

## Valast® 500

### Abrasion-resistant strip for long-lasting performance

Tata Steel is expanding its range of abrasion-resistant hot-rolled steel with Valast 500 Brinell hardness range. This product development targets a unique hardness in hot-rolled abrasion-resistant coil. About four times as hard as a grade S355MC, this product allows for thinner thicknesses and light weighting whilst providing excellent abrasion and wear resistance. Applications include tipper truck bodies, asphalt finishers, mining, screening and forestry equipment.

The coil can be cut into specific lengths to match your exact requirements - adding more flexibility and reduces waste through the supply chain when compared to reverse mill plate. Also, the cut-to-

length sheet delivers a unique surface quality with better thickness control compared to plate. This could reduce additional processing steps like shot blasting. Consistent product properties and reliable material thickness allow for 24/7 trouble-free processing. The grade has been designed for thermal cutting processes, for example using laser- or (micro) plasma cutting methods and has good weldability.

Please note: as Valast 500 is currently under development, the final dimensions and specifications in this preliminary datasheet may be subject to change. Our technical specialists will be happy to update you and answer your questions.

#### Mechanical properties

| Valast 500           | Hardness* | Yield strength**        | Tensile strength**   | Elongation**       | Bending radius*** |
|----------------------|-----------|-------------------------|----------------------|--------------------|-------------------|
| 4 ≤ thickness ≤ 6 mm | HBW       | R <sub>p0.2</sub> (MPa) | R <sub>m</sub> (MPa) | A <sub>5</sub> (%) |                   |
| Guaranteed           | 470-530   |                         |                      |                    | 5.0 t             |
| Typical value        | 500       | 1400                    | 1600                 | 9                  | -                 |

\* Minimum core hardness 450 HBW. Brinell hardness (HBW) according to EN ISO 6506-1, on a milled surface 0.3 – 1 mm below surface. At least one test specimen per heat and 40 tons

\*\* Mechanical properties are tested in longitudinal direction

\*\*\* Minimal radius at bending over 90° - bend line parallel to the rolling direction

#### Chemical composition

| Valast 500 | C       | Mn      | P       | S       | Si      | Al <sub>sol</sub> | Nb      | V       | Ti      | Mo      | B       |
|------------|---------|---------|---------|---------|---------|-------------------|---------|---------|---------|---------|---------|
| Guaranteed | ≤ 0.280 | ≤ 1.200 | ≤ 0.020 | ≤ 0.005 | ≤ 0.100 | ≥ 0.015           | ≤ 0.060 | ≤ 0.100 | ≤ 0.060 | ≤ 0.250 | ≤ 0.005 |

All values are in weight%

#### Impact strength (Test ≥ 6 mm)

| Direction    | Temperature | Guaranteed               | Typical              |
|--------------|-------------|--------------------------|----------------------|
| Longitudinal | -40°C       | ≥ 34 J/cm <sup>2</sup> * | 65 J/cm <sup>2</sup> |
| Transverse   | -20°C       | ≥ 34 J/cm <sup>2</sup> * | 45 J/cm <sup>2</sup> |

\* A value of 34 J/cm<sup>2</sup> corresponds to 27J for a full size 10x10 mm test piece

#### Tolerances

##### Thickness

Complies with ½ EN 10051.

##### Length, width, shape and flatness

Complies with EN 10051. Tighter tolerances available on request.

#### Weldability

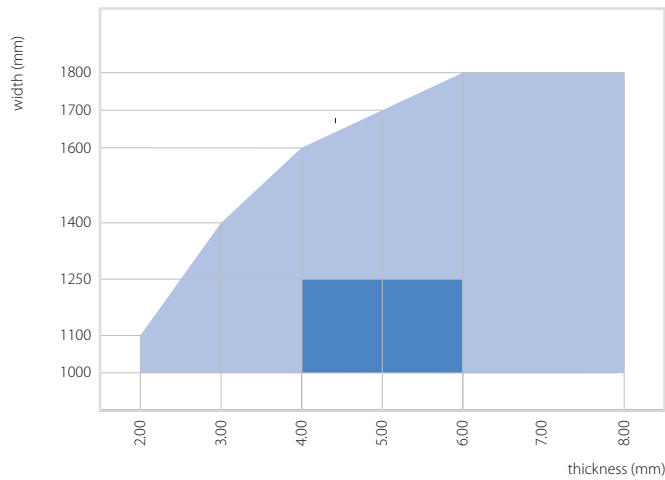
We invested in a research and development programme to ensure a low CET of less than 0.37 in our Valast® steel to ensure all conventional welding methods can be used.

| CEV max | CET max | PCM max |
|---------|---------|---------|
| 0.50    | 0.37    | 0.34    |

#### Surface

As a hot-rolled strip product Valast offers superior surface quality when compared with reversing mill plate in 'as rolled' condition.

## Dimensional window of Valast® 500



■ Available  
■ In development

## Product support

Our proactive customer technical services team offers technical consultancy and practical, hands-on support to help you to get the best from Valast 500. Using our steel know-how and application knowledge, we can assist you in maximising processing efficiency and end product performance. Please contact us for enquiries referring to material no 1.8721 and 1.8734.

## Further information

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

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

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### 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)

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