

## Valast® 450

### Abrasion resistant strip for long-lasting performance

Developed for construction, mining and agricultural applications, abrasion resistant Valast 450 steel sheet withstands harsh wear and tear whilst maintaining lasting quality. With a typical hardness of 450 HBW, abrasion resistance is up to 2.5 times greater than S355 structural steel\*. Users benefit from extended operational life and reduced maintenance costs. Valast 450 also enables production of lighter, more fuel-efficient vehicles or greater payloads if steel thicknesses are reduced in vehicles.

Valast 450 is available in extra-wide strip dimensions (2m) and customised lengths. Combined with consistent flatness, this allows

efficient, repeatable processing with improved nesting yield, and minimised waste and part rejection rate. A low CET ensures that Valast 450 is suitable for all conventional welding methods. Tata Steel's hot-rolled Valast 450 strip surface quality offers potential for a reduction of shot blasting and pre-painting requirements.

Typical applications of hard-wearing Valast 450 include tipper and dumper truck bodies, asphalt pavers, crushing and screening equipment, concrete mixer trucks and garbage trucks.

\*Abrasive Wear Test ASTM G65

#### Mechanical properties

	Hardness*	Yield strength**	Tensile strength**	Elongation**	Bending radius***
4 ≤ thickness ≤ 8mm	HBW	R <sub>p0.2</sub> (MPa)	R <sub>m</sub> (MPa)	L <sub>0</sub> = 5.65 √S <sub>0</sub> (%)	
Guaranteed	420-480				4.5t
Typical value	450	1250	1475	9	-

\* Brinell hardness HBW according to EN ISO 6506-1, on a milled surface 0.2 – 0.5mm below surface. At least one test specimen per coil.  
Valast 450 is through-hardened. The minimum core hardness is 410 HBW.

\*\* Mechanical properties are tested in longitudinal direction.

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

#### Chemical composition

	C	Mn	Si	P	S	Al <sub>sol</sub>	Nb	V	Ti	Mo	B
Guaranteed	≤ 0.230	≤ 1.000	≤ 0.100	≤ 0.020	≤ 0.005	≥ 0.015	≤ 0.060	≤ 0.100	≤ 0.060	≤ 0.250	≤ 0.005

All values are in weight%

#### Impact strength

Direction	Temperature	Guaranteed	Typical
Longitudinal	-40°C	≥ 34 J/cm <sup>2</sup> *	50 J/cm <sup>2</sup>

\* A value of 34 J/cm<sup>2</sup> corresponds to 27J for a full size 10x10mm test piece

#### Tolerances

##### Thickness

Complies with ½ EN 10051.

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

Complies with EN 10051. Tighter tolerances available on request.

#### Weldability

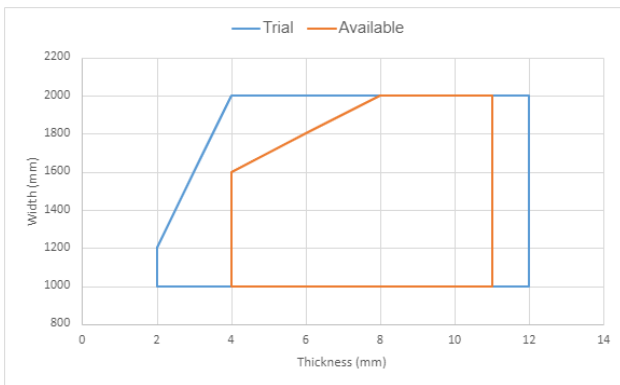
Tata Steel's investment in a research and development programme has ensured a low CET of less than 0.33 in Valast 450 steel – ensuring that all conventional welding methods can be used.

CEV max	CET max	PCM max
0.45	0.33	0.32

#### Surface

Valast 450 hot-rolled strip offers superior surface quality when compared with reversing mill plate in 'as rolled' condition.

## Dimensional window of Valast® 450



For coil orders below 1500mm width, a minimum order quantity may apply. Please contact us to discuss.

## Certification

A 3.1 certificate is issued with Valast 450. Other certificate types are available on request.

## 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 450. Using our steel know-how and application knowledge, we can assist you in maximising processing efficiency and end product performance.

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

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