



TRITEN® T-200X-CWP

Triten® T-200X composite wearplates consist of a mild steel base on which a hard, wear-resistant overlay is deposited using the proprietary weld-fuse process. The overlay contains a high proportion of extremely hard chromium-rich primary carbides evenly dispersed in a tough eutectic-austenitic matrix.

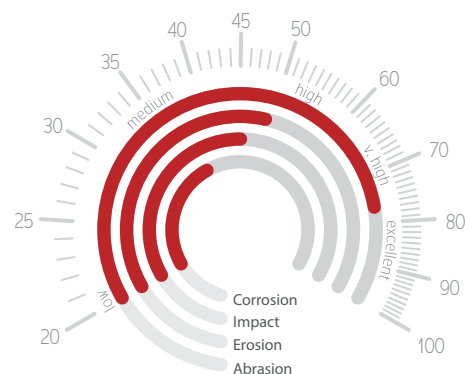
Special ingredients and unique manufacturing technology cause a change in the microstructure during deposition and solidification, resulting in extraordinary grain size refinement and microhardness of the carbides. This improves wear resistance, impact toughness, and resistance to brittle fracture.

Typical Overlay Properties

Bulk Hardness ^{NOTE 1}	60-64 HRC / 700-810 HV
Micro-hardness of hard phases	1,600 - 1,900 HV
Service Temperature	400°C (750°F)
Weld deposit density	~ 8.00 g/cm ³
Wear Test (ASTM G65 Proc. A) ^{NOTE 2}	0.14 - 0.18 g weight loss
Volume fraction of carbides	30-40% primary carbides / ~70% total carbides

^{Note 1} Typical hardness of pure weld metal on mild steel. Actual values are dependent upon base material, composition, and layer count.

^{Note 2} ASTM G65 Procedure A is a standard test, measuring sliding abrasion resistance using a dry sand/rubber wheel apparatus.



Relative wear resistance rating in comparison to other Triten® alloys on a logarithmic scale. Because of the complex interplay between various wear factors, this may only be used as an approximate guideline.

Alloying Basis

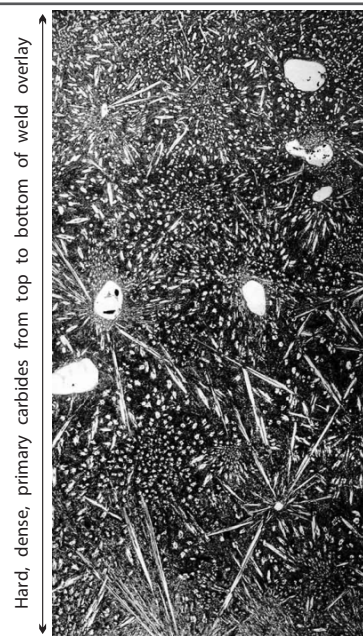
Major alloying elements include Carbon (C), Chromium (Cr) and Boron (B) with Iron (Fe) as the balance.

General Description

Triten® composite wearplates consist of a backing steel plate and an application-specific hard weld overlay, thus forming a bimetallic material possessing exceptional abrasion resistance while still retaining ductility to allow forming and welding.

Typical Applications

Fan blades and casings; separator guide vanes; vibrating and rotary screens; dredge pipes and bends; classifier cones and cyclones; chutes, ducts, hoppers, bunkers, bins; shovel and dragline buckets; transfer points; mill, crusher, and mixer linings; bucket wheel linings and wear pads.



Typical microstructure of Triten® chromium carbide wearplate overlay



TRITEN[®] T-200X-CWP

Base Material Options

Structural steel	ASTM A36 A283 Grade C A572 Grade 50 A514 / A572 Grade 50
Fine grained structural steel	S690QL / Naxtra 70 / Weldox 700E
Heat-resistant steel	15Mo3 / 16Mo3
Stainless steel	AISI 304 / AISI 309 / AISI 310
Through-hardened steel	400 BHN / 450 BHN / 500 BHN

Base material can be any weldable steel depending on the application. Any of the above materials, their equivalents, or other non-standard materials can be provided as needed.

Common Thickness Options

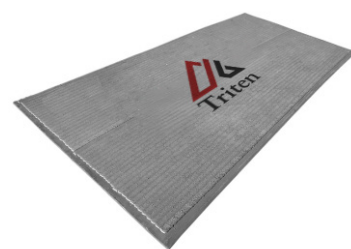
3 mm on 3 mm	(1/8" on 1/8")	3 mm on 6 mm	(1/8" on 1/4")	5 mm on 8 mm	(3/16" on 5/16")
6 mm on 6 mm	(1/4" on 1/4")	6 mm on 10 mm	(1/4" on 3/8")	10 mm on 10 mm	(3/8" on 3/8")
20 mm on 10 mm	(3/4" on 3/8")				

Any combination of thickness on any base material is possible. Overlay thicknesses less than 3 mm (1/8") are also possible.

Standard Plate Sizes (Coated Surface Area)

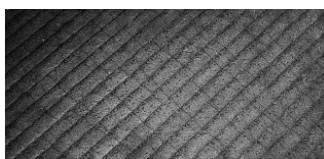
Small	900 mm x 1900 mm	(3' x 6')
Medium	1150 mm x 2400 mm	(4' x 8')
Large	1400 mm x 2900 mm	(5' x 10')
Extra large	1900 mm x 3900 mm	(6' x 13')
Custom (non-standard)	Any specific size available on request	

Sizes mentioned in feet are closest available sizes for reference only. Actual plate sizes are provided in millimeters.

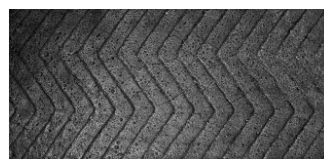


Delivery Conditions & Fabrication Guidelines

Delivery	Normally supplied in as-welded condition; ground finish available on request
Thickness tolerances	±10% of specified thickness.
Overlay will contain stress-relief checking	
Affixing techniques	Welding of backing plate (fillet, butt, plug), bolting using countersunk bolts or studs
Cutting	Plasma, waterjet, laser, abrasive saw, arc gouging (oxy-fuel cutting not possible)
Forming/Bending	Cold forming using rolls or press brakes (avoid bending parallel to weld bead direction)
Machining	Conventional machining not possible; grinding only
Overlay bead orientation	



Linear beads (default supply)



Zig-zag beads

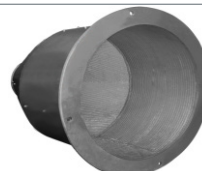


Curved beads

Fabrication supply examples



Conveying pipe



Conical chute



Rotary screen

Appropriate health and safety precautions must be taken when bending, welding, cutting, grinding, or otherwise working on the product.