

## 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:

Via e-mail: [info@ovako.com](mailto:info@ovako.com)

Via telephone: +46 8 622 1300

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

### Disclaimer

*The information in this document is for illustrative purposes only. The data and examples are only general recommendations and not a warranty or a guarantee. The suitability of a product for a specific application can be confirmed only by Ovako once given the actual conditions. The purchaser of an Ovako product has the responsibility to ascertain and control the applicability of the products before using them. Continuous development may necessitate changes in technical data without notice. This document is only valid for Ovako material. Other material, covering the same international specifications, does not necessarily comply with the properties presented in this document.*