MATERIAL DATA SHEET

STEEL GRADE

Last revised: Thu, 16 Jan 2025 15:48:31 GMT

OVAKO

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 Ø30 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_{max}	Min	0.18	0.15	0.90	-	-	0.10	0.0010
		Pcm 0.3_{max}	Max	0.23	0.35	1.10	0.035	0.035	0.30	0.0060
20MnB4 EN 10263-4:2001	Std	CEV 0.43_{max}	Min	0.18	0.15	0.90	-	-	0.10	0.0008
		Pcm 0.3_{max}	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_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)
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 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/