



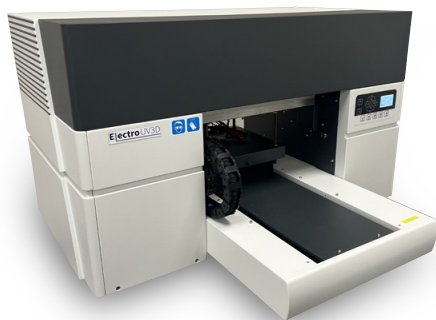
CHEMCUBED AM-SYSTEMS

MULTI-LAYER PCB PRINTING
FOR ELECTRONICS



TURN-KEY ADDITIVE PCB MANUFACTURING SYSTEMS

ELECTROJET™ ADDITIVE PRINTED ELECTRONICS



Desktop

ElectroUV3D-1216™

Product specifications	ElectroUV3D-1216 (Desktop)	ElectroUV3D-3200 (Production)
Feature size/spacing	100 µm / 200 µm	100 µm / 200 µm
Layer to layer accuracy	10 µm	10 µm
Throughput	n.a.	16m ² /h (2 printheads)
Printing platform	30,5 cm x 40,6 cm (12" x 16")	90 cm x 60 cm (36" x 24")
Equipment dimensions	96,5 cm x 88,9 cm x 61 cm (38" W x 35" D x 24" H)	200 cm x 133,2 cm x 78,7 cm (78,6" W x 52,4" D x 31" H)
Weight	60 kg	155 kg

www.chemcubed.com/electrojet-systems

INTRODUCING NEW POSSIBILITIES IN COMMERCIAL PCB PRODUCTION

Multi-layered additive manufacturing with unequalled **Bulk silver conductivity** is now within reach! DoMicro is proud European value added reseller of the revolutionary ElectroJet™ materials and printers by ChemCubed. This inkjet printing platform offers the unique combination of ready-to-use material testing, rapid prototyping and a fully capable production system.

BENEFITS

- **Fast prototyping:** flexibility to design, prototype and produce compatible with the majority of digitally printed electronic applications, keeping your IP safe.
- **Performance:** multi-layer capabilities & bulk silver conductive inks for unparalleled high performance.
- **Sustainable:** digital additive manufacturing inkjet printing process replaces multiple conventional production steps by depositing only the required material, significantly reducing circuit dimensions.

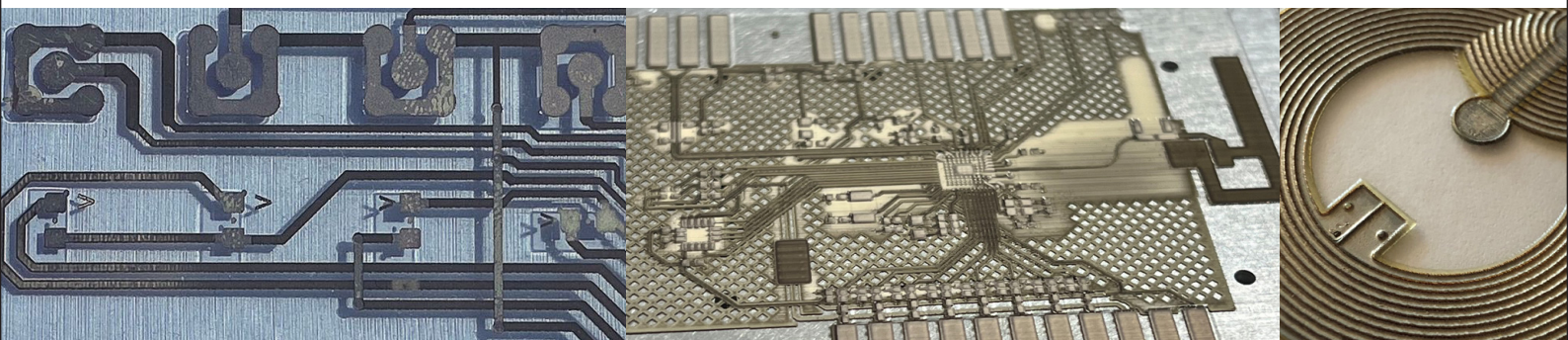
MULTI-MATERIAL, MULTI-LAYER CAPABILITIES

ElectroJet™ equipment and inks enable digital printing of advanced particle-free silver conductive inks and UV-curable dielectric insulating/building inks on low temperature. The platform features inline LED UV curing and inline heat sintering. Capabilities of the inkjet printed conductive inks match traditional etched PCB's, thus providing a more sustainable match with current applications.

APPLICATIONS

- Printed circuitry, circuit boards and electronics packaging
- Flexible hybrid electronics, writing harnesses
- Passive components such as resistors, capacitors and inductors
- RFID, sensors, shielding and antenna applications
- Interconnections for:
Displays, Semiconductor manufacturing, Photovoltaics, Wearables

HIGH PERFORMANCE INKS FOR ELECTRONICS



ChemCubed's nanocomposite dielectric

Multi-layer processes

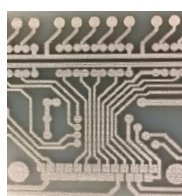
Antenna structure

Founded on decades of experience in developing functional inks, ChemCubed has an extensive materials range tailored for demanding electronic applications.

