

Valast® 400 and Valast® 450

Abrasion resistant steel sheet from hot rolled coil

Valast® is developed for use in construction, mining, agriculture, and many other industries. Valast® resists different types of wear and offers consistent quality. With a typical hardness of 400 resp. 450 HBW, the wear resistance is 2.0 to 2.5 times higher than that of an S355 structural steel. (ASTM G65 Abrasive Wear Test)

Typical applications for wear resistant Valast® include the construction of tipper and dump truck bodies, refuse trucks, concrete mixers, crushers, screens, and screw conveyors.

Hardness

Valast® 400 guaranteed 370-430 HBW

Valast® 450 guaranteed 430-480 HBW



Mechanical properties, typical values

	Hardness	Yield strength	Tensile strength	Elongation*	Bending radius**
4 ≤ Thick ≤ 8 mm	HBW	R _{p0.2} (MPa)	R _m (MPa)	L ₀ = 5.65 √S ₀ (%)	
Valast® 400	400	1175	1325	10	3,5 x t
Valast® 450	450	1250	1475	9	4,5 x t

* Mechanical properties are tested in longitudinal direction

** Minimal bending radius at 90° parallel to the rolling direction



Users benefit from advantages such as extended operational service life and reduced maintenance costs. Valast® also enables production of lighter, more fuel-efficient vehicles with higher payload, using less steel.

The consistent flatness of Valast® enables efficient, reproducible machining steps with improved nesting options for laser cutting, minimal waste and a lower rejection rate.

The excellent surface quality also offers opportunities to shorten the throughput times for the next steps in the production process.

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Chemical composition. Guaranteed maximum values in weight percentage %

	C	Mn	Si	P	S	Al _{sol}	Nb	V	Ti	Mo	B
Valast® 400	≤ 0.200	≤ 1.000	≤ 0.100	≤ 0.020	≤ 0.005	≥ 0.005	≤ 0.015	≤ 0.100	≤ 0.060	≤ 0.250	≤ 0.005
Valast® 450	≤ 0.230	≤ 1.000	≤ 0.100	≤ 0.020	≤ 0.005	≥ 0.005	≤ 0.015	≤ 0.100	≤ 0.060	≤ 0.250	≤ 0.005

Impact strength

	Direction	Temp.	Guaranteed
Valast® 400	Longitudinal	-40°C	≥ 60 J/cm ² *
Valast® 450	Longitudinal	-40°C	≥ 34 J/cm ² *

The typical values for notched impact strength, measured in the longitudinal direction, are well above the guaranteed values

Weldability

	CEV max.	CET max.	PCM max.
Valast® 400	0,42	0,30	0,27
Valast® 450	0,45	0,33	0,32

A max. CET value of 0.30-0.33 allows for working with all common welding processes



Tolerances

Thickness: ½ EN 10051.

Length, width, shape, and flatness: EN 10051.

Tighter tolerances are available upon request.

Dimensional window of Valast®

The Valast® product line is still under further development.

The goal is: 2.0-12.0 mm thickness; widths from 1000 mm;

max. 20000 mm width from 6.0 mm thickness up; max.

length 16000 mm

Certification

Valast® is delivered with a certificate according to

EN 10204:3.1 as default. Other types of certificates

are available upon request.

Delivery program from stock

Thickness 3, 4, 5, 6, 8, 10 mm.

Thickness 1500 and 2000* mm. * from 6 mm thickness

Length 3000 and 6000 mm.

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