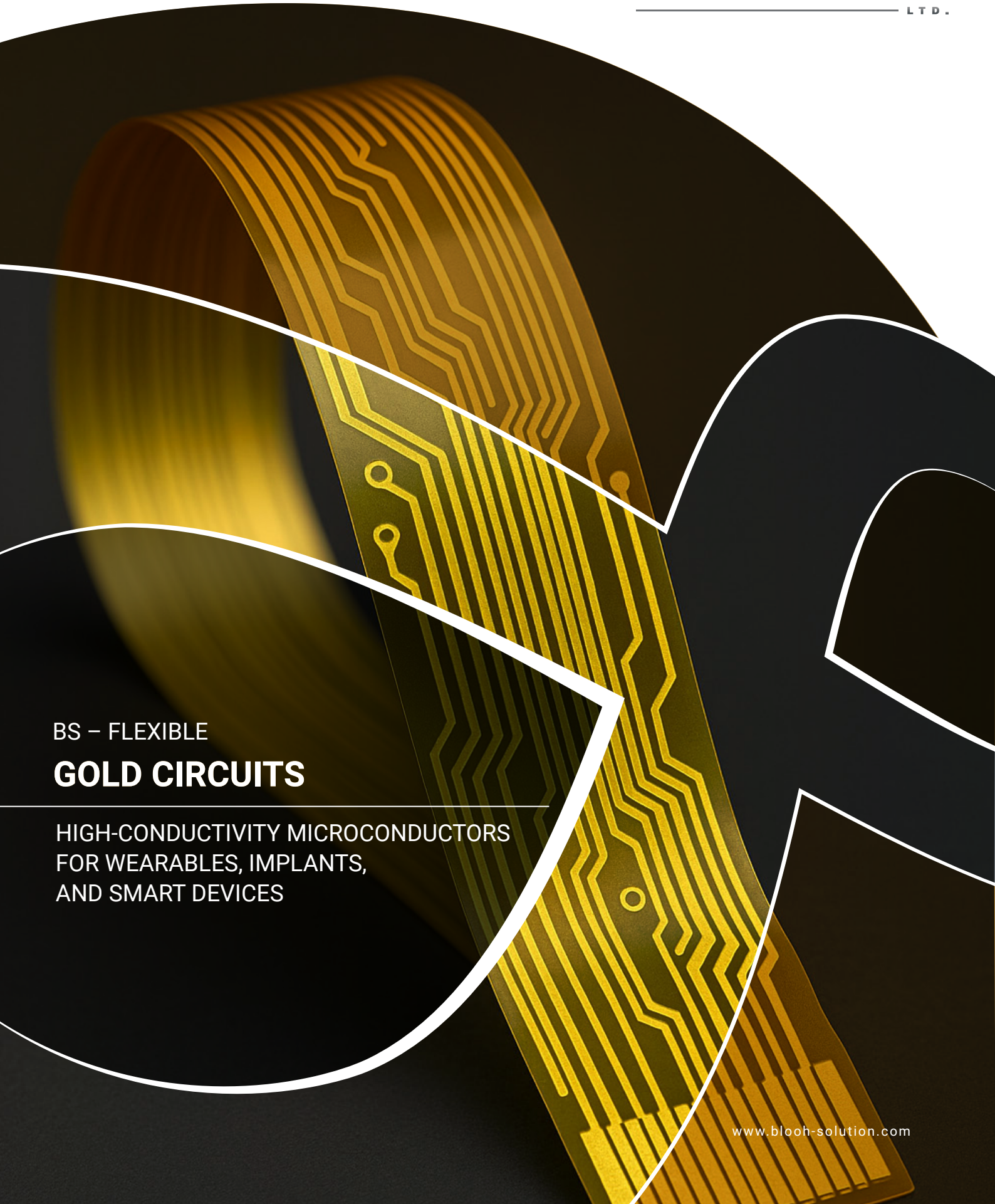
BLOOH SOLUTION
LTD.

