HIGH SPEED STEELS

Available Product Shapes

Long Products | Plates

Product Description

BÖHLER S630 – "The economical one"
Tungsten-molybdenum high-speed steel with aluminum alloy for great toughness and good machinability. Universally usable for taps and drill bits, reamers, metal saws, mills of all types, and woodworking tools.

Properties

High Toughness & Ductility

High Wear Resistance

High Compressive strength

Very high Edge Stability

Good Grindability

High Hot Hardness

Applications

- Cold Forming / Coining
- Rolling
- Standard Parts (Molds, Plates, Pins, Punches)
- Fine Blanking, Stamping, Blanking
- Shearing / Machine Knives
- Twist Drills and Taps
- Powder Pressing
- Special Cutting Tools
- Wear parts

Material designation	
1.3330	SEL
HS 4-4-2 Al	Market grade

Chemical composition

C	Cr	Mo	V	W	Al
0,95	4,00	4,00	2,00	4,00	0,50

Material characteristics

	Compressive strength	Grindability	Red hardness	Toughness	Wear resistance	Edge Stability
BÖHLER S630	★★★	★★★	★★★	★★	★★	★★★
BÖHLER S200	★★★	★★	★★★	★★	★★★	★★
BÖHLER S400	★★★	★★★	★★★	★★★	★★	★★
BÖHLER S401	★★	★★★	★★	★★★	★★	★★★
BÖHLER S404	★★	★★★	★★	★★★	★★	★★
BÖHLER S500	★★★★	★★★	★★★★	★★	★★★	★★★
BÖHLER S600	★★★	★★★	★★★	★★	★★	★★★
BÖHLER S700	★★★	★★	★★★★	★★	★★★★	★★★★
BÖHLER S705	★★★	★★★	★★★★	★★	★★	★★★★

Delivery condition

Annealed

Hardness	max. 280 HB
Tensile Strenght	max. 950 / 137.781 N/mm² / KSI

Heat treatment

Annealing

Temperature (°C / °F)	770 / 1418 - 840 / 1544	Controlled slow cooling in furnace (10 - 20°C / h / (50 - 68°F 7 h) to approx. 600°C (1110°F), air cooling.

Stress relieving

Temperature (°C / °F)	600 / 1112 - 650 / 1202	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.

Hardening and Tempering

Temperature (°C / °F)	1180 / 2156 - 1200 / 2192	Oil, air, salt bath (500 - 550°C (930 - 1020°F)), gas - recommended for cutting applications.
Temperature (°C / °F)	1050 / 1922 - 1100 / 2012	Oil, air, salt bath (500 - 550°C (930 - 1020°F)), gas - recommended for coldwork applications.

Physical Properties

Temperature (°C / °F)	**20 / 68**
Density (kg/dm³ / lb/in³)	7.88 / 0.28
Thermal conductivity (W/(m.K) / BTU (IT) ft/hr/ft²/F)	18.8 / 10.86
Specific heat (J/(kg.K) / BTU (IT) lb/F)	432 / 103.18
Spec. electrical resistance (Ohm.mm²/m / Ohm.inch²/ft)	0.54 / 0
Modulus of elasticity (10³N/mm² / 10³ksi)	217 / 31.47

For more information see www.voestalpine.com/bohler-edelstahl

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

voestalpine
ONE STEP AHEAD.