

**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.

CHROME WELD Ti was developed with an ultra-tough matrix and finely dispersed abrasion and impact resistant, titanium carbides. The addition of titanium provides the ability to withstand heavier impact levels, while not succumbing to brittle tendencies of harder plates.

### MECHANICAL INFORMATION

- Hardness ranges from 56-60 HRC, based on weld deposit thickness
- Remains abrasion resistant at temperatures up to 1200 F (649 C)
- Displays excellent abrasion resistance and will withstand heavy impact
- Overlay is a composite of titanium carbides in a high chromium martensitic matrix
- Surface exhibits hairline cracks which is a natural stress-relieving phenomenon essential to the performance of the plate enabling it to be formed and rolled without damage

### SIZES

- Standard Plate Size is 90" x 120" (2.29m x 3.05m)
- Standard Thickness Range from 1/8" on 1/4" (3mm on 6mm) through 1/2" on 1/2" (12mm on 12mm)
- Custom Plate Sizes and Thicknesses are available
- CHROME WELD overlay covers entire plate surface

### FABRICATION INFORMATION

#### WELDING

- Weld substrate to base using JADCO FUSION™ Universal or 309 equivalent weld wire/rod. Low Hydrogen wire/rod such as E7018, ER70S can be used so long the weld stays a minimum of 2mm away from CHROME WELD material.

**\* WELDING OF HARD FACED PLATES (SEE FIGURE 1)**

If too large a fillet weld is used, it will pick up carbon from the hardfacing layer, become brittle, and crack.

- Liner plates can be plug welded to base plate
- When using welded studs, stainless steel studs are recommended
- All weld seams, plug weld holes, bolt holes and all joints exposed to wear should be protected with surface welds of JADCO FUSION™ Ti Hardfacing Wire

#### CUTTING

- Cut with Plasma, Air Arc, Abrasive Saw or Waterjet

#### MACHINING

- CHROME WELD cannot be machined by ordinary methods
- Overlay surface may be finished by grinding only
- Countersunk holes may be produced using EDM, Plasma or Carbon Arc gouging
- Pre-machined mild steel inserts may be welded in straight holes for additional machining

#### COLD BENDING

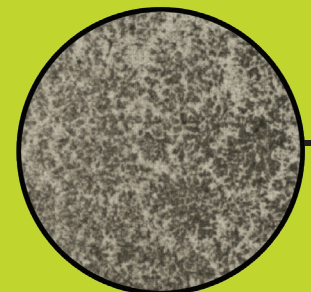
- When using a press brake, forming should be perpendicular to the weld pass direction. Plate rolling should be performed in the direction of the overlay beads. Forming CHROME WELD Ti to the outside will cause cross-check cracks to open. This may require post-fabrication weld repair using suitable weld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



CHROME WELD Ti SURFACE



FIGURE 1



ETCHED MICROGRAPH @ 500X

### TYPICAL CHEMISTRY PERCENTAGE

#### 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