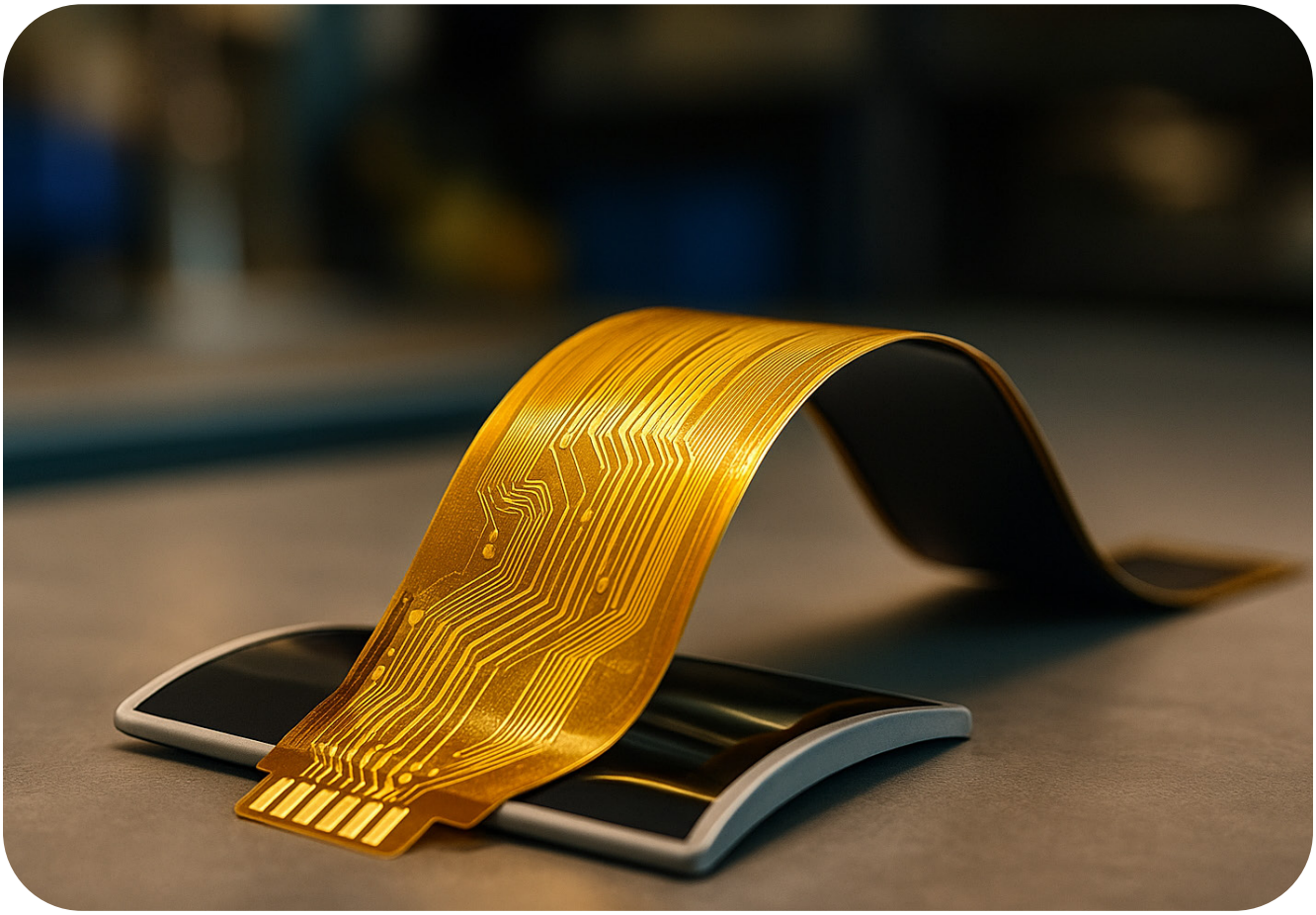


BS – FLEXIBLE

GOLD CIRCUITS

HIGH-CONDUCTIVITY MICROCONDUCTORS
FOR WEARABLES, IMPLANTS,
AND SMART DEVICES

www.blooh-solution.com



INTRODUCTION: GOLD-BASED CIRCUITS FOR THE NEXT GENERATION OF ELECTRONICS

With the rise of flexible electronics, materials that offer maximum conductivity and reliability under mechanical stress are becoming increasingly important. Gold circuits, especially on flexible substrates, open a new chapter in the development of wearable technologies, medical sensors, and smart textiles.

