



WEAR PLATE

NM 450

NM450 is a wear resistant steel with good comprehensive properties like high strength, high hardness, good wear resistance and weldability etc.

Chemical Composition (ladle analysis)

Thickness mm	C max	Si max	Mn max	P max	S max	Cr max	Ni max	Mo max	B max	CEV typv.	CET typv.
	%	%	%	%	%	%	%	%	%		
4 - (20)	0.24	0.70	1.60	0.020	0.010	0.80	0.30	0.80	0.0040	0.51	0.36
20 - (40)	0.26	0.80	1.70	0.020	0.010	1.00	0.50	1.00	0.0040	0.59	0.39
40 - 60	0.26	0.80	1.70	0.020	0.010	1.20	0.70	1.20	0.0040	0.65	0.41
(60) - 110	0.26	0.80	1.70	0.020	0.010	1.40	1.00	1.20	0.0040	0.71	0.43

* Up to 110 mm available upon request

$CEV = C + Mn / 6 + (Cr + Mo + V) / 5 + (Cu + Ni) / 15$

$CET = C + (Mn + Mo) / 10 + (Cr + Cu) / 20 + Ni / 40$

Mechanical Properties

Hardness HBW, guaranteed	Yield Strength Mpa, typical	Tensile Strength Mpa, typical	Elongation A50%, typical
420 - 490	1150	1450	11 (transverse)

Brinell hardness on a milled surface 1 - 2.5 mm below surface, average of three test points.

At least one test specimen per batch and 35 tons, on the same grade, the same Heat No., the same thickness and the same delivery condition.

Tensile testing is performed between 4 - 60 mm

Mechanical Properties

Impact Properties Longitudinal test, typical Charpy-V 10x10 mm Test specimen	Temperatura de testeo °C	Energía de impacto J
	-20	30
	-40	15

Average of three tests . Single value minimum 70% of specified average. Impact testing is performed between 6 - 60 mm. For thicknesses less than 6 - 11.9 mm , subsize Charpy-V specimens are used.



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Delivery Condition

- Q (Quenched) or Q.T. (Quenched and Tempered)
- Sizing, folding, perforating, and beveling according to requirements.
- Customizable as per requirements

Wear Plate Dimensions

Length (mm)	6000	12000				
Width (mm)	2000	2440				
Thickness (mm)	18	20	25	32	38	50

**For direct imports, the dimensions of the plate can be customized*

Tolerance

Shape, length, with tolerances

- According to EN 10029.

Thickness Tolerance

- According to EN 10029 Class B, and offer more narrow tolerances upon request.

Flatness Tolerance

- According to EN10029 Class-N type-H

Surface Properties

- According to EN10163-2:2004 Class A Subclass 1 .

Ultrasonic Testing

- According to EN10160:2004 Class S1E1 .

Recomendations

The properties of the delivery condition can not be retained after exposure to service or preheating temperatures in excess of 250°C .