

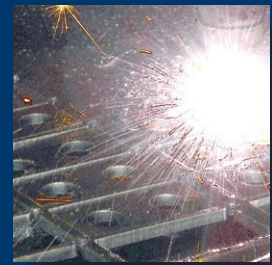
RAILROAD

CLIFTON
STEEL

WEAR & IMPACT STEEL

FABRICATION SPECIALISTS

**PRODUCING DEPENDABLE TRUCK & COUPLER FABRICATED
LINERS AND WEAR PLATES FOR OVER 40 YEARS**



RAILROAD

DEPENDABLE. DIVERSE. VALUE ADDED

Since 1971, Clifton Steel has served as the supply chain partner for the railroad industry. Clifton provides prompt delivery of repair parts for transit, freight cars and locomotives, including truck and coupler wear plates, and shims. Our extensive fabrication capabilities, industry knowledge, personal service, and low cost make Clifton Steel the choice for the rail car builder, repair shop, and Class 1 railroads alike.

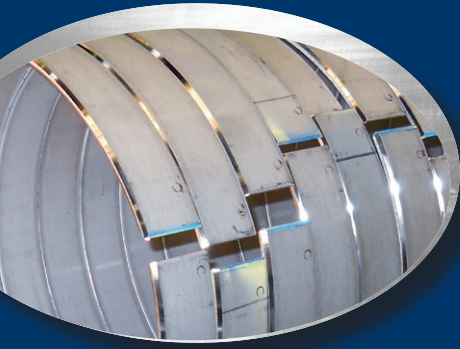
In addition to AAR standard wear plate products, Clifton Steel offers custom fabrications to customer specifications. Clifton Steel not only fabricates from high manganese steel, but also produces wear parts from carbon, low alloy, stainless, and other corrosion and wear resistant materials. Clifton Steel's in-house capability for complete fabrication provides costs savings and ready-to-install wear parts, saving the car builder and repair shop both time and money, while delivering precision, long wearing truck and coupler assemblies.

