

United Equipment Accessories, Inc.
Solving Challenges from the Inside Out.™



Silver Plated Rings vs. Solid Coin Silver Rings

800-394-9986 • www.uea-inc.com • P.O. Box 817 • Waverly, IA 50677-0817

RESULTS:

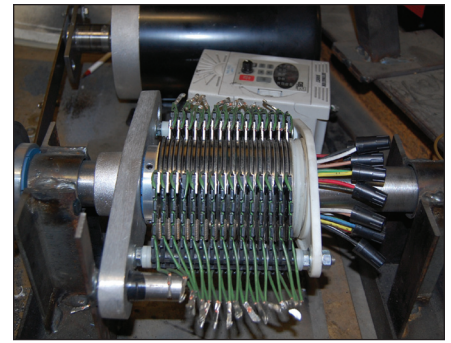
When used with silver graphite brushes, UEA's Silver Plated Rings perform with similar resistance to Solid Coin Silver Rings with a significant potential savings for the customer.

METHOD OF TESTING:

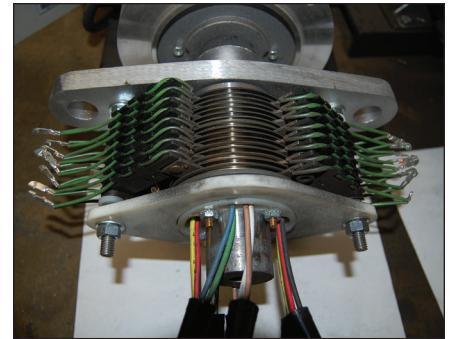
In the test, the resistance was calculated by measuring the potential difference across two brush/ring pairings and dividing by the known current (2 amps). The formula is $\text{Resistance} = \text{Voltage} / \text{Current}$. It should be noted that UEA silver brush on silver ring configurations have a significantly low resistance of about 5 milliohms per circuit. In comparison, 300 feet of Cat5e cable has about 14 ohms in resistance.

COSTS:

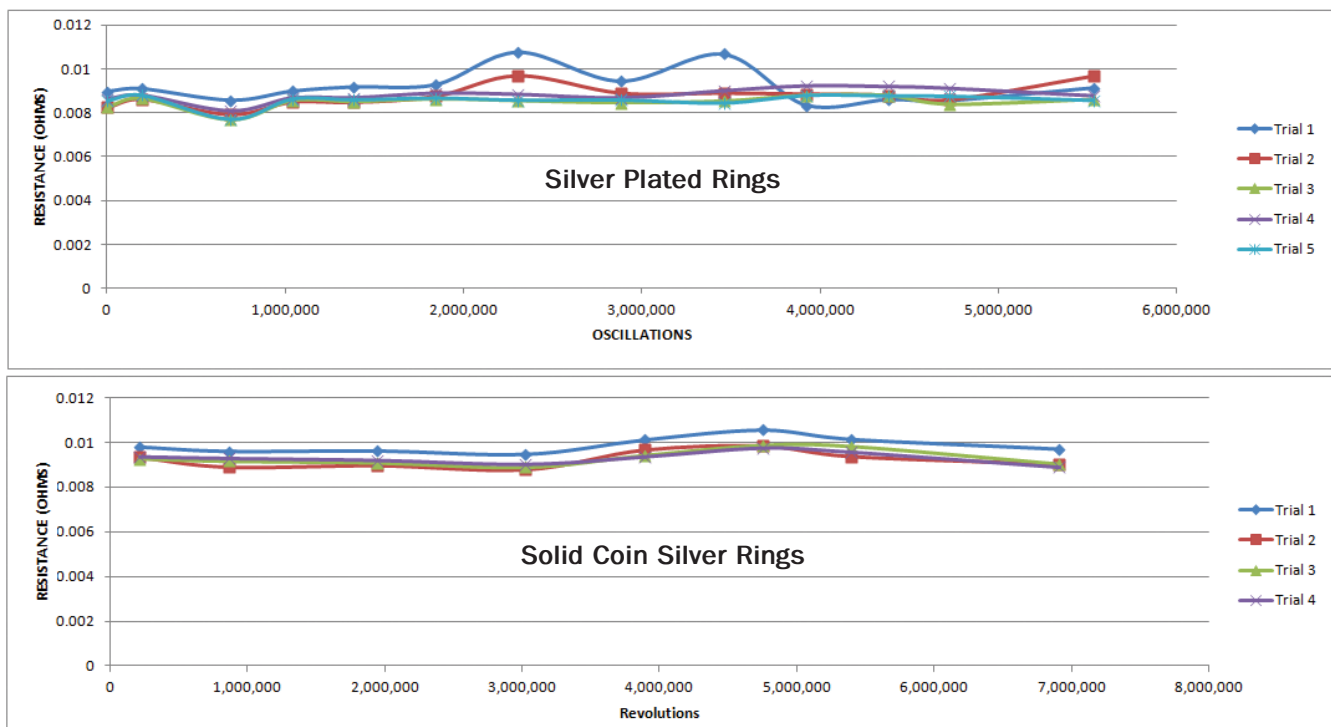
When comparing the material costs, a coin silver ring is about 7x that of plated silver ring. Including labor, the savings is over \$20/circuit. Although the savings are significant, there are limitations to plating. Silver plated rings will not maintain functionality as long as solid coin silver rings. Therefore, the specific application can dictate whether it is necessary to use solid silver or plated rings. In the UEA tests, the plated rings were tested well over 5.5 million revolutions and had yet to lose any functionality. In many applications like cranes, which typically rotate 1 to 2 million times in their lifetime, 5.5 million revolutions is more than sufficient.



Silver Plated Ring



Solid Coin Silver Ring



Silver Plated Rings vs. Solid Coin Silver Rings
Test performed by: Kyle Riegel, Design Engineer