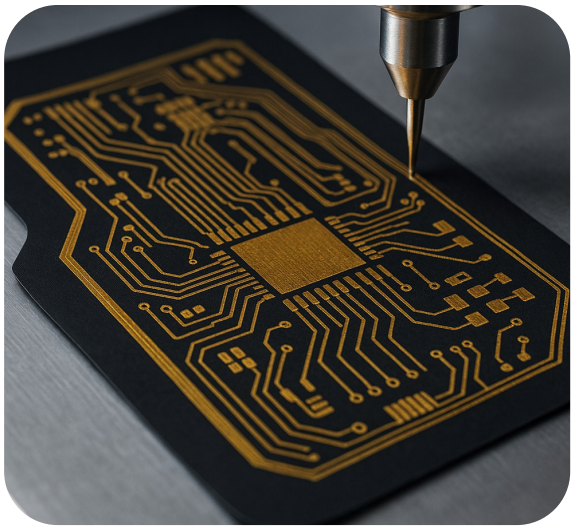
BLOOH Solution Ltd. has developed an innovative portfolio of gold-based micro-conductors that combine excellent electrical properties with physical flexibility. Our solutions can be directly integrated into bioelectronic surfaces, provide exceptional resistance to moisture, and enable stable signal transmission even under continuous movement.

BLOOH Solution harnesses this potential to elevate medical wearables and industrial sensor systems to a new level of performance—reliable, biocompatible, and future-ready.

BS-BREAKTHROUGH

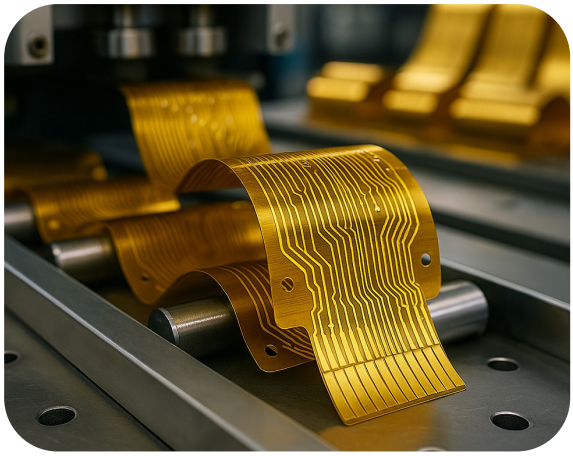
BLOOH Solution combines high-precision precious metal micro-printing with state-of-the-art flexible substrates to set new standards in circuit trace technology. The combination of gold nanoparticle layers, ruthenium reinforcement, and biocompatible sealing enables fully stretchable yet electrically stable conductor solutions for highly dynamic applications.

Our flexible gold circuits are produced within a controlled manufacturing chain that includes laser micromachining, low-temperature curing, and plasma pre-treatment. The result: robust, washable, and chemically resistant circuits that meet the highest safety and quality standards.



Technological Highlights at BLOOH Solution:

- Gold conductors with up to 5,000 stress cycles and minimal resistance loss
- Thermal stability during continuous operation under changing conditions
- Electrical consistency under motion, humidity, and skin contact
- EMI/ESD-resistant layer structures for medical and industrial environments
- Integration into existing textile or polymer production lines possible



Applied Methods and Innovations:

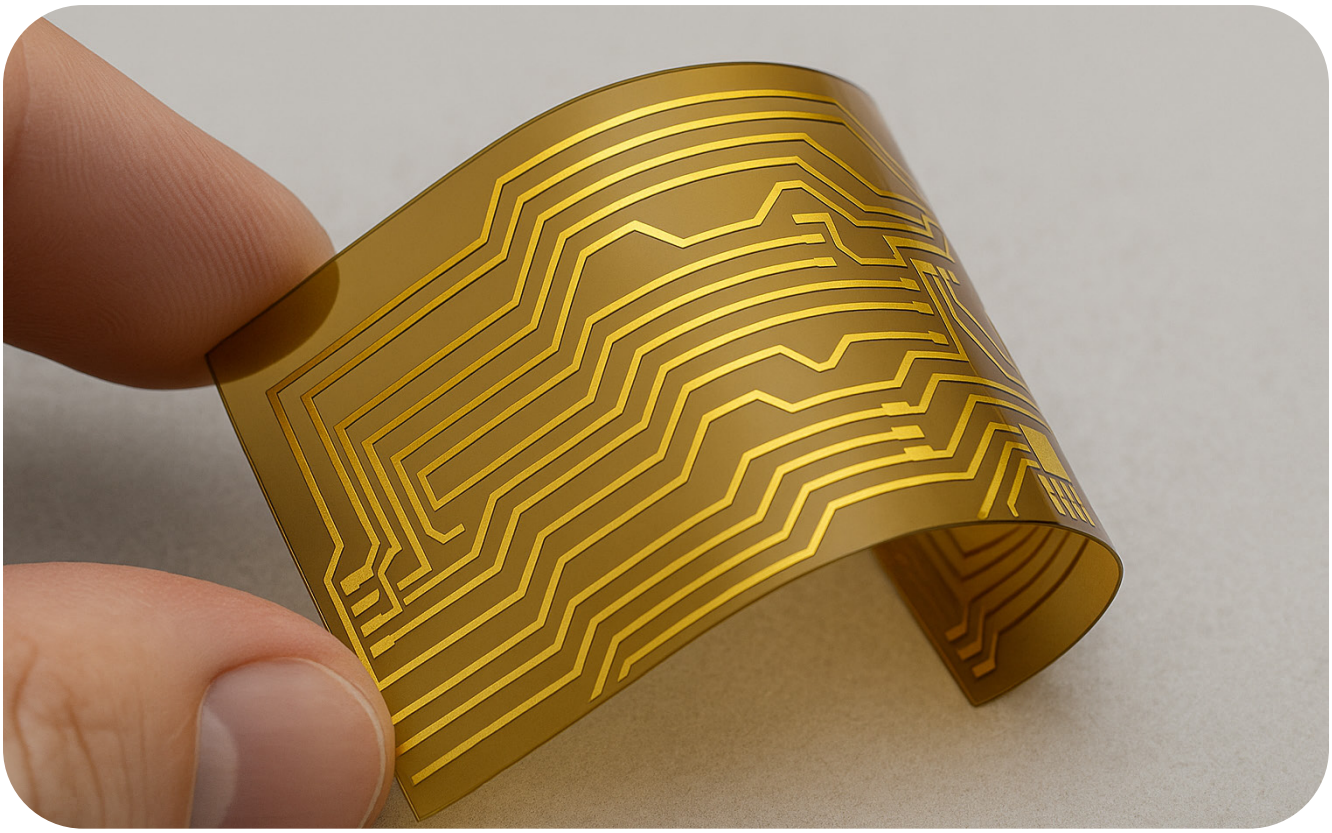
- Multi-material co-fabrication (gold–ruthenium–polyimide systems)
- Thin-film technology for ultra-light signal carriers
- Solvent-free adhesion layers for improved environmental impact

BLOOH Solution continuously advances these systems in collaboration with leading textile manufacturers, medical laboratories, and industrial automation partners. The result: highly specialized micro-conductors that revolutionize electronics—in structure, function, and sustainability.

PORTFOLIO

MODEL FLEX-GOLD MED

Flexible micro-conductors for medical sensors, neuro-implants, and electronic patches. Designed for long-term skin contact and stable biometric data transmission.



