



TriWear 450

General Product Description

TriWear 450 is an abrasion resistant steel with a nominal hardness of 450 HBW. Typical applications are components and structures subject to wear.

Available dimensions

TriWear 450 is available in thicknesses of 3-80mm. TriWear 450 Tuf is available in thicknesses of 3-40mm. Both grades are available in widths up to 3350 mm and lengths up to 14630 mm. For widths <1600 mm and thicknesses between 3 and 6 mm, preferred widths are 1500 or 1600 mm.

Mechanical Properties

Thickness mm	Hardness HBW min - max ¹⁾	Typical yield strength MPa, not guaranteed
3-40	425-475	1100-1300
(40) -80	400-475	1050-1300

¹⁾ Brinell hardness, HBW, according to EN ISO 6506-1, on a milled surface 0.5 – 3 mm below surface. At least one test specimen per heat and 40 tons.

The nominal material thickness will not deviate more than + 15 mm from that of the test specimen.

The plates are through-hardened to a minimum of 90 % of the guaranteed minimum surface hardness.

Impact properties	TriWear 450	TriWear 450 Tuf
Minimum impact energy (J) for transverse tests Charpy V 10x10 mm test specimen ²⁾	-	27 J/-20 ₀ C

Ultrasonic Testing

Plates in thicknesses of 80 mm are delivered in Class E₂S₂ in accordance with EN 10 160.

Chemical Composition (heats analysis)

C *) Max %	Si *) Max %	Mn *) Max %	P Max %	S Max %	Cr *) Max %	Ni *) Max %	Mo *) Max %	B *) Max %
0.26	0.07	1.60	0.025	0.010	1.40	1.0	0.60	0.004

The steel is grain refined. *) Intentional alloying elements.

Maximum carbon equivalent CET (CEV)

Thickness mm	- (5)	5 - (10)	10 - (20)	20 - (40)	40 - 80
CET (CEV)	0.37 (0.48)	0.38 (0.49)	0.39 (0.52)	0.41 (0.60)	0.43 (0.74)

$$CET = C + \frac{Mn}{10} + \frac{Mo}{20} + \frac{Cr + Cu}{20} + \frac{Ni}{40}$$

$$CEV = C + \frac{Mn}{6} + \frac{Cr + Mo + V}{5} + \frac{Cu + Ni}{15}$$



Thickness

Tolerances according to AccuRollTech.

- AccuRollTech meets the requirements of EN 10 029 Class A, but offers narrower tolerances.
- Width <1600 mm and thicknesses 3 – 6 mm conform to EN 10 051, tighter tolerances available on request.

Length and width

According to dimension program.

- Tolerances conforms to EN 10 029.
- Width < 1600 mm and thicknesses 3 – 6 mm conform to EN 10 051. Tighter tolerances available on request

Shape

Tolerances according to EN 10 029

- Width < 1600 mm and thicknesses 3 – 6 mm according to EN 10 051.

Flatness

Flatness tolerances which are narrower than EN 10 029 Class N (steel type L).

- Width < 1600 mm and thicknesses 3 – 6 mm conform with the requirements of EN 10 051 but offer narrower tolerances

Surface Properties

According to EN 10 163-2, Class A Subclass 1.

Delivery Condition

The delivery condition is Quenched. The plates are delivered with sheared or thermally cut edges. Untrimmed edges after agreement. Width < 1600 mm and thicknesses 3 - 6 mm delivered as cut-to-length in as rolled surface condition with mill edge as standard. Cut edge is an option.