State-of-the-art: nanocomposite dielectric material that:

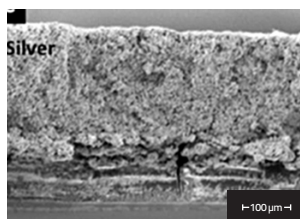
- insulates layers between the circuits
- masks material for soldering
- supports at connection points; thereby allowing it to replace F board for two-sided boards

POST PRINT PROCESS CAPABILITIES

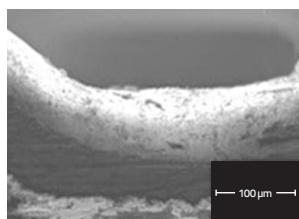


- Solder Masking
- Protects a printed circuit against oxidations/prevents solder bridges between solder pads
- Widely used in reflow soldering

Ink properties	
Current market offerings:	ChemCubed special inks:
Nano particles can clog inkjet heads	Jettable reliability
Sintering temp 130 °C / 30 min	Low temperature sintering/curing at 80 °C / 5 min
Silver versus fillers content 40 – 60%	Silver content 99%



Non-conductive filler and/or voids



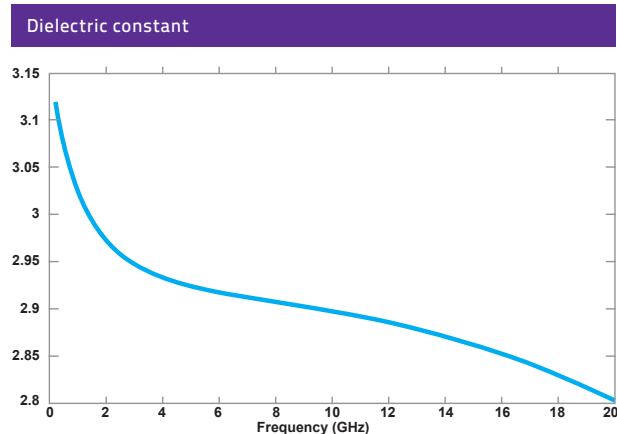
Bulk silver conductivity

Comparing conductive inks: clearly there is a difference.

www.chemcubed.com/electrojet-materials

Dielectric inks	DI-7*	HPD-3D**
Coefficient of Thermal Expansion ($10^{-6}/K$)	177	25
T_g (°C)	70	133
Young's Modulus (MPa)	400	1150
Tensile Strength (MPa)	21.1	66
Elongation (%)	25	15

*Dielectric Ink 7 | **High Performance Dielectric Ink - 3D



Typical low loss dielectric constant measured on a low loss substrate

Substrates (Rigid, Flexible and Rigid/Flex* planar materials)	
FR4 board	Glass & ITO coated glass
Liquid Crystal Polymer (LCP)	Ceramic
Polyester (PET)	Foil / Metal
Polycarbonate	Paper / Coated Paper
Polyimide Film (Kapton)	Label stock

*Rigid structures may be printed on flexible substrates

ABOUT CHEMCUBED

ChemCubed is a leading supplier of specialty inks and printers in additive printed electronics today. The company combines deep expertise in conductive and dielectric inks, primers and security marking materials with turn-key inkjet printing platforms. ChemCubed is based in US.

End-Use Application Focus

Understanding that the ultimate goal of printed electronics and 3D printing materials is to enhance real-world applications, we prioritize end-use functionality. Our solutions are tailored to meet the unique requirements of diverse applications. Strategically located near Stony Brook University, New York, allows us to continually push the boundaries of what is achievable in the Additive Manufacturing landscape. ChemCubed is trusted partner in Advanced manufacturing, Automotive, Medical & Dental, Optics, Aerospace, Electronics, Military & Defence and Security.

The strategic partnership between ChemCubed and DoMicro enables us to co-develop solutions that are technologically advanced, capable and reliable in production. **Interested? Reach out to us!**

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ABOUT DOMICRO

DoMicro, as technology service provider and value-added reseller of Chemcubed, excels in developing cutting edge inkjet printing processes, micro assembly and 3D packaging technology. Our expertise is in matching the application requirements with material properties and equipment functionalities. Technology development typically relates to the know-how on creating the process for the applications.

Technology Services

By aligning material science with advanced packaging and wire bonding expertise, we help customers bring more compact, durable, and high-functionality electronic products to market faster. These innovations support a wide range of industries, including automotive, medical devices, industrial IoT, and consumer electronics. If you are challenged by the market and looking for a partner to move your ideas into realization, contact us. We really do **IMAGINE, CREATE AND ACCOMPLISH.**

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