

## STEEL GRADE

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# 20MnB4

All

## General Information

Grade SB21M10B is a boron steel for general purposes without any specified mechanical properties. Its closest equivalent is found in the EN 10263-4:2001 grade 20MnB4 but with a difference in boron and manganese content. SB21M10B is suitable for use in pegs, chains, simple wear parts and machinery parts as cogwheels and axles in dimensions up to  $\varnothing 30$  mm or equivalent thickness.

## Similar designations

SB21M10B - 20MnB4-3, 20MnB5

## Chemical composition

Variant	Cast	Weldability		C %	Si %	Mn %	P %	S %	Cr %	B %
SB21M10B / 9625	CC	CEV 0.43 <sub>max</sub>	Min	0.18	0.15	0.90	-	-	0.10	0.0010
		Pcm 0.3 <sub>max</sub>	Max	0.23	0.35	1.10	0.035	0.035	0.30	0.0060
20MnB4 EN 10263-4:2001	Std	CEV 0.43 <sub>max</sub>	Min	0.18	0.15	0.90	-	-	0.10	0.0008
		Pcm 0.3 <sub>max</sub>	Max	0.23	0.35	1.20	0.035	0.035	0.30	0.0050

## Transformation temperatures

	Temperature °C
MS	417
AC1	723
AC3	805

## Heat treatment recommendations

Treatment	Condition	Temperature cycle	Cooling/quenching
Quenching	+Q	900 - 920 °C	water
Tempering		none or at 200 °C for maximum hardness	

## 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<sub>2</sub> 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)
SB21M10B	Flat bar	+AR	403	166

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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