

## 11MnCrB5-3\* All

### General Information

SB11M13CB according to OVAKO standard is a boron steel grade for quench and tempering, with good weldability properties, high mechanical properties and excellent toughness.

The equivalent grade according to EN10027 is 11MnCr5-3.

For additional Heat Treatment Data, please visit the Heat Treatment Guide.

*\* Designation followed by "\*" is not an official EN standard grade but named according to the rules in EN 10027.*

### Similar designations

11MnCrB5-3\*

### Chemical composition

Variant	Cast	Di	Weldability		C %	Si %	Mn %	P %	S %	Cr %	Ti %	B %
SB11M13CB	CC	1.5	CEV 0.55 <sub>max</sub>	Min	0.09	0.20	1.20	-	-	0.70	0.020	0.0015
			Pcm 0.24 <sub>max</sub>	Max	0.12	0.40	1.40	0.020	0.010	0.90	0.050	0.0040

## Mechanical Properties

Variant	Condition	Format	Dimension [mm]	Hardness
SB11M13CB	+AR	Flat bar	5 < 30	< 250 HB
		Flat bar	5 < 30	190 HB typical

*Rp0.2 \* Reh, \*\* Rel*

## Transformation temperatures

	Temperature °C
MS	443
AC1	731
AC3	831

## Hardenability

### Other properties (typical values)

Youngs module (GPa)	Poisson's ratio (-)	Shear module (GPa)	Density (kg/m <sup>3</sup> )
210	0.3	80	7800
Average CTE 20-300°C (µm/m°C)	Specific heat capacity 50/100°C (J/kg°C)	Thermal conductivity Ambient temperature (W/m°C)	Electrical resistivity Ambient temperature (µΩm)
12	460 - 480	40 - 45	0.20 - 0.25

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