TECHNICAL SPECIFICATION

Conductor Structure: Gold PVD on TPU with ruthenium interlayer

Stretchability: Up to 25%

Bending Tests: >5,000 cycles at 5 mm radius

Conductivity: >38 MS/m

Application Method: Magnetron PVD

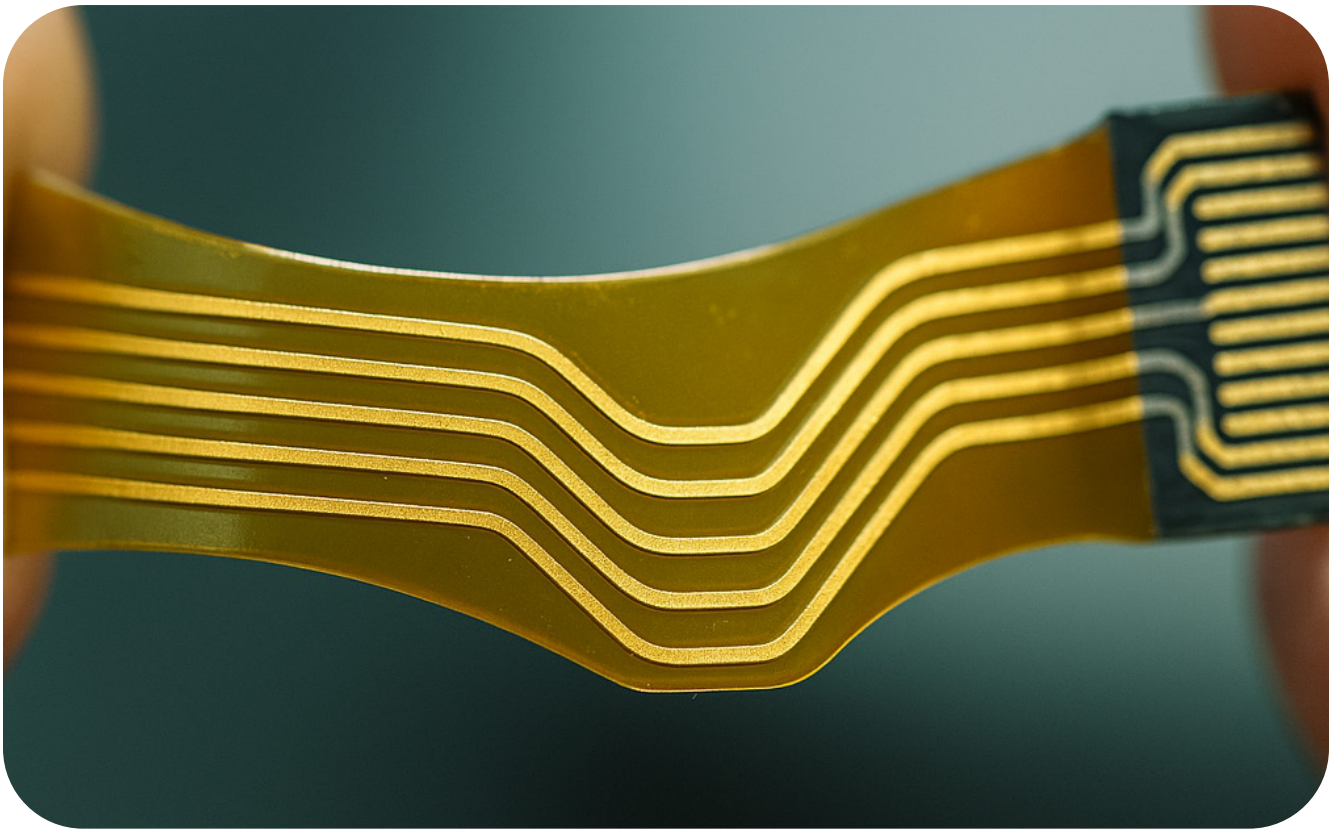
Temperature Range: –20 °C to 130 °C

Additional Benefit: Enables continuous health monitoring with long-lasting signal quality.

PORTFOLIO

MODEL FLEX-GOLD TEXTILE

Printed gold circuits for smartwear, sportswear, and textile user interfaces. Wash-resistant and suitable for industrial processing.



