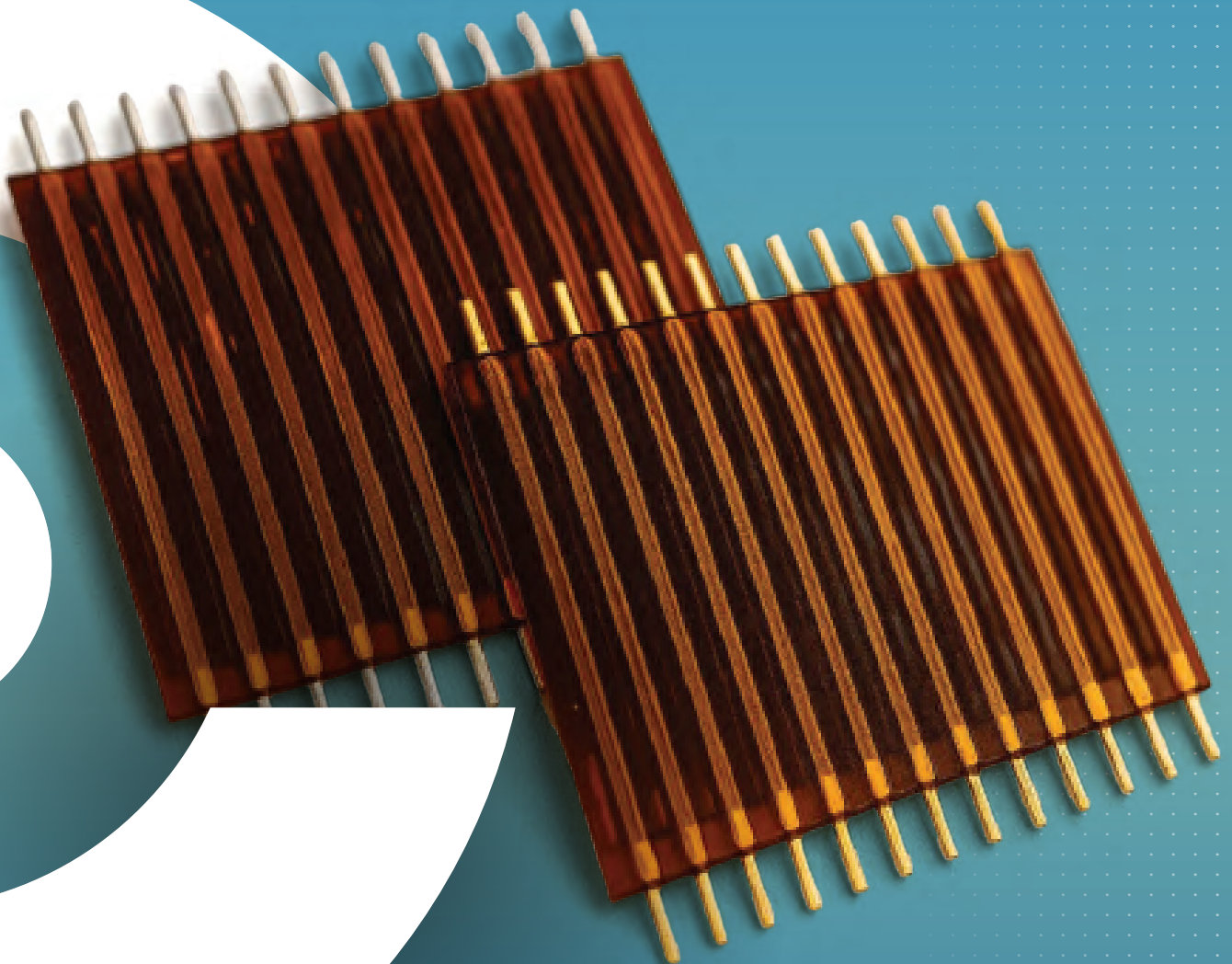


Jumper C-FLEX



Jumper C-FLEX

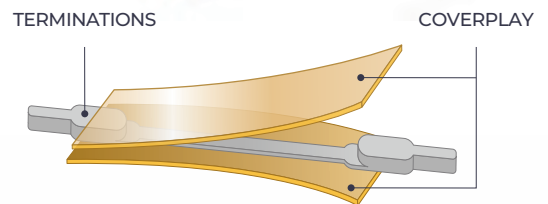
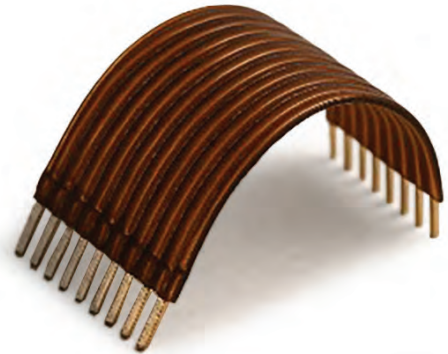
Reliable & customizable flexible interconnects



The Jumper C-FLEX is a flat, compact flexible circuit specifically designed to replace traditional wired connections between rigid PCBs. With a minimal footprint and lightweight structure, C-FLEX offers both mechanical flexibility and electrical properties, making it ideal for dense or constrained assemblies.

Its structure built from precision-reduced copper conductors encapsulated in high-performance polyimide allows robust operation under vibration, thermal cycling, and mechanical stress.

Whether you're working on SUB-D connectors, high-speed interconnects, or compact multi-board systems, C-FLEX solutions are offered in catalog formats (2.54 mm, 1.27 mm) or fully customized for your specifications.



Technical Specifications



- Pitch: 2.54 mm
- Nominal Thickness:
Fingers: 0.25 mm ± 0.025 mm
Conductors (in flex zone): 0.10 mm ± 0.025 mm
- Voltage Rating: up to 1500 V
- Current Capacity: up to 2.5 A per track (depending on width)
- Material: Copper + Polyimide insulation (Kapton®)

Conductors

- Material: Laminated copper (Cu- Al), ½ hard
- Thickