★	★★★
<b>BÖHLER S630</b>	★★★	★★★	★★★	★★	★★	★★★
<b>BÖHLER S705</b>	★★★	★★★	★★★★	★★	★★	★★★★
<b>BÖHLER S730</b>	★★★	★★★	★★★★	★★	★★	★★★★

## Condition de livraison

### Recuit

Dureté (HB)	max. 280
Résistance à la traction (MPa)	max. 950

## Traitement thermique

### Recuit

Température	770 jusqu'à 840 °C	Controlled slow cooling in furnace (10 - 20°C / h / (50 - 68°F 7 h) to approx. 600°C (1110°F), air cooling.
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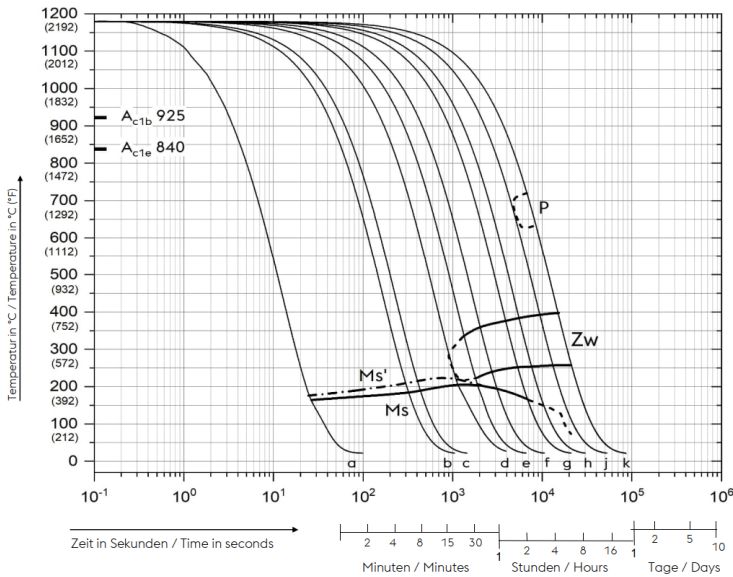
### Recuit de détente

Température	600 jusqu'à 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.
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### Trempe et revenu

Température	1 030 jusqu'à 1 180 °C	Salt bath, vacuum    Preheating: 1st stage ~ 500 °C, 2nd stage ~ 850 °C, 3rd stage ~ 1050 °C (for higher austenitising temperature)    Austenitising: for cutting applications at higher austenitising temperatures (> 1130 °C), holding time after complete heating 80 seconds, maximum 150 seconds, to avoid material damage due to overtime.    Austenitising: for cold work applications at lower austenitising temperatures (< 1100°C). Holding time after complete heating 15 to 30 min    Quenching: oil, warm bath (500 - 550 °C), gas.
Température	540 jusqu'à 560 °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 after each tempering step    3 tempering cycles recommended    Hardness see tempering chart

Continuous cooling CCT curves

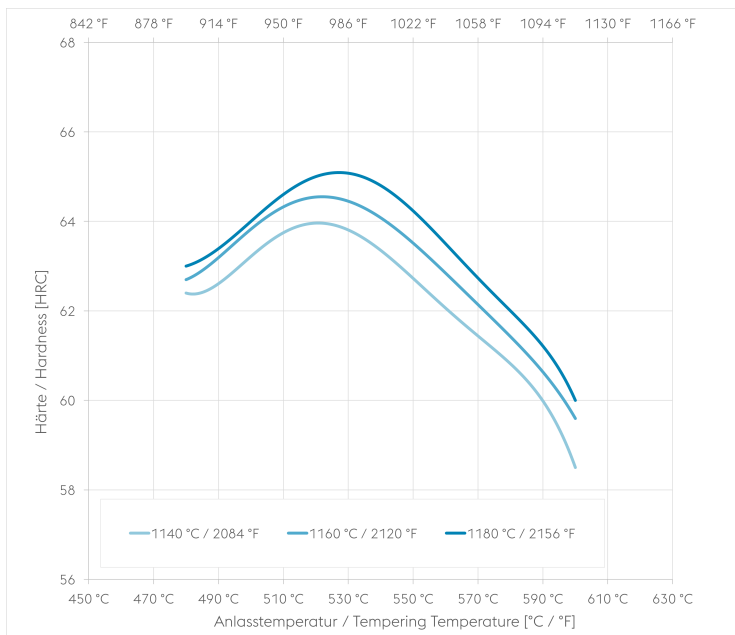


Austenitising temperature: 1180°C (2156°F)  
Holding time: 180 seconds

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

Sample	λ	HV10	Sample	λ	HV10
a	0,06	840	f	8,0	700
b	0,8	840	g	16,0	600
c	1,1	835	h	23,0	550
d	3,0	795	j	40,0	510
e	5,0	785	k	65,0	485

Tempering Chart Saltbath - Cutting Application

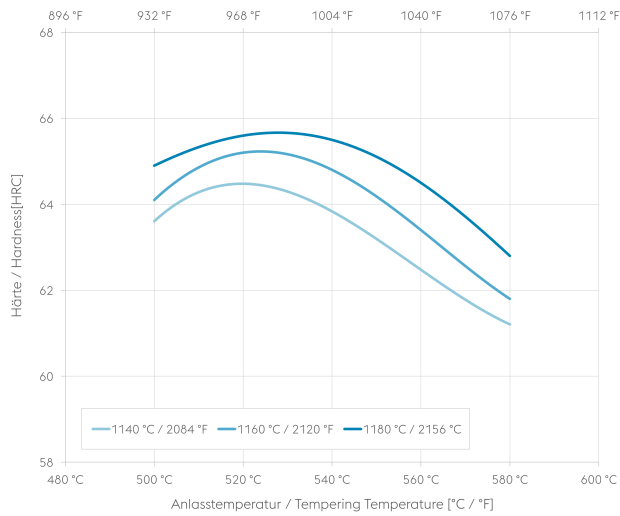


Cutting Application

Saltbath

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

### Tempering Chart Vacuum - Cutting Application

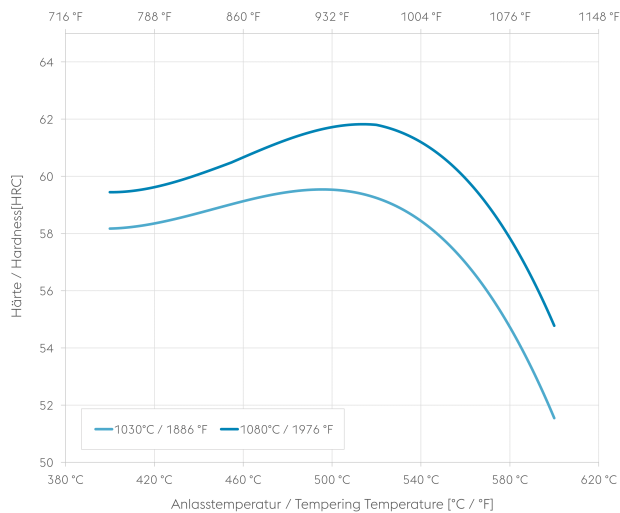


Cutting Application

Vacuum

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

### Tempering Chart Vacuum - Coldwork Application



Coldwork Application

Vacuum

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

### Propriétés physiques

Température (°C)	20
Densité (kg/dm <sup>3</sup> )	7,8
Conductivité thermique (W/(m.K))	27,1
Chaleur spécifique (kJ/kg K)	0,443
Résistivité électrique (Ohm.mm <sup>2</sup> /m)	0,4
Module d'élasticité (10 <sup>3</sup> N/mm <sup>2</sup> )	217

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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.*

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ONE STEP AHEAD.