



Boron-alloyed heat-treatable steel

BU Precision Steel supplies boron-alloyed case hardening steels in accordance with DIN EN 10084 and the Stahl-Eisen list. They are a cost-effective alternative for the substitution of heat-treatable steels and offer significantly better cold formability due to their low carbon content.

Depending on grade and application, boron-alloyed steels can be fine blanked without prior annealing. Boron steels offer good processing and forming properties even in the hot-rolled condition.

precidur[®]:

- is used in virtually all industry sectors.
- offers close thickness tolerances similar to cold-rolled strip, optimum surface finishes and consistent material properties over the entire strip length and width.
- is characterized by its symmetrical strip profiles and mill edges.
- is the sum of all the experience we have gained in more than 100 years of manufacturing and processing steel.

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Technical features

Boron-alloyed heat-treatable steel

Material number: 1.7182

Material name: 27MnCrB5-2

Proprietary brand: precidur® HLB 27

Delivery specification: in accordance with DIN EN 10083-3, DIN EN ISO 683-2

Application: Structural steel for parts in machinery and plant construction

Chemical composition

Ladle analysis mass percentages	C [%]	Si [%]	Mn [%]	P [%]	S [%]	Al [%]	Cr [%]	B [%]	Ti [%]
min.	0.24	–	1.10	–	–	0.020	0.30	0.0010	0.020
max.	0.30	0.40*	1.40	0.025	0.015	0.060	0.60*	0.0050	0.050

* Further special analyses available

Mechanical properties

Longitudinal to rolling direction	Tensile strength R _m [MPa]	Elongation A ₅ min. [%]	A ₈₀ min. [%]
Rolled condition	Ø 650	min. 18	min. 14
GKZ annealed	max. 580	min. 22	–

Possible delivery options

Options	Mill edge (NK) Cut edge (GK)	pickled unpickled	slit	trimmed	cut to length	annealed	not annealed
precidur® HLB 27	NK or GK	✓ or ✓	✓	✓	✓	✓	✓

General thickness tolerances

Strip thickness [mm]	1.5–2.54	2.55–4.03	4.04–6.03	6.04–8.03	8.04–9.03	9.04–11.03	11.04–14.03	14.04–16.00
Standard tolerances [mm]	± 0.04	± 0.04	± 0.05	± 0.055	± 0.06	± 0.07	± 0.08	± 0.10
Special tolerances [mm]	± 0.03	± 0.035	± 0.04	± 0.045	± 0.05	± 0.055	± 0.06	± 0.07

General delivery options

Coil inner diameter:	standard 508 mm / optional 610 mm
Coil outer diameter:	max. 1,890 mm
Coil weight:	max. 20.5 kg/mm strip width
Strip width*:	max. 720 mm
Strip thickness*:	1.5 – 16 mm

* May be subjected to restrictions.

Application examples for boron-alloyed heat-treatable steel



Special mill grades feature unique thyssenkrupp properties. Other terms and conditions of supply not specified here will be based on the applicable specifications. The specifications used will be those valid on the date of publication of this product information.

General information

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