

TiCaps™

Huys uses its patented ESD process to weld nano-sized particles of titanium carbide (TiC), an extremely hard ceramic, to the surface of the copper cap.

TiCaps™ have proven to be invaluable in dealing with the influx of coated steels into the resistance welding industry.



**OUR TiC COATING HAS BEEN SHOWN
INDEPENDENTLY TO:**

INCREASE ELECTRODE LIFE

ELIMINATE ELECTRODE "STICKING"

WIDEN THE WELDABILITY LOBE OF COATED STEELS

ELIMINATE THE NEED FOR ELECTRODE CONDITIONING

USE LESS ELECTRICITY WITH A LOWER POWER INPUT

Increase Electrode Life

- Titanium carbide's (TiC) high melting temperature allows it to withstand the heat, and protect the copper
- Delayed "Mushrooming" of electrode weld face

Eliminate Electrode "Sticking"

- TiC coating acts as an intermetallic barrier between the copper and the worksheets
- Coating is 7x harder than that of copper
- Unlike copper, TiC is very stable and does not easily react with other metals

Widen The Weldability Lobe Of Coated Steels

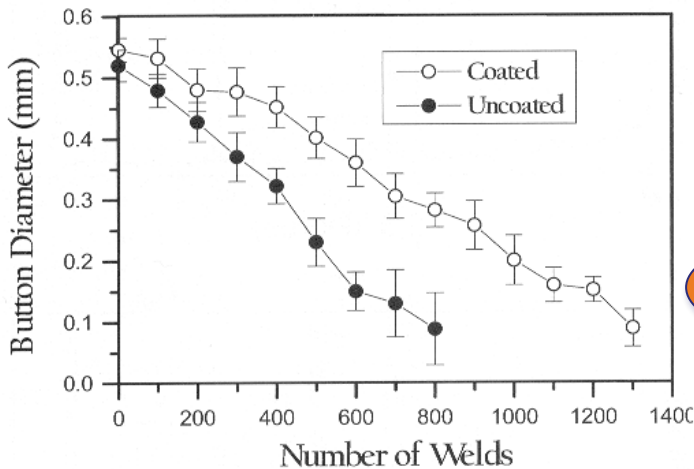
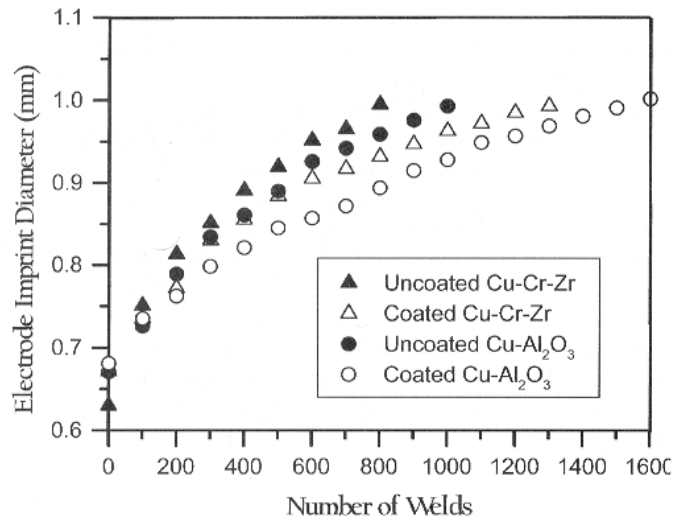
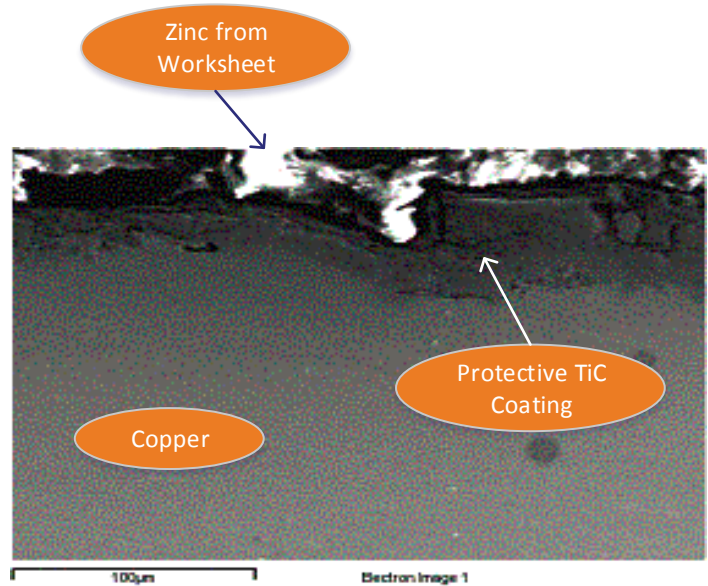
- Increased flexibility for determining the optimum weld current, time, and force
- Eliminates rapid cooling at point of weld, ensuring weld is fully formed

Eliminate The Need For Electrode Conditioning

- TiC Coated weld face maintains diameter longer than an uncoated cap
- Titanium Carbide is fused to the copper, not plated, meaning no peeling will occur

Uses Less Electricity With A Lower Power Input

- Increased resistance of the TiC weld face compensates for reduced resistance of materials
- Lower electricity bills with proper current stepping



Weld Button Sizes vs. Number of Welds on DP600 Steel*

Weld Face Diameter vs. Number of Welds on DP600 Steel*

*Chan, K. R., "Weldability and Degradation of Coated Electrodes," University of Waterloo, Canada, 2005