



27MnCrB5-2 and other Boron-alloyed steels

Specialty Steel offers heat-treatable Boron-alloyed steels for quenching and tempering that meet EN 10083-3:2006 and ISO 683-2:2018

There are many ways for us, as Specialty Steel, to offer you our services and support.

Let us build the optimal supply chain for you, together with you.

Standard size sheets available from stock; customized lengths for optimized nesting based on coil stock; JIT and call-off scenarios; processed parts. Anything else?



27MnCrB5-2 is a heat-treatable Boron-alloyed steel that is designed to reach high hardness and toughness after heat treatment for optimal wear resistance and durability.

After water quenching, 27MnCrB5-2 can reach a hardness of 510 HBW (~ 52 HRC). If more toughness is needed in relation to the hardness, low-temperature tempering (~ 175 °C) can be applied.

27MnCrB5-2 Chemical composition (max. % ladle analysis) thickness 3,0 – 20,0 mm

	C	Mn	P	S	Si	Al	Cr	Ti	B
Minimum	0.260	1.200			0.150	0.020	0.300	0.020	0.0020
Maximum	0.300	1.350	0.020	0.010	0.300	0.060	0.600	0.035	0.0035

27MnCrB5-2 Typical mechanical properties thickness 3,0 – 20,0 mm

Yield strength • Rp N/mm ²	Tensile strength • Rm N/mm ²	Elongation • A5 % t ≤ 5,0 ^{mm}	Elongation • A5 % t > 5,0 ^{mm}	CEV
370	630	23	25	0.57



Typical applications are soil-engaging wear parts for agricultural machines such as moldboards, points and skimmers for ploughs, discs for harrows, blades and knives for harvest machines and blades for animal nutrition mixers. Other applications areas are heavy transport, yellow goods, general engineering and the automotive industry.

Range of heat-treatable Boron-alloyed steel grades

Grade	Thickness (mm)	Width (mm)	Length (mm)
22MnB5	2.5 - 20.0	1000 - 2070 *	1000 - 16000
26MnB5	2.5 - 20.0	1000 - 2070 *	1000 - 16000
27MnB5	4.0 - 20.0	1000 - 2070 *	1000 - 16000
27MnCrB5-2	3.0 - 20.0	1000 - 1550	1000 - 16000
30MnB5	2.5 - 20.0	1000 - 2070 *	1000 - 16000
34MnB5	4.0 - 10.0	1000 - 1750	1000 - 16000
38MnB5	4.0 - 8.0	1000 - 2070 *	1000 - 16000

* Depending on thickness

Contact your Specialty Steel representative for more information.

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