BÖHLER

BÖHLER K294
MICROCLEAN®

COLD WORK STEELS

Available Product Shapes

Flat Bar | Ground Flat | Long Products | Plates | Round Bar | Round Ground Bar

Product Description

Punches and dies for blanking, piercing, cold heading and cold extrusions. Cold forming rolls. Knives for slitting, pelletizing and woodworking. Screws, nozzles and barrel liners for plastics compounding and injection moulding. Powder metal compaction tooling.

Properties

Powder-metallurgical produced cold work tool steel with extremely high wear resistance, good toughness and high compressive strength.

Applications

- Machine knife (for producers)
- Screws and Barrels
- Cold Forming
- General Components for Mechanical Engineering
- Fine Blanking, Stamping, Blanking

Material designation	
1.2395	SEL
T30111	UNS
PM A11	AISI

Chemical composition

C	Si	Mn	Cr	Mo	V
2.45	0.90	0.50	5.20	1.30	9.50

Material characteristics

	Compressive strength	Dimensional stability during heat treatment	Toughness	Wear resistance abrasive	Wear resistance adhesive
BÖHLER K294 MICROCLEAN	★★★★★	★★★★★	★★★	★★★★★	★★★★★
BÖHLER K100	★★	★★	★	★★★	★★
BÖHLER K105	★★	★★	★	★★	★★
BÖHLER K107	★★	★★	★	★★★	★★
BÖHLER K110	★★	★★★	★	★★★	★★
BÖHLER K190 MICROCLEAN	★★★★	★★★★★	★★★★	★★★★	★★★★
BÖHLER K340 ISODUR	★★★	★★★★	★★★	★★★	★★★★
BÖHLER K340 ECOSTAR	★★★	★★★	★★	★★	★★
BÖHLER K360 ISODUR	★★★	★★★★	★★★	★★★★	★★★★
BÖHLER K346	★★★	★★★	★★★	★★★★	★★
BÖHLER K353	★★	★★★	★★	★★	★★
BÖHLER K390 MICROCLEAN	★★★★★	★★★★★	★★★★	★★★★★	★★★★★
BÖHLER K890 MICROCLEAN	★★★★	★★★★★	★★★★★	★★★	★★★
BÖHLER K490 MICROCLEAN	★★★★	★★★★★	★★★★	★★★★	★★★★
BÖHLER K497 MICROCLEAN	★★★★★	★★★★★	★★★	★★★★★	★★★★★

Delivery condition

Annealed

Hardness	max. 277 HB

Heat treatment

Annealing

Temperature (°C / °F)	870 / 1598 - 540 / 1004	Protect steel from scaling and/or decarburization. Heat through to 1600°F (870°C). Control cool at 30°F (15°C) maximum per hour to 1000°F (540°C), then furnace or ait cool to room temperature.

Stress relieving

Temperature (°C / °F)	700 / 1292 - 540 / 1004	If required after Rough machining to minimize distortion during final heat treatment, heat to 1100-1300°F (595-700°C) and hold for 2 hrs followed by furnace. Cool slowly to 930°F (500°C), then air cool.

Physical Properties at 20°C / 68°F

Density	7.42 / 0.27	[kg/dm^3 / lb/in^3]
Thermal conductivity	20.39 / 11.78	[W/(m.K) / BTU (IT) ft/hr/ft^2/F]
Specific heat	460 / 109.87	[J/(kg.K) / BTU (IT) lb/F]
Modulus of elasticity	221 / 32.05	[10^{3}N/mm^2 / 10^{3}ksi]

Thermal Expansions

Temperature (°C / °F)	**93 / 199.4**	**260 / 500**	**427 / 800.6**	**593 / 1099.4**
Thermal expansion (10^{-6} m/(m.K) / 10^{-6} inch/(inch.F))	10.7 / 5.944	11.1 / 6.167	11.8 / 6.556	12.3 / 6.833

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

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voestalpine
ONE STEP AHEAD.