

## 22MnB5

Ultra high strength after heat treatment for weight reduction of complex parts

Steel grade 22MnB5 is an uncoated heat treatable steel designed for the hot forming process. After forming, heat treatment and quenching it combines the typical 1500 MPa strength with excellent shape accuracy, offering real opportunities for weight reduction through downgauging

when compared to conventional HSLA grades. Additional benefits of using 22MnB5 are good repeatability in long production runs when compared with cold press forming.

### Mechanical properties

	Substrate	Test direction	Yield strength	Tensile strength	Elongation <sup>1</sup>
			R <sub>p</sub> (N/mm <sup>2</sup> )	R <sub>m</sub> (N/mm <sup>2</sup> )	A <sub>50</sub> (%)
22MnB5 Typical	Hot-rolled	L	395	575	15

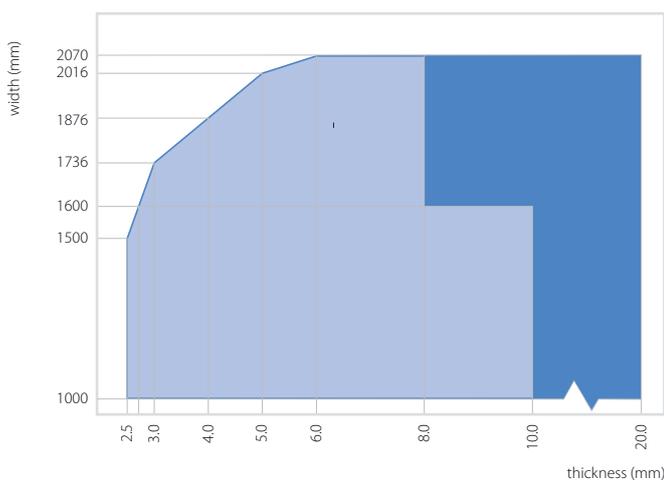
<sup>1</sup>The index of elongation (A%) refers to the type of tensile test sample

### Chemical composition

	C		Mn		P	S	Si		Al		Cr		Ti		B	
	min.	max.	min.	max.	max.	max.	min.	max.								
22MnB5	0.210	0.250	1.200	1.300	0.020	0.010	0.200	0.300	0.020	0.060	0.150	0.250	0.020	0.035	0.0020	0.0035

All values are in weight%

### Dimensional window of 22MnB5



- 22MnB5 Hot-rolled dry
- Pickled and oiled

Please contact Tata Steel or your local sales representative for alternative chemistries or dimensions which fall outside of the matrix.

### CEV

The typical carbon equivalent value is 0.49.

### Tolerances

Thickness tolerances are according to EN 10051. 90% of thickness tolerances of the strip length is guaranteed. ½ EN is possible on request. Test certificates 2.2/3.1 are available according to EN 10204.

### Product support

We want you to get the best from our 22MnB5 grade. Our technical engineers and trained sales staff are always happy to answer any of your questions regarding our boron manganese family or any other steel types. Our engineers are available to assist you with process and product design optimisation for improved throughput, yield and end product performance.

### Further information

E: [connect.engineering@tatasteel.com](mailto:connect.engineering@tatasteel.com)

**Tata Steel**

Engineering

Wenckebachstraat 1

1951 JZ Velsen-Noord

The Netherlands

E: [connect.engineering@tatasteel.com](mailto:connect.engineering@tatasteel.com)

[www.tatasteel.com/engineering](http://www.tatasteel.com/engineering)

E0001:EN:PDF:0522

[www.tatasteel.com](http://www.tatasteel.com)

While care has been taken to ensure that the information contained in this publication is accurate, neither Tata Steel, nor its subsidiaries, accept responsibility or liability for errors or for information which is found to be misleading. Before using products or services supplied or manufactured by Tata Steel and its subsidiaries, customers should satisfy themselves as to their suitability.

Copyright 2022  
Tata Steel IJmuiden B.V.



Scan the  
latest product  
information