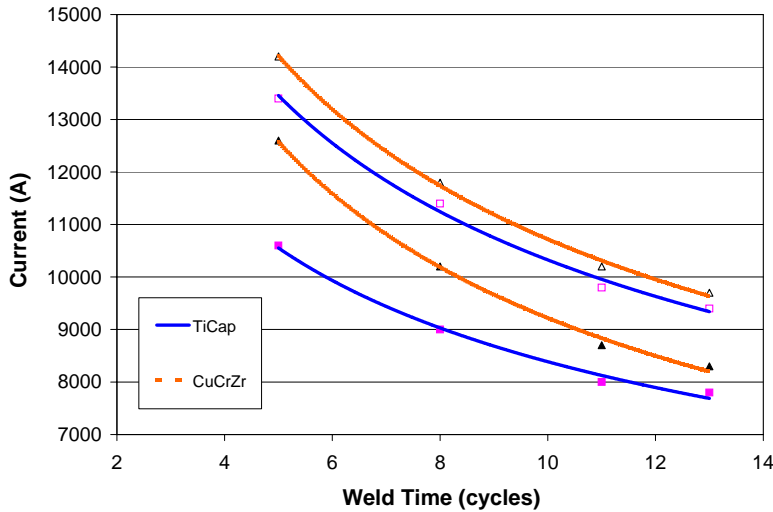


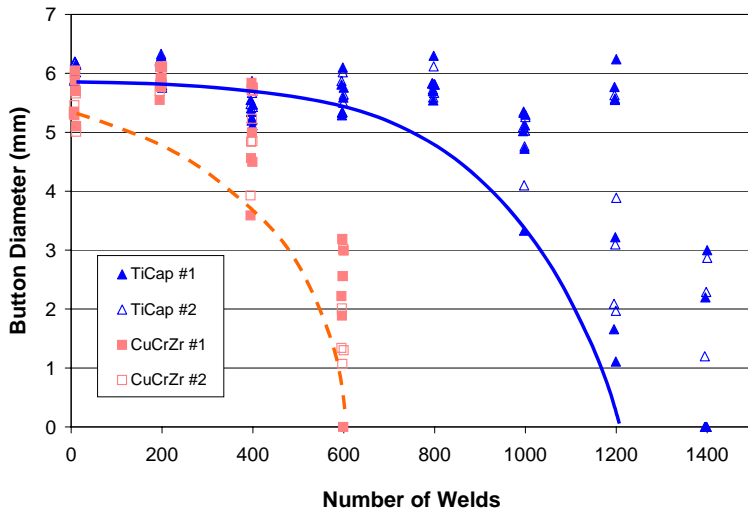


TICAPS™ LAST TWICE AS LONG

The University of Waterloo has independently tested TiCaps™ on coated steels and found them to last twice as long as the industry standard copper alloy. This page summarizes their findings:



The chart to the left shows that the TiCap™ requires lower heat to achieve the same button size. Note: The minimum currents are determined based on a minimum button size of 3.35 mm (4 square root of the sheet thickness). The maximum currents are the threshold current for expulsion.



The chart to the left shows that the TiCap™ **more than doubles** the tip life of CuCrZr electrodes under the testing conditions outlined below. Using a minimum nugget diameter of 3.35 mm as a criterion, the tip life of CuCrZr is about 450 welds and that of the TiCap™ is about 1000 welds.

The tip life tests were performed as per American Standard ANSI/AWS/SAE/D8.9-9.7. The major test conditions included:

- Domed electrodes with 4.76-mm tip diameter
- Welding current 10,200A
- Welding Time 11 cycles
- Welding rate 25 welds/min
- 0.7mm thick hot dipped galvanized steel
- Electrode force 440 Lbf
- Hold Time 5 cycles

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