TECHNICAL SPECIFICATION

Substrate: Polyamide-elastane fabric

Cyclic Flexibility: >2,000 motion cycles

Skin Compatibility: Dermatologically tested

Printing Technique: Screen printing + laser sintering

Wash Cycles: >50 (at 40 °C)

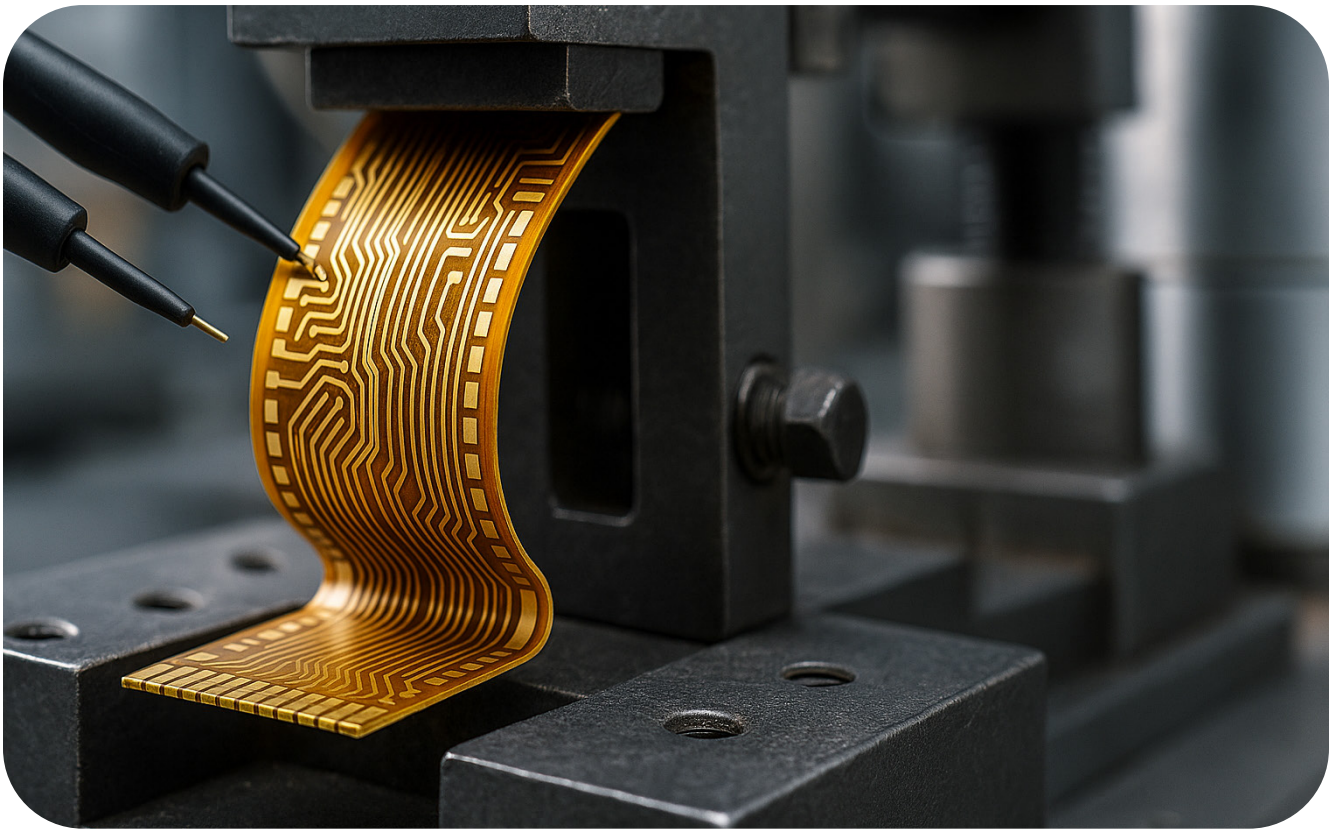
Contact Resistance: <50 mΩ

Additional Benefit: Seamless integration into garments without loss of comfort.

PORTFOLIO

MODEL FLEX-GOLD INDUSTRIAL

Gold-based flexible PCBs for industrial applications, machine monitoring, and compact control electronics.



TECHNICAL SPECIFICATION

Structure: PI substrate with gold-plated copper traces

Thermal Conductivity: 0.26 W/m·K

Max. Operating Voltage: 48 V

Insulation: Polyimide + epoxy resin coating

Number of Layers: Up to 3 layers

Protection Rating: IP54 (optionally higher)

Additional Benefit: Compact, durable, and vibration-resistant for mobile industrial electronics.

DRIVING INNOVATION FORWARD!

FOR MORE INFORMATION PLEASE CONTACT:

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