

27MnCrB5 (1.7182)

BORON LOW ALLOY ENGINEERING STEEL

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27MnCrB5 (1.7182) is a boron heat-treatable low alloy engineering steel that offers a cost-effective material solution compared to other steel grades.

The alloy benefits from high mechanical strength, making it suitable for high-stressed component production. The material also combines good toughness and hardness.

Chemical Composition (weight, %)

	C	Si	Mn	P	S	Cr	B
Min.	0.25		1.10			0.30	0.0008
Max.	0.30	0.40	1.40	0.025	0.035	0.60	0.005

* Properties as per EN 10083-3

Adding boron (B) to the alloying process also improves wear resistance. These characteristics result in a highly versatile steel alloy which finds use in various engineering applications. **27MnCrB5** offers good machinability and weldability.

Heat Treatments:

27MnCrB5 is heat treated using various methods depending on the mechanical properties required and the intended use. Options include quenching, tempering, annealing and normalising. Additional surface treatments, including carburising, nitriding and induction hardening, are also possible.

Machining:

The capabilities and versatility of the alloy contribute to potential cost savings. As the product is robust with good wear resistance, this potentially extends the length of service. Actual savings will depend on the alloy's application suitability.

Corrosion Resistance:

While **27MnCrB5** is known for its high mechanical properties, corrosion resistance is insufficient for applications requiring protection. Surface treatments provide options to make the alloy more viable in corrosive environments, but there are likely to be more suitable alloys available for such applications.

Applications:

27MnCrB5 offers a broad range of engineering application options, including:

- High tensile fasteners
- Suspension systems
- Crankshafts
- Gears and bearings

We stock **27MnCrB5** in round and square bars of various diameters. We supply the product in standard lengths or cut to your specific size requirements.

