

MATERIAL DATA SHEET

STEEL GRADE

OVAKO

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28MnB5* All

General Information

Grade SB27M12Bm is boron steel used in quenched and tempered condition. The material is suitable for moderately or highly stressed parts such as wear parts on agricultural, forestry and excavators. The grade has tighter chemical analysis than grade SB27M12CB and is recommended for thickness ≤ 15 mm. Its closest equivalent is 28MnB5 (1.0871).

Similar designations

SB27M12Bm - 26MnB5-3, 1.0871

Chemical composition

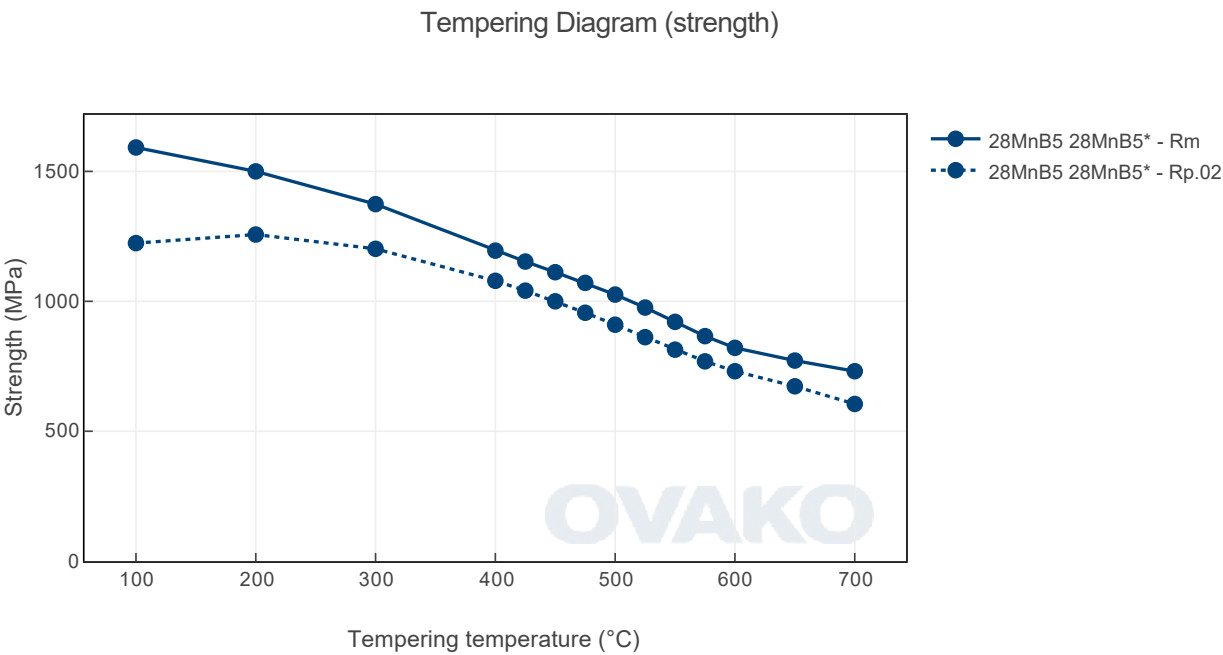
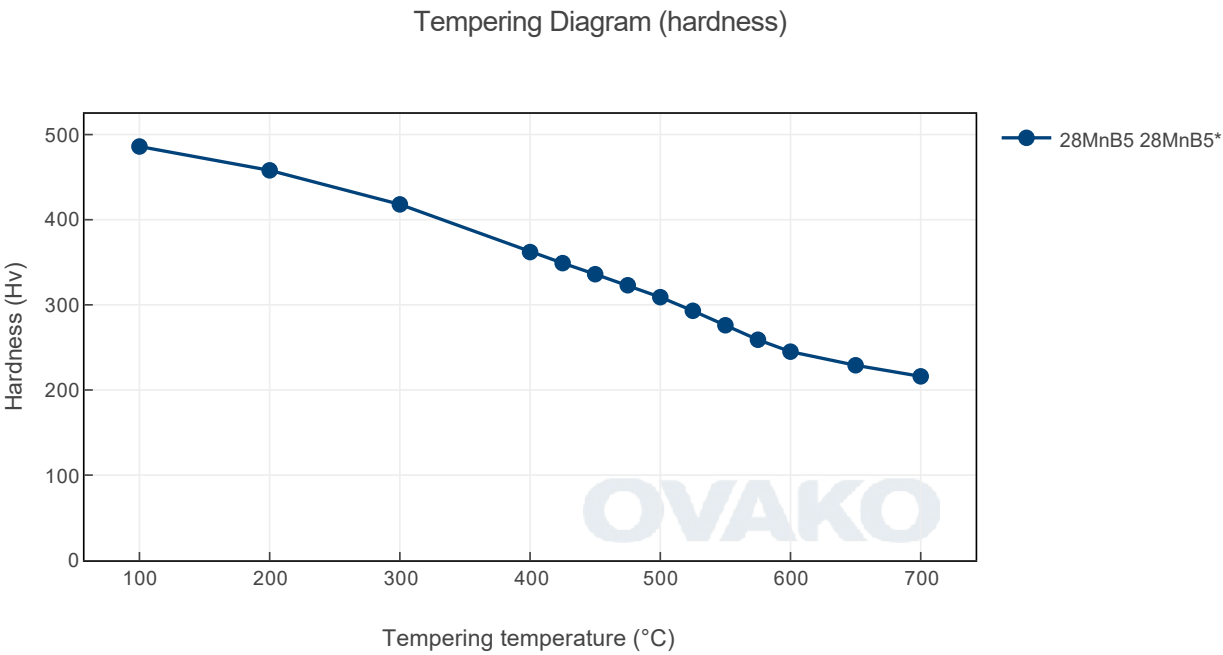
Variant	Cast	Weldability		C %	Si %	Mn %	P %	S %	Cr %	Al %	B %
SB27M12Bm	CC	CEV 0.53 _{max}	Min	0.25	0.15	1.10	-	-	0.15	0.010	0.0010
		Pcm 0.38 _{max}	Max	0.30	0.35	1.30	0.025	0.015	0.25	0.040	0.0050
28MnB5	CC	CEV 0.57 _{max}	Min	0.25	0.15	1.00	-	-	-	-	0.0008
		Pcm 0.4 _{max}	Max	0.32	0.40	1.50	0.035	0.035	0.30	0.020	0.0050

