

**CHROME WELD™ Nb PLUS** is a Niobium (Nb) carbide overlay plate optimized for fine particle and extreme abrasion. CHROME WELD™ Nb PLUS weld deposit consists of primary chromium carbides compiled with niobium carbides in an austenitic matrix. By comparison, CHROME WELD™ Nb PLUS contains a more abrasion resistant deposit to traditional chrome carbide plates. Depending on the specific environment, wear life can be extended 30-60%. This plate also offers better wear resistant at elevated temperatures due to its enhanced chemistry.

### 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™ Nb PLUS cannot be machined by ordinary methods.

**Cold Bending:** Material is not readily formable due to its extreme surface hardness.

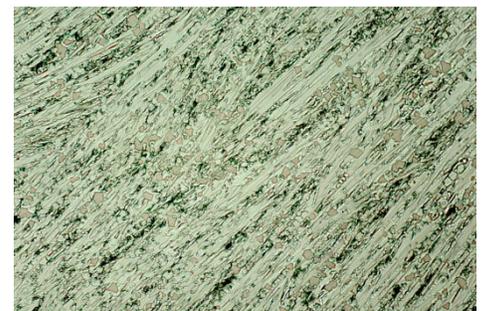
**Welding:** CHROME WELD™ Nb PLUS overlay plate can be joined by welding substrate to substrate using 309 weld wire/rod. Liner plates can be plug welded in place by welding the substrate to the base plate. Stud welds can be applied, but it is highly recommended that stainless steel studs be used. All 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™ Nb PLUS typical hardness ranges from 63-68 HRC based on weld deposit thickness. The surface of plate is a composite of chromium, niobium, and vanadium carbides in a chromium austenitic 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™ Nb PLUS displays excellent abrasion fine particle resistance and will withstand continuous moderate impact.
- » CHROME WELD™ Nb PLUS overlay will remain abrasion resistant at temperature up to 1100 degrees Fahrenheit.
- » Standard thickness range from 1/8" on 1/4" (.5") through 1/2" on 1/2" (1").
- » Your specific application needs, including custom requirements (thickness, alloy and size) are capable at JADCO.



TYPICAL CHEMISTRY					
2 Layer Deposit					
Carbon ( C )	Chromium ( Cr )	Manganese ( Mn )	Silicon ( Si )	Iron ( Fe )	Niobium ( Nb )
4-6	20-26	0-1	0-2	balance	5-7