Valast®

Specialty Steel
Sheet and Plate

info@ss-sp.eu
www.ss-sp.eu
+31 43 204 15 25

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)	$L_0 = 5.65 \sqrt{S_0}$ (%)	
Valast® 400	400	1100	1300	10	3,5 x t
Valast® 450	450	1225	1450	9	4,5 x t

* Mechanical properties are tested in longitudinal direction

** Minimal bending radius at 90^0 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 values in weight percentage %

	C	Mn	Si	P	S	Al_{sol}	Nb	V	Ti	Mo	B
Valast® 400	≤ 0.190	≤ 1.100	≤ 0.100	≤ 0.020	≤ 0.005	≥ 0.015	≤ 0.060	≤ 0.100	≤ 0.060	≤ 0.250	≤ 0.005
Valast® 450	≤ 0.230	≤ 1.100	≤ 0.100	≤ 0.020	≤ 0.005	≥ 0.015	≤ 0.060	≤ 0.100	≤ 0.060	≤ 0.250	≤ 0.005

Impact strength

	Direction	Temp.	Guaranteed
Valast® 400	Longitudinal	-40°C	≥ 34 J/cm² *
Valast® 450	Longitudinal	-40°C	≥ 34 J/cm² *

* 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.

Certification

Valast® is delivered with a certificate according to EN 10204:3.1 as default. Other types of certificates 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

Delivery program from stock

Thickness	3, 4, 5, 6, 8, 10 mm.
Width	1500 and 2000* mm. * from 6 mm thickness
Length	3000 and 6000 mm.