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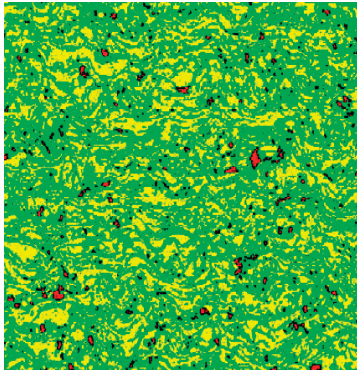
# ArcMelt™ 3201

A patent pending composite alloy wire made exclusively for the Twin Wire Arc Spray (TWAS) process. This wire was developed to produce composite coatings especially for use in aqueous, corrosive and high temperature environments that contain sulfur and chlorine.

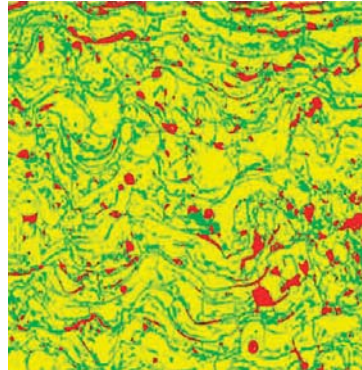
ArcMelt's 3201 is designed to obtain a maximum chromium content greater than 35%, to combat the most severe corrosion applications. These TWAS coatings are extremely dense, have uniform porosity, and no oxide stringers or planular structures which would provide paths for corrosive media.

There is no need for a traditional seal coat against corrosion. Additionally, if used with base coat (i.e. ArcMelt 4302), this material can resist corrosion in the most extreme aqueous environments.

3201 Composite Wire Coating



Solid Wire Coating



Yellow=Metals Green=Oxides

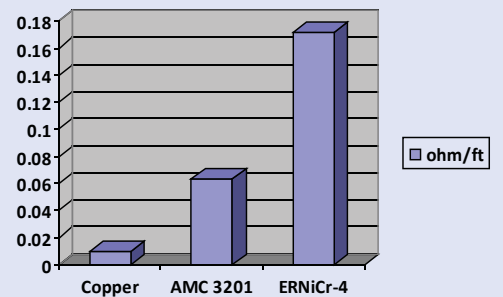
TWAS applied coatings will passivate quickly and prevent penetration and delamination from the base material.

This coating can be applied thinner than weld overlays, with no distortion or dilution. In addition, the applied coating's chrome content exceeds that of most commercial overlays.

### Wire Characteristics

- Wire Size - 1/8" (3.1mm) dia.
- Cast/Helix - meets AWS C2.25
- Lube Free

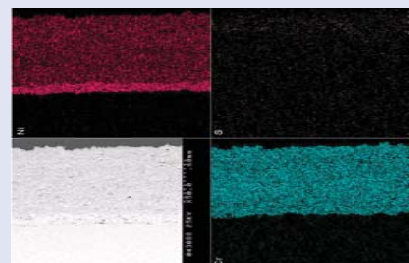
### Resistivity



\* Copper = 1/16" (.16 cm) dia., AMC 3201 = 1/8" (.32 cm) dia. and ERNiCr-4 = 1/16" (.16 cm) dia.

### Average Coating Chemistry\*

Ni	< 55%
Cr	< 45%
Fe	< 10%
Ti	< 5%
Al/Si	Trace Elements



# ArcMelt™ 3201

- **Bond Strength (ASTM-C-633)<sup>1</sup>**  
> 6,000psi @ .040" (1.02mm)
- **Coating Texture**  
< 200µin @ .100" (2.54mm) thick
- **Coating Hardness**  
68 HRB
- **Finish (Ground)**  
Excellent
- **Thickness Limitation<sup>2</sup>**  
> .100" (2.54mm)
- **Spray Rate**  
> 75 lbs/hr (34.02 kg/hr)
- **Deposit Efficiency**  
> 80%
- **Porosity**  
< 3%
- **Oxide Content**  
40% avg.

\* Based on multiple samplings and parameter configurations.

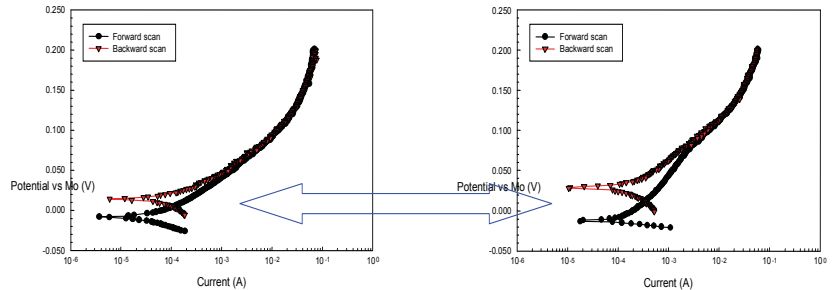
1 Bond strength measured using 3M™ Scotch Weld Epoxy Adhesive 2214 High Density

2 Prepared using 24 Grit Aluminum Oxide at 80 psi

## Coating Performance

ARCMELT Thermal Spray 3201 Arecco Epoxy Potentiodynamic Scan (Jun 17, 2008)

ARCMELT Weld Overlay 625 Potentiodynamic Scan (Jul 6, 2008)



Dynamic polarization behavior for AMC 3201 and WO 625 in simulated white liquor at 170 °C (338 °F).

\* Test performed by Oakridge National Laboratories

## Safety Recommendations

For general spray practices, see AWS publications AWS C2.1-73, "Recommended Safe Practices for Thermal Spraying" and AWS TSS-85, "Thermal Spraying Practice, Theory and Application. Thermal spraying is a completely safe process when performed in accordance with proper safety measures. Become familiar with OSHA safety regulations before starting a spray operation.

## ArcMelt Certified Applicator:

Rev. 06/10

Results confirmed through third-party testing. Individual results may vary.