MATERIAL DATA SHEET

STEEL GRADE

Last revised: Thu, 30 Jan 2025 11:05:24 GMT

OVAKO

43MnB5-3* All

General Information

Grade SB43M14B is a boron steel for general purposes without any specified mechanical properties. SB43M14B has the highest level of hardness and wear resistance achievable in the standard range of boron steels. Therefore is it an excellent choice for use in machine knives and garden tools.

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

Similar designations

SB43M14B - 43MnB5-3, 1.3563

Chemical composition

Variant	Cast	Weldability		C %	Si %	Mn %	P %	S %	Cr %	B %
SB43M14B	CC	CEV 0.72_{max}	Min	0.40	0.15	1.30	-	-	0.10	0.0010
		Pcm 0.55_{max}	Max	0.46	0.35	1.50	0.035	0.035	0.30	0.0060

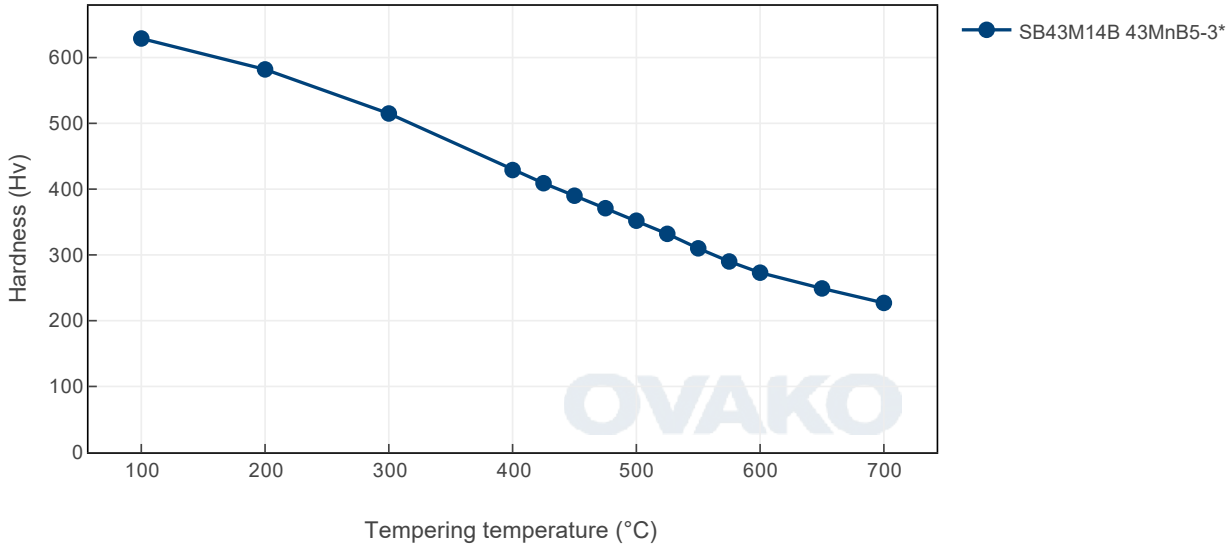
Transformation temperatures

	Temperature °C
MS	310
AC1	719
AC3	752

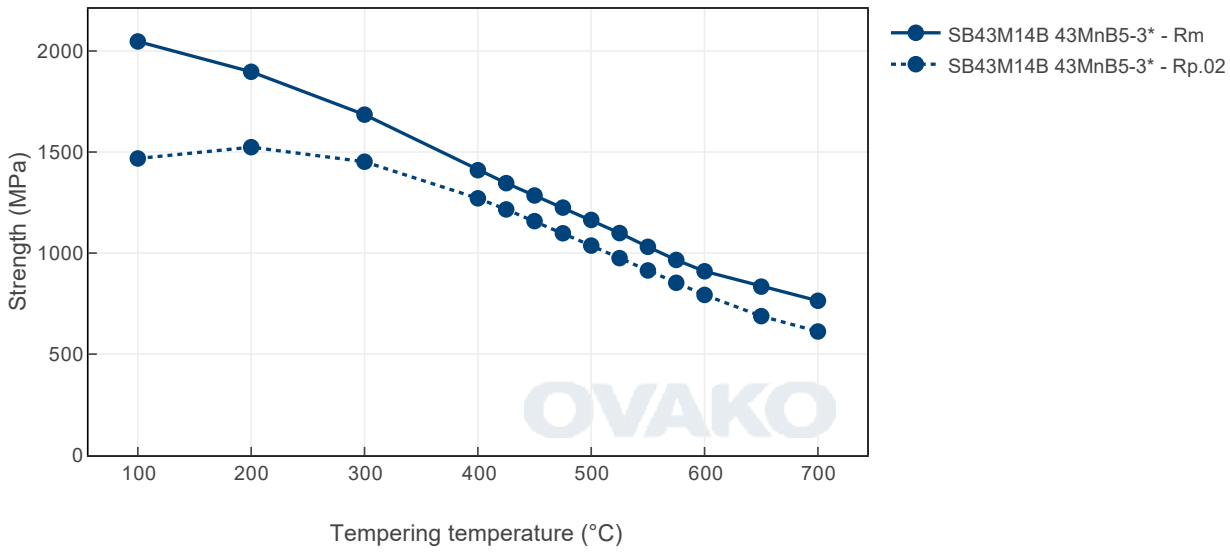
Heat Treatment Guide generated Graphs

The following graphs are generated from a theoretical model. For further info see the Heat treatment guide module. Select a specific grade version for individual display.

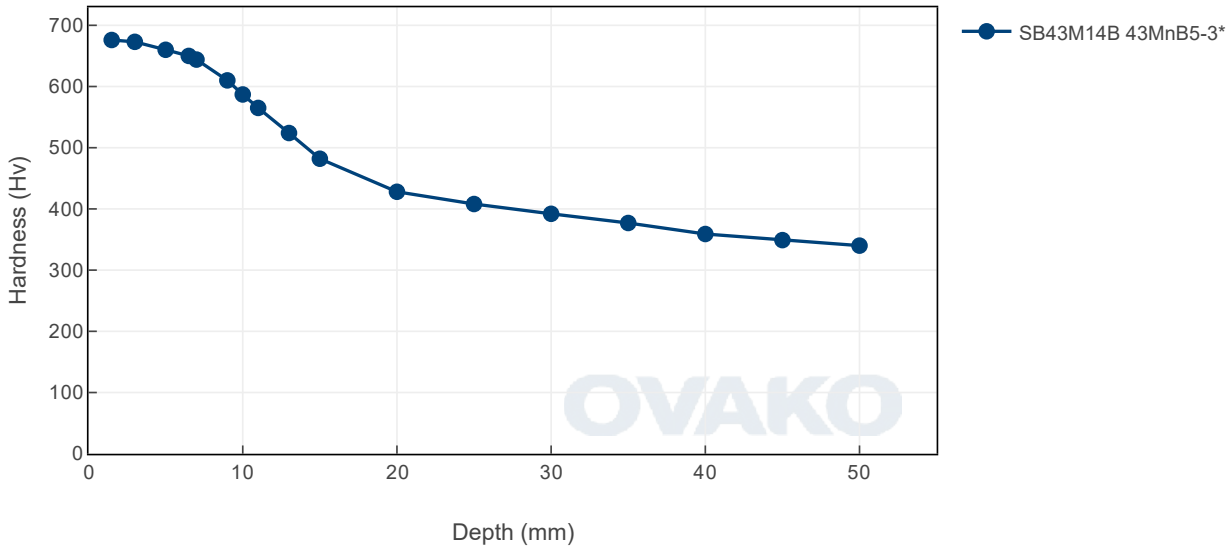
Tempering Diagram (hardness)



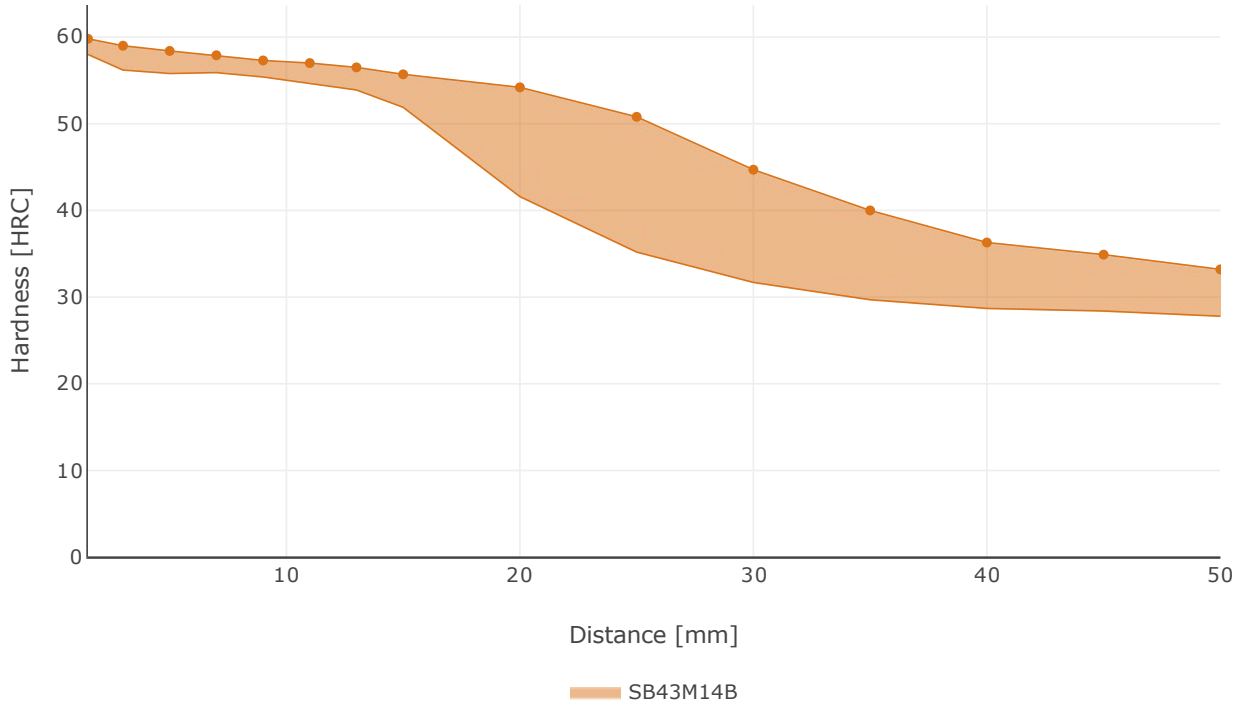
Tempering Diagram (strength)



Jominy


Hardness (Hv)
700
600
500
400
300
200
100
0
0
10
20
30
40
50
Depth (mm)
SB43M14B 43MnB5-3*

Hardenability



SUSTAINABILITY-ENVIRONMENTAL IMPACT DATA

At Ovako sustainability and reduction of our environmental impact is a major focus in everything we do.
Further information is found here.

Steel works	Hofors	Smedjebacken	Imatra
CO2e/kg	120	62	76

To get the full picture of our products environmental impact we have to look at all of our CO_2 emission sources.
Not only the steel work Scope 1-2 itself, but all operations downstream in our production, heating and heat treatment furnaces etc (full scope 1-2) as well as all the emission from input material, eg. alloys, scope 3.

Steel Grade	Format	Condition	Scope 1-3 (CO2e kg /1000 kg steel)	Climate compensated Net emission = Scope 3 (CO2e kg /1000 kg steel) Scope 1 - 2 = 0 (compensated)
SB43M14B	Flat bar	+AR	404	183

All above data are to be seen as typical values for the specified format and condition. Detailed information about your specific product please contact your sales contact.

Other properties (typical values)

Youngs module (GPa)	Poisson´s ratio (-)	Shear module (GPa)	Density (kg/m3)
210	0.3	80	7800
Average CTE 20-300°C (µm/m°K)	Specific heat capacity 50/100°C (J/kg °K)	Thermal conductivity Ambient temperature (W/m°K)	Electrical resistivityAmbient temperature (µΩm)
12	460 - 480	40 - 45	0.20 - 0.25

Contact us

Would you like to know more about our offers? Don´t hesitate to contact us:

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For more detailed information please visit http://www.ovako.com/en/Contact-Ovako/