30MnB5 All

General Information

Grade SB33M13B is a boron steel for general purposes without any specified mechanical properties. Its closest equivalent is found in the EN10083-3:2006 grade 30MnB5. The difference is the carbon and chromium content.

SB33M13B may serve as wear parts in for example graders and snow ploughs but also suitable for agriculture machinery.

Similar designations

SB33M13B/9671 - 33MnB5-3, SB30M13B/9662 - 29MnB5-3

Chemical composition

Variant	Cast	Weldability		C %	Si %	Mn %	P %	S %	Cr %	Ti %	B %
SB30M13B/9662	CC	CEV 0.57_{max}	Min	0.27	0.15	1.20	0.000	0.000	0.10	0.025	0.0010
		Pcm 0.4_{max}	Max	0.32	0.35	1.40	0.035	0.035	0.25	0.050	0.0050
SB33M13B/9671	CC	CEV 0.6_{max}	Min	0.30	0.15	1.20	-	-	0.10	-	0.0010
		Pcm 0.44_{max}	Max	0.36	0.35	1.40	0.035	0.035	0.30	-	0.0060
30MnB5 EN10083-3:2006	CC	CEV 0.53_{max}	Min	0.27	-	1.15	-	-	-	-	0.0008
		Pcm 0.41_{max}	Max	0.33	0.40	1.45	0.025	0.035	-	-	0.0050

Mechanical Properties

Variant	Condition	Format	Dimension [mm]	Hardness
SB30M13B/9662	+AR	All formats	15 < 100	< 235 HB

$Rp_{0.2}$ * R_{eh}, ** R_{el}

Transformation temperatures

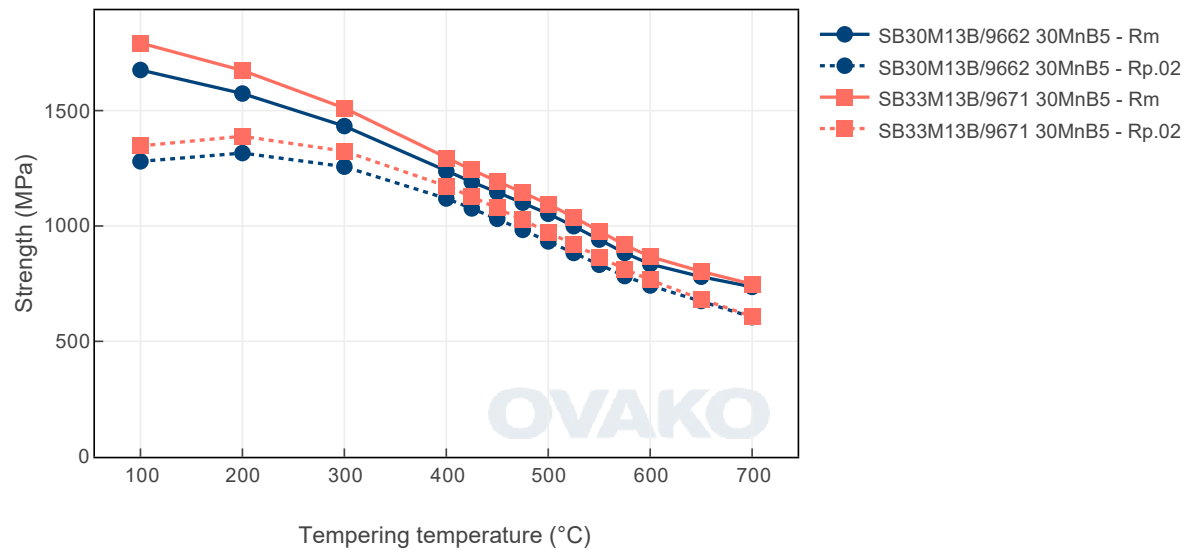|	Temperature °C
MS	360
AC1	717
AC3	772

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.
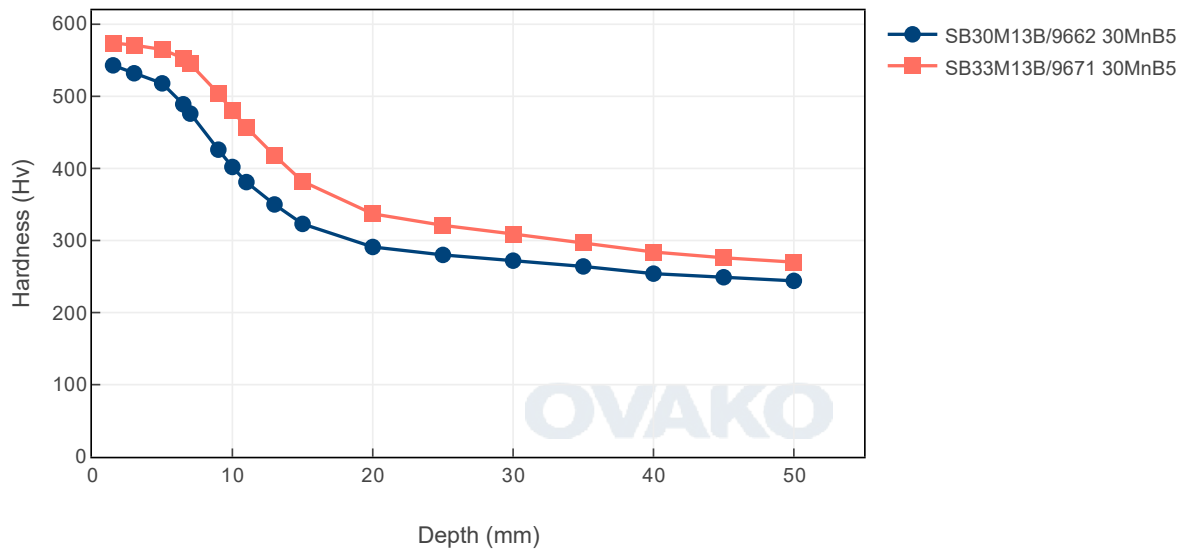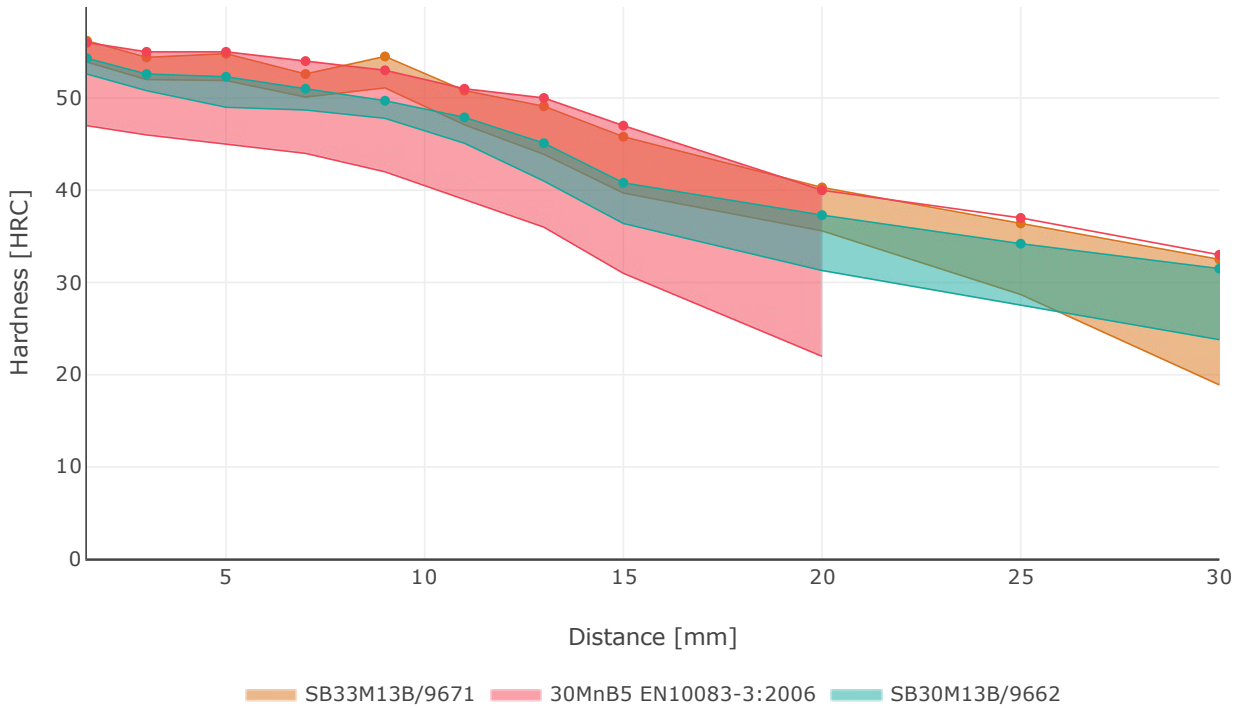
Tempering Diagram (hardness)
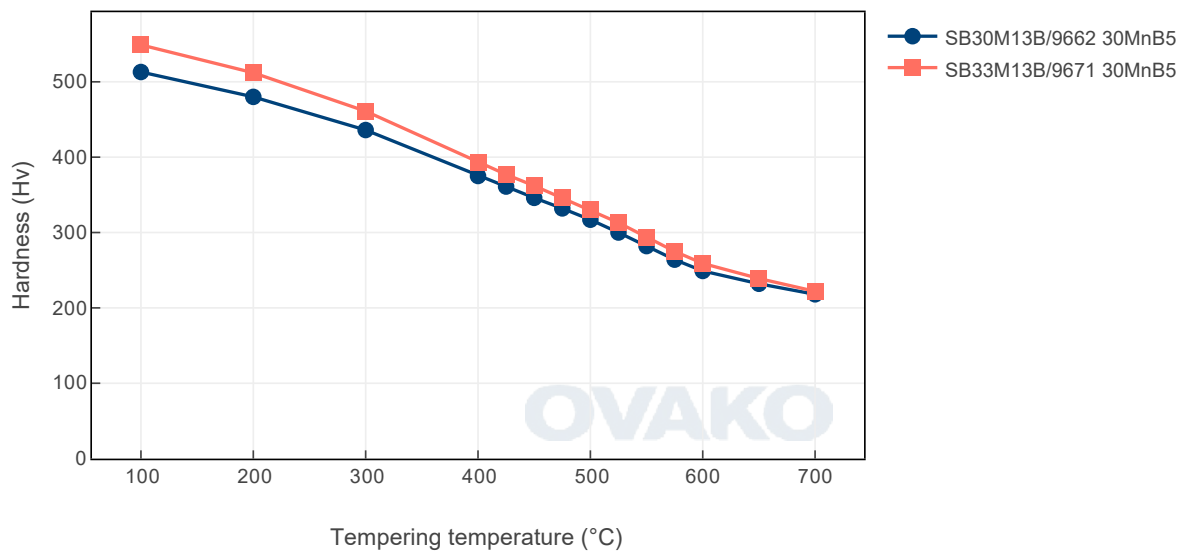
Tempering Diagram (strength)

Legend:
- SB30M13B/9662 30MnB5 - Rm
- SB30M13B/9662 30MnB5 - Rp.02
- SB33M13B/9671 30MnB5 - Rm
- SB33M13B/9671 30MnB5 - Rp.02

Y-axis: Strength (MPa)

X-axis: Tempering temperature (°C)

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Legend:
- SB30M13B/9662 30MnB5
- SB33M13B/9671 30MnB5

Y-axis: Hardness (Hv)
X-axis: Depth (mm)

Hardenability

Legend: SB33M13B/9671, 30MnB5 EN10083-3:2006, SB30M13B/9662

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.

In many international comparisons the crude steel Scope 1-2 emission is a key parameter,
ie. the CO_2 emission from the steel works itself.
As of 1 January 2022 we carbon offset all our scope 1 and 2 volume shown below.

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)
SB30M13B/9662	Flat bar	+AR	556	189
SB33M13B/9671	Flat bar	+AR	543	176

As of 1 January 2022 we use carbon offset for all our scope 1- 2 emissions, so in practice the climate compensated data is the same as the full Scope 3 level.
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/

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