LPKF Researchers Develop Powder Coating for Molded Interconnect Devices

Researchers with LPKF Laser & Electronics have announced a breakthrough in the molded interconnect device industry: the development of a powder coating that enables laser direct structuring to comply with metallic surfaces.

Laser direct structuring (LDS) is a patented 3-step process for creating circuitry on molded interconnect devices. Until now, LDS could only be applied to parts molded from specially doped thermoplastics.

That is quickly changing.

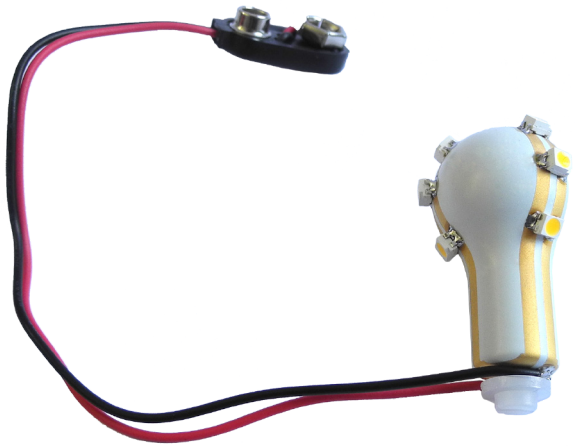
Dr. Wolfgang John, senior laser direct structuring consultant with LPKF, explained the process.

“Normally with LDS, you run a laser over the surface of a thermoplastic part. The laser micro-etches the surface, tracing the wiring pattern and preparing the part for electroless plating.

“Now here’s where it gets interesting. Whereas before LDS could only be implemented on doped thermoplastics, this new technique allows circuitry to be added directly to powder-coated surfaces on metals such as steel or aluminum.”

This is a significant development for those working with parts that generate excess heat, as metal carriers provide better temperature management than thermoplastics.

One industry where this reaps obvious benefits is LED lighting, an emerging area of application for laser direct structuring.



John shared a part created by researchers at LPKF to demonstrate his points.

A mock light bulb, it is actually a metal part coated with the new LDS-grade powder. LED lights are mounted onto the plated circuit traces.

“This is really exciting news,” said John. “Opening LDS up to metal surfaces is a game changer that expands its ever-growing list of applications. Our research team has once again opened new doors.”

Around 20% of the laser specialist’s workforce is engaged with research and development.

For more information on laser direct structuring, visit: http://www.lpkfusa.com/mid/