



CHROME WELD™ Ti is a unique material that is ideal for surfaces requiring high levels of abrasion resistance, along with heavy impact. It is a premium grade of overlay wear plate developed with an ultra-tough matrix and finely dispersed abrasion and impact resistant, titanium carbides.

Fabrication Facts

Cutting: Plasma burning, air arc, abrasive saw cutting, or waterjet.

Machining: The overlay surface can be finished by grinding only. EDM, plasma arc cutting, or carbon-arc gouging may produce countersunk holes for bolts. Pre-machined mild steel inserts may be welded into straight holes for additional machining. CHROME WELD™ Ti cannot be machined by ordinary methods.

Cold Bending: When using a press brake, forming should be perpendicular to the weld pass direction. Plate rolling should be performed in the direction of the overlay beads. Forming CHROME WELD™ Ti to the outside will cause cross-check cracks to open. This may require post-fabrication weld repair using suitable weld rod/wire.

Welding: CHROME WELD™ Ti overlay plate can be joined by welding substrate to substrate using 309 weld wire/rod. Liner plates can be plug welded in place by welding the substrate to the base plate. Stud welds can be applied, but it is highly recommended that stainless steel studs be used. All weld seams: plug-weld holes, bolt holes, and all other joints exposed to wear should be protected by a cap weld of one of our JADCO FUSION™ Wires.

Mechanical Information

CHROME WELD™ Ti typical hardness ranges from 56-60 HRC based on weld deposit thickness. The surface of the plate is a composite of titanium carbides in a high chromium martensitic matrix. The surface of the plate exhibits numerous hairline cracks which are a natural stress relieving phenomenon that is essential to the performance of the plate and enable it to be formed, bent, and rolled without damage.

General Overlay Chemistry

- » Standard Plate size is 90" X 120".
- » CHROME WELD™ Ti displays excellent abrasion resistance and will withstand heavy impact.
- » CHROME WELD™ Ti overlay will remain abrasion resistant at temperatures up to 1200 degrees Fahrenheit.
- » Standard thicknesses range from 1/8" on 1/4" (3/8" overall) and 1/2" on 1/2" (1" overall).
- » Your specific application needs, including custom requirements (thickness, alloy and size), are capable at JADCO. The JADCO process produces a microstructure consisting of fully martensitic matrix filled with primary carbides. This structure provides outstanding abrasion resistance in the most challenging applications.

| TYPICAL CHEMISTRY % | | | | | | |
|---------------------|--------------------|---------------------|-------------------|--------------------|---------------------|-------------------|
| 2 Layer Deposit | | | | | | |
| Carbon (C) | Chromium (Cr) | Manganese (Mn) | Silicon (Si) | Titanium (Ti) | Molybdenum (M) | Vanadium (V) |
| 1-2 | 5-10 | 1-2 | 1-2 | 6-10 | 1-2 | 1 |