

COLD WORK STEELS

Available Product Shapes

Plates

Product Description

Blanking, punching, shearing etc.:

Punches for high duty and complicated progressive and integral cutting dies, mainly for industries making electrical equipment, fittings, card-board, preserve cans, and watches; saw teeth cutting dies, scraping and trimming tools for maximum production runs, all types of high duty punches, high performance shear blades for cutting sheet of up to 4 mm thickness, deburring tools, and cutters for wire nail manufacture.

Machining:

Broaches, cutters for steel wool production, high duty woodworking tools.

Chipless shaping:

Thread rolling dies, flanging and beading dies, punches and dies for cold nut manufacture; tools for spinning, pressing, deep drawing, and cold extrusion of light alloys and steel; master hobs for making synthetic resin, molding dies, knurling tools, wire drawing dies, mandrels and dies for tube and rod drawing, mandrels for the cold pilger rolling of steel tubes, hammers and reducing dies for needle manufacture.

Wear resisting tools and components:

Press tools for the processing of highly abrasive ceramic materials, liner plates for the brick industry and for making refractories, press tools for the pharmaceutical industry, automatic lathe guide sleeves, guide bars in centerless grinding machines, cone pulleys and rings for wire drawing machines, sandblast nozzles, and tools for the powder metal industry.

Hot work tools:

High duty hammer cores for the manufacture of scythes and sickles, and for fast hitting hammers used to forge hard or high alloy steels; tyre mill finishing rolls, hot drawing rings etc.

Properties

Dimensionally stable ledeburitic 12% chromium steel, possessing superior wear resistance, suitable for air hardening.

Material designation		Standards	
1.2436	SEL	4957	EN ISO
X210CrW12	EN		
~ D6	AISI		

Chemical composition

C	Si	Mn	Cr	W
2.10	0.25	0.40	11.50	0.70

Material characteristics

	Compressive strength	Dimensional stability during heat treatment	Toughness	Wear resistance abrasive	Wear resistance adhesive
BÖHLER K107	★★	★★	★	★★★	★★
BÖHLER K100	★★	★★	★	★★★	★★
BÖHLER K105	★★	★★	★	★★	★★
BÖHLER K110	★★	★★★	★	★★★	★★
BÖHLER K190 MICROCLEAN	★★★★	★★★★★	★★★★★	★★★★★	★★★★★
BÖHLER K294 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	★★★★★	★★★★★	★★★	★★★★★	★★★★★

Physical Properties at 20°C / 68°F

Thermal Expansions

Temperature (°C / °F)	100 / 212	200 / 392	300 / 572	400 / 752	500 / 932	600 / 1112
Thermal expansion (10 ⁻⁶ m/(m.K) / 10 ⁻⁶ inch/(inch.F))	10.5 / 5.833	11 / 6.111	11 / 6.111	11.5 / 6.389	12 / 6.667	12 / 6.667

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

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