

# COLD WORK STEELS

## Available Product Shapes

Flat Bar

## Product Description

High-duty cutting tools (dies and punches), blanking and punching tools, woodworking tools, shear blades for cutting light-gauge material, thread rolling tools, tools for drawing, deep drawing and cold extrusion, pressing tools for the ceramics and pharmaceutical industries, cold rolls (working rolls) for multiple-roll stands, measuring instruments and gauges, small moulds for the plastics industry where excellent wear resistance is required.

## Properties

Dimensionally stable, high carbon, high-chromium (12%) steel. Particularly suitable for air hardening. Good toughness.

Material designation		Standards	
1.2379	SEL	4957	EN ISO
~T30402	UNS		
X153CrMoV12	EN		
D2	AISI		

## Chemical composition

C	Si	Mn	Cr	Mo	V
1.55	0.30	0.30	11.30	0.75	0.75

**Material characteristics**

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

**Physical Properties at 20°C / 68°F**

**Thermal Expansions**

Temperature (°C / °F)	100 / 212	200 / 392	300 / 572	400 / 752	500 / 932	600 / 1112	700 / 1292
Thermal expansion (10 <sup>-6</sup> m/(m.K) / 10 <sup>-6</sup> inch/(inch.F))	11 / 6.111	11.4 / 6.333	11.9 / 6.611	12.2 / 6.778	12.7 / 7.056	12.8 / 7.111	12.1 / 6.722

For more information see [www.voestalpine.com/boehler-edelstahl](http://www.voestalpine.com/boehler-edelstahl)

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ONE STEP AHEAD.