

Rhino-Tuf™

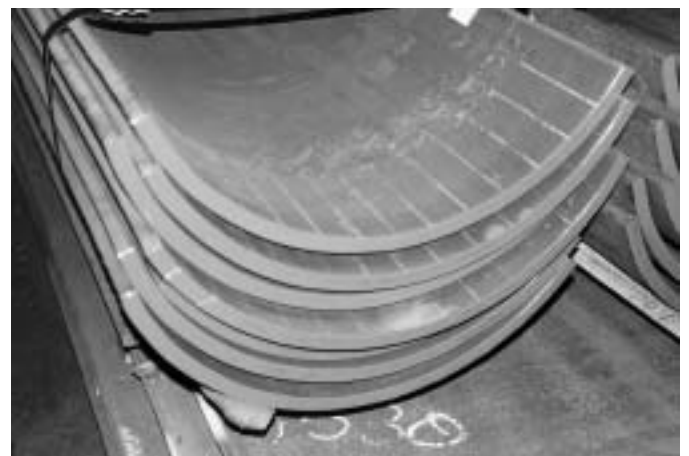
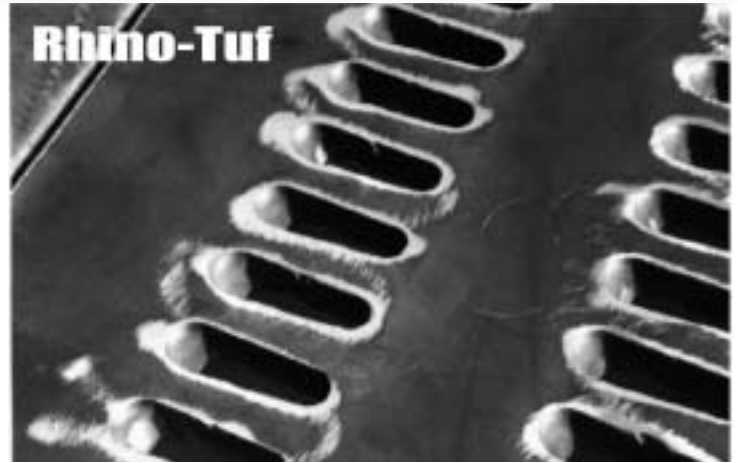
Abrasion Resistant, High Strength, Alloy Wear Plate

Rhino-Tuf 400BHN alloy wear plate is a leader in abrasion resistance for severe service applications. *It is different from commercial grade wear plates.* **Rhino-Tuf**, is the most recognized name in wear products. You will see the symbol of the Rhino in maintenance installations around the world.

Made in small mill heats (80 to 150 Ton) this unique chemistry emphasizes Nickel over Chrome. The addition of Molybdenum contributes to a chemistry rich enough to allow a high temperature tempering cycle but lean enough to have a low Carbon Equivalency (52).

Advantages

- Long service life – excellent shock resistance
- Deep and uniform hardness
- Predictable in fabrication and service
- Low Carbon Equivalency (C.E.). Carbon is reduced to “Mild-Steel” levels
- Responds well to torch cutting, welding, and all types of fabrication
- Maintains physical properties in elevated temperatures to 700°F
- Hard to beat for quality and service



Typical Applications

Chutes Hoppers Wear Bars Dozer Blades
Flights Liners Deck Plates Fork Lift Blades

Typical Mechanical Properties

Tensile Strength	Yield Strength	Elongation
195,000 PSI	167,000 PSI	16%
Reduction of Area	Fine Grain	C.E.
48%	Tempered Martensite	52

Typical Chemical Analysis

C	Mn	Ph	S	Si	Ni	Cr	Mo	Cu	Ti	Other
.22	1.40	.010	.002	.30	1.20	.50	.50	.25	.03	*

* Boron, Vanadium, Aluminum and Columbium at mill discretion

Rhino-Tuf is supplied in a typical hardness range of 360/425BHN. The carbon content is restricted to mild steel levels. Alloying elements, such as Nickel, Chromium, Molybdenum, Titanium and Copper, are added to ensure depth and uniformity of hardness. These elements promote the creation of carbides which contribute to the unusually high wear resistance of **Rhino-Tuf**.

Rhino-Tuf wear plate resists abrasion like a 500BHN wear plate. There is no need to give up “ease of fabrication” by going to a harder wear plate. Try **Rhino-Tuf** and extend service life in your toughest applications.

(Past Protected Trade Name of Associated Steel Corporation – Kromite® Wear Plate)

Abrasion Resistant, High Strength, Alloy Wear Plate



Rhino-Tuf



- Formable
- Excellent Wear Resistance
- High Strength
- Extends Service Life

Value-Added Services

Upon request, we provide a complete line of fabrication services for our materials, including shape cutting, hard facing, forming, fabricated assemblies, etc. Please contact our Cleveland offices with questions and requirements.

Modified analysis may be employed for restricted fabrication or heavy cross sections.

Rhino-Tuf is a “true” quench and tempered and formable wear plate product. Typically, the material has a hardness of 400BHN.

Rhino-Tuf will withstand impact and vibration in severe service. The wear resistant properties extend throughout the full thickness of each plate. Deep and uniform hardness means no surprises in drilling, welding, or forming.

Rhino-Tuf is also offered in a special *light gage* 1/8” thick 400BHN plate as well. Available in only one size: 1/8” x 60” x 120”, this 320BHN minimum wear plate will work harden even under moderate service to 440BHN. Our **Rhino-Tuf** is ideal for areas where weight reduction is a key design element. Consider that a piece of 3/8” x 72” x 144” stock size plate weighs approximately 1100lbs. One piece of **Rhino-Tuf** light gage plate weighs only 255lbs.

Stock Sizes (Thickness)

1/8”*	3/16”**	1/4”	3/8”	1/2”	5/8”	3/4”
1”	1-1/4”	1-1/2”	2”	2-1/2”	3”	

*1/8” plate is a modified analysis product, available in one size only.

**3/16” plate is available only as 48” x 144” and 96” x 144”.

Stock Sizes (Widths and Lengths)

48” x 96”	72” x 144”	96” x 144”
48” x 144”	72” x 288”	96” x 240”
48” x 288”		96” x 288”

For general **welding, forming and fabrication** information refer to page 32 in this technical data book.

For **hardness conversions and drilling** information refer to page 33.

Other Wear Products

Ultima 501 Wear Plate (500BHN)	p. 29
Ultima 601 Pipe (600 BHN Hardened ID).....	p. 36, 37
Rhino-Tuf Wear Bars and Strips	p. 34, 35
Rhino-Klad (Overlay).....	p. 38
Workwear 14 (Manganese Plate)	p. 38

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