

## Frequently Asked Questions

### Circuitworks® Nickel Conductive Pen, CW2000

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#### 1. What is the Circuitworks® Nickel Conductive Pen and what does it do?

The Circuitworks® Nickel Conductive Pen is the convenient to use pen that makes instant conductive traces and coatings on circuit boards, plastic enclosures, etc. It's good for linking components, repairing defective traces and making smooth jumpers in cost effective systems. It is also ideal for providing EMI/RFI shielding for electronic components.

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#### 2. What's the difference between the Circuitworks® Conductive Pen and the Circuitworks® Nickel Conductive Pen?

The Circuitworks® Conductive Pen contains a silver-based compound that is designed for the highest level of conductivity. This product is designed for circuit boards that require the most conductive trace possible. Because of the high silver content, this silver-based Conductive Pen could be cost prohibitive for some repair applications.

The Nickel Conductive Pen contains nickel as its conductor. While nickel is not as conductive as silver, it does provide good conductivity for less critical repair work. It is a cost effective alternative to silver-based conductive inks. It does contain the same polymer package as our other conductive pens, so cure times are approximately the same.

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#### 3. How electrically conductive is the Circuitworks® Nickel Conductive pen in comparison to the Circuitworks® Silver Conductive Pen?

The silver-based Circuitworks® Conductive Pen possesses a higher electrical conductivity than the Circuitworks® Nickel Conductive Pen. The conductivity is 0.02 – 0.05 ohms/sq/mil for the Circuitworks® Conductive Pen and 1.0-1.5 ohms/sq/mil for the Circuitworks® Nickel Conductive Pen.

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#### 4. What are its features and benefits?

##### Features:

- Single component system
- Good electrical conductivity
- Fast drying
- Highly adherent to most materials
- Low cost

##### Benefits:

- Easy application
- Repairs damaged circuits & shielding
- Tack free in 3 to 5 minutes
- Bonds well to circuits and housing components
- Economical solution for conductive requirements

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#### 5. How do I use the Circuitworks® Nickel Conductive Pen?

Make sure your board is clean and dry for the best adhesion. We recommend Chemtronics Electro-wash® PX Cleaner/Degreaser to remove any surface contamination that might prevent good material contact. Shake the pen vigorously for 30 seconds to insure proper dispersion of the nickel flakes. Squeeze the pen while pressing down on the surface to begin the flow. Draw the trace along the desired path. It's best to practice with the pen before attempting detail work.

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#### 6. How long does it take the trace to dry?

The Nickel Conductive Pen trace will be tack free in 3 to 5 minutes at room temperature. Electrical conductivity is achieved within 30 minutes. You can heat cure the trace for 10-15 minutes at 80°C to 100°C for maximum durability and chemical resistance.

# FAQ

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### **7. Does the Circuitworks® Nickel Conductive Pen require an overcoat to protect it after it is cured?**

The trace created by the Nickel Conductive Pen does need protection after curing. We recommend our Circuitworks® Overcoat Pen for the best results.

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### **8. Can I solder to the trace of the Circuitworks® Nickel Conductive Pen?**

The trace created by the Nickel Conductive Pen is not solderable. If your application requires soldering after the trace is cured, try our Silver Conductive Pen. It is solderable at low temperatures.

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### **9. What is the shelf life of the Circuitworks® Nickel Conductive Pen?**

Twelve (12) months from the manufacturing date stamped on the container.

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### **10. How do I get a sample?**

Contact your ITW Chemtronics® Sales Manager or contact ITW Chemtronics® customer service.

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### **For more information, contact:**

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