Transformation
temperatures

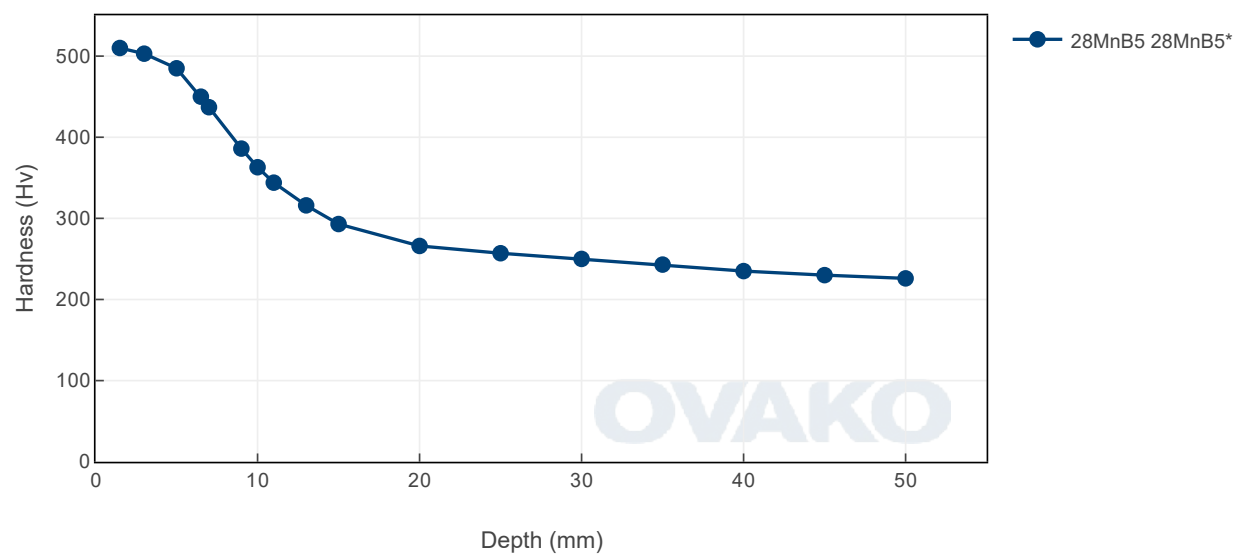
	Temperature °C
MS	379
AC1	720
AC3	784

Heat Treatment Guide generated Graphs

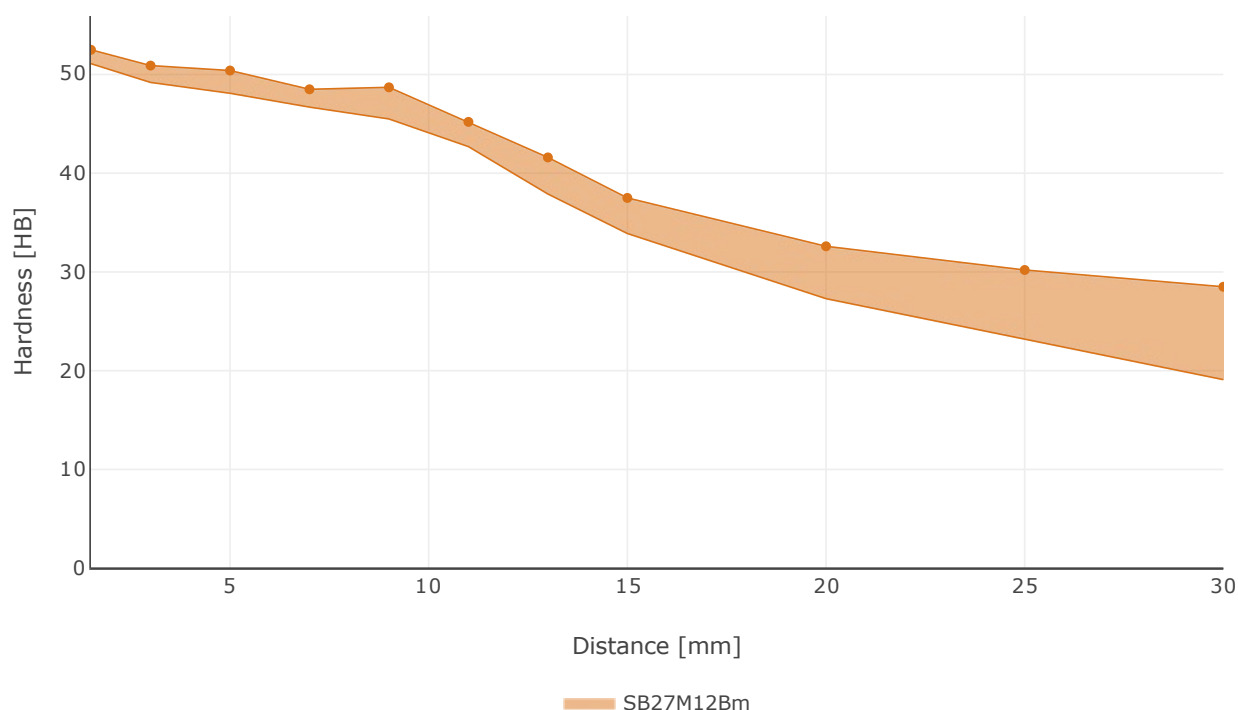
The following graphs are generated from a theoretical model. For further info see the Heat treatment guide module. Select a specific grade version for individual display.



Jominy



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 CO₂ 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)
28MnB5	Flat bar	+AR	409	172
SB27M12Bm	Flat bar	+AR	398	162

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 resistivity Ambient 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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