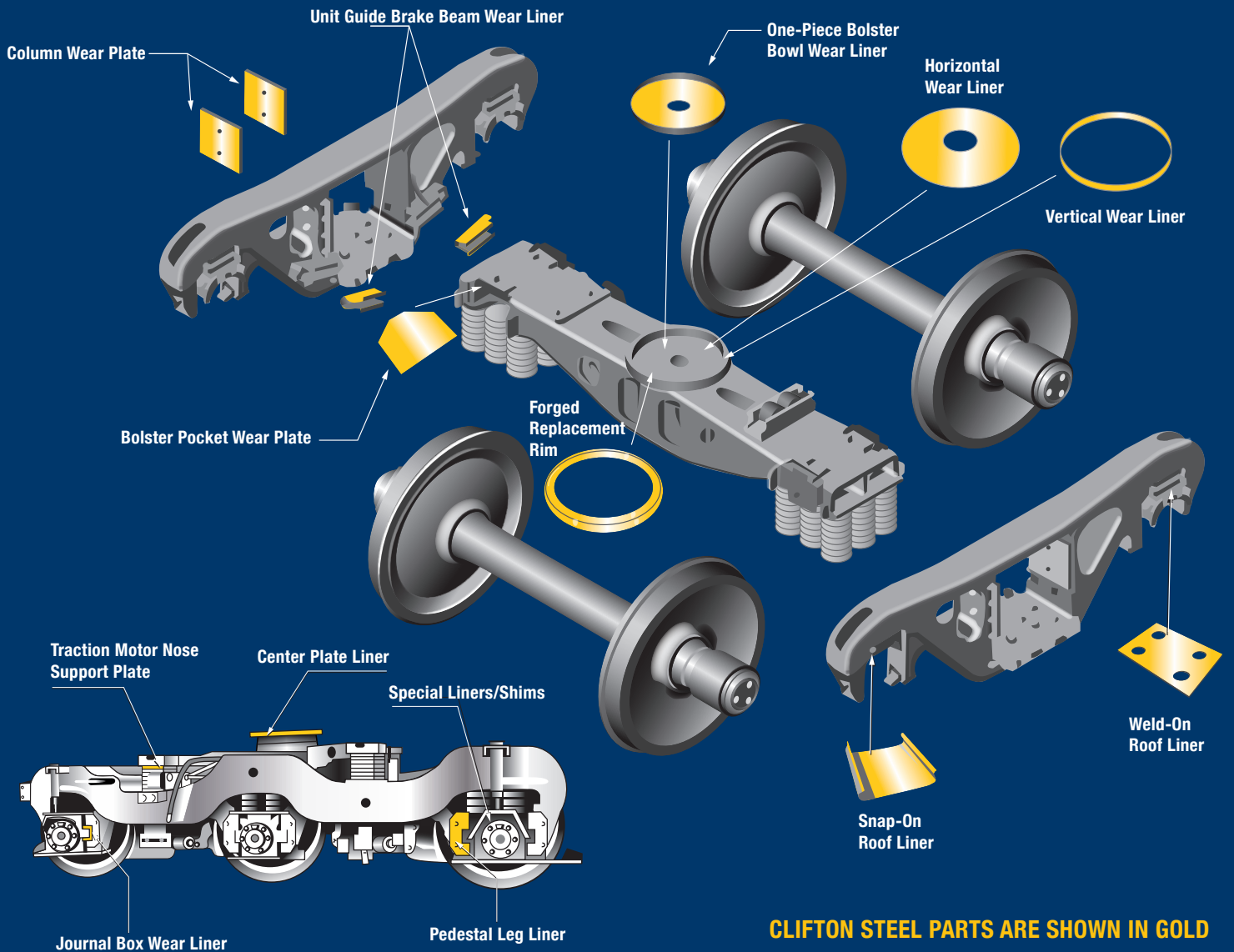
DELIVERY FROM STOCK

Most AAR standard truck and coupler wear plates, shims (such as center plate liners), brake beam pocket liners, and pedestal roof liners can be shipped from Clifton Steel's completed parts inventories, saving you time and money.

QUALITY YOU CAN DEPEND ON

Clifton's quality control procedures include in-process and final inspection to assure you that parts are made right the first time and with each and every order. All materials have complete traceability to the original producing mill. All manufacturing processes are monitored and recorded to assure you of consistent quality.

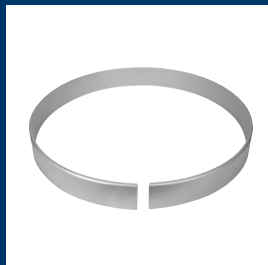




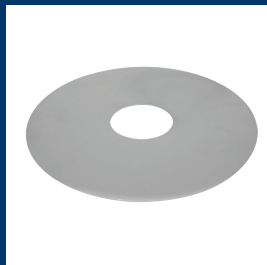
Clifton Steel stocks most AAR standard truck and coupler wear plates, shims (such as center plate liners), brake beam pocket liners, and pedestal roof liners which can be shipped from our completed parts inventories, saving companies time and money.



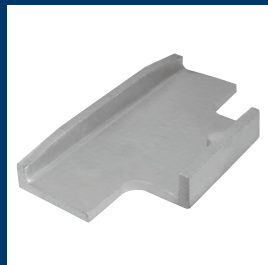
Brake Beam Pocket Wear Plate



Vertical Wear Liner



Horizontal Wear Liner



Manganese Coupler Carrier Wear Plate



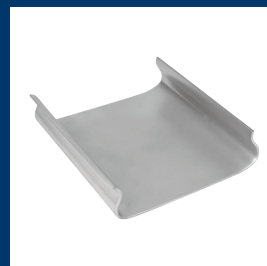
Locomotive Pedestal Liner



Column Guide Wear Plate



Forged Replacement Rim



Roof Liner, Snap-On Type



Roof Liner, Weld-On Type



Bolster Pocket Wear Plate

MATERIALS

All of Clifton Steel's abrasion and impact plate products are fabricated to exact specifications for consistent, controlled quality. Our dependable product line delivers superior weldability, formability, and toughness in combination with superior flatness and a clean surface, making Clifton Steel quality and performance the industry benchmark.

ECONALLOY 250

Econalloy 250 is a low-cost, abrasion-resistant steel plate that offers outstanding wear and impact resistance at an economical price. Hardness: 200 – 280 BHN

TENSALLOY 400

Tensalloy 400 is the everyday plate for applications that call for a long-lasting wear and impact resistant material. Hardness: 360 – 440 BHN

TENSALLOY 450

Tensalloy 450 provides additional hardness and strength at a modest cost increase over standard Tensalloy 400. Hardness: 420 – 477 BHN

TENSALLOY BLUE 500

Tensalloy Blue 500 is a premium wear and impact plate that provides the highest level of protection against wear and impact. Hardness: 477- 550 BHN

TENSALLOY EXTRA

Clifton Steel's Tensalloy Extra (also referred to as HY 80 and HY 100) is a high alloy abrasion and impact resistant steel plate that offers corrosion resistance and heat resistance.

Tensalloy Extra contains high levels of chrome and nickel which allow it to resist corrosion. This chemistry also provides greater resistance to heat.

When other AR plates become soft at 400 degrees Fahrenheit, Clifton Steel's Tensalloy Extra remains stable at atmospheric temperatures up to 1,000 degrees Fahrenheit.

TENSALLOY AND TENSALLOY BLUE ALLOY BARS

Tensalloy and Tensalloy Blue are quenched and tempered bars with the right alloy content to deliver dependable performance in the most demanding conditions. Clifton provides alloy round bars as hot rolled and as turned, ground, and polished.

CLIF-CLAD® CHROMIUM CARBIDE OVERLAY PLATE

Clif-Clad® is a bimetallic plate consisting of a mild steel base plate overlaid with a high chrome/high carbon composite. This composite contains 30% chrome and 5% carbon that form the chromium carbide particles that make the surface extremely hard and resistant to wear. The overlay layer has a metallurgical bond with the base plate and will not separate. Clif-Clad® is impact resistant, will not corrode and is resistant to high heat.

Hardness to 600 BHN

TENSAMANG – 11-14% HADFIELD GRADE MANGANESE STEEL

Clifton Steel's 11-14% Hadfield Grade manganese steel is a special work hardening grade designed to become increasingly harder with impact. Tensamang will work harden to 550 BHN, making it ideal for high impact applications.

SERVICES

WELDING

Our expansive capabilities encompass an entire range of manual and automated welding technologies, including TIG and MIG for manganese and other steel alloys. At Clifton Steel, pre-heating, full-edge preparation and post-weld stress relieving are standard processes — not expensive options.

DRILLING

Clifton Steel drills and countersinks holes from 1/4 inch to 5 inches in diameter ... even through 15 inch thick plate. Using leading-edge technology, we deliver fast, efficient, and exact drilling finishes, even in hard-to-machine, wear-resistant materials.

MILLING

Put Clifton Steel milling capacity to the test. We manage it all: Mill slots, thread holes, bevel, and chamfer—even in tough, wear-resistant materials.

FORMING

At Clifton Steel, precision work is our specialty: Our experienced team forms our full line of abrasion and impact-resistant materials to meet exact customer specifications.

SAWING

Clifton Steel employs rugged band and hack saw capacity with cutting capacity up to 24 inches in diameter. Rotary carbide saw capability handles all manganese rounds up to 4 inches in diameter.

FLAME CUTTING

Our team at Clifton Steel flame-cuts plate to any desired length up to 15 inches in thickness and 120 inches in width. When necessary, we apply pre-heating and controlled post-cooling processes to assure clean cuts without stress cracking at the edges. When working with heavy plate, pre-heating and post-heating processing are standard procedure to ensure product integrity.

LASER AND WATER JET CUTTING

Clifton Steel offers high-tech laser and water jet cutting to meet the express needs of our customers. These processes deliver close tolerances with a clean-edge finish for optimum quality and performance.

**COMMITTED TO QUALITY, PRECISION AND PERFORMANCE,
CLIFTON STEEL OFFERS A FULL RANGE OF MATERIALS AND
LEADING-EDGE FABRICATION PROCESSES TO PRODUCE LONG-LASTING,
INNOVATIVE SOLUTIONS TO YOUR WEAR PROBLEMS.**

**CONTACT A CLIFTON STEEL
REPRESENTATIVE TODAY!**

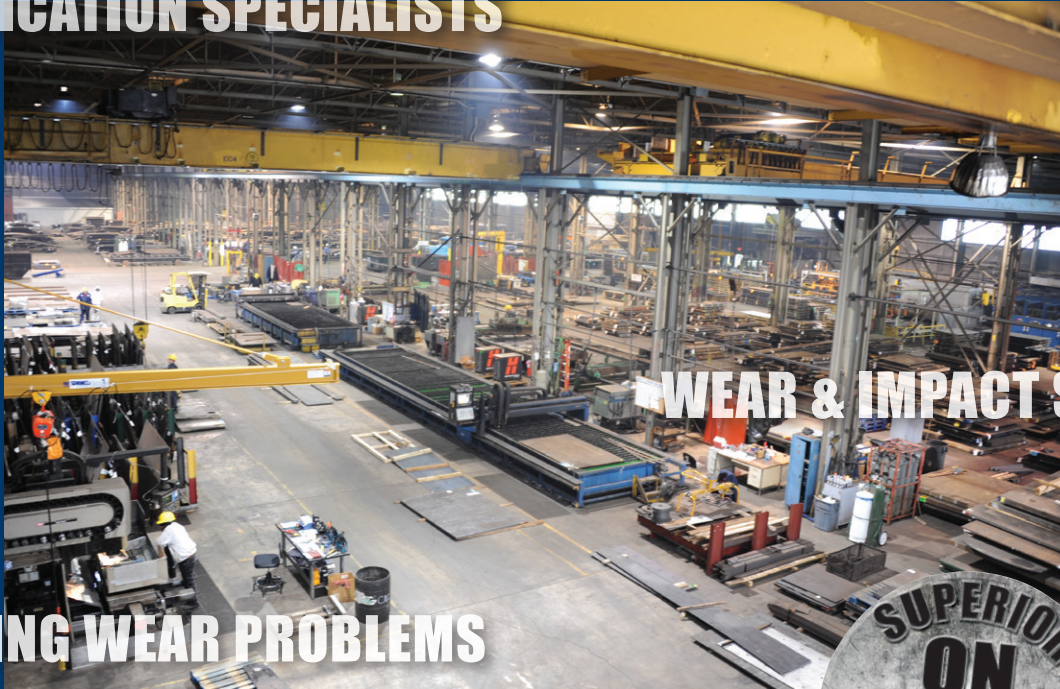
1-800-745-3962

INFO@CLIFTONSTEEL.COM

Since 1971, Clifton Steel has operated as a full-service specialty steel distributor and manufacturer, specializing in abrasion-resistant, high-impact, high-strength steel fabrications. We serve our loyal customers in a host of industries, from aggregate and mining, to military and railroad, as well as a variety of other industrial applications. Clifton Steel delivers a level of seasoned experience, proven expertise and personal service that is unmatched.

PUT CLIFTON STEEL'S INNOVATION TO WORK FOR YOUR BUSINESS TODAY!

FABRICATION SPECIALISTS



WEAR & IMPACT STEELS

SOLVING WEAR PROBLEMS



1-800-745-3962
www.CLIFTONSTEEL.com

CLIFTON STEEL COMPANY
16500 ROCKSIDE ROAD
MAPLE HEIGHTS, OH 44137

E-MAIL: INFO@CLIFTONSTEEL.COM
FAX: 216.662.6107



©2013 Clifton Steel Company. All rights reserved.
The imagery and content of this brochure is for marketing purposes only. Please contact Clifton Steel with questions regarding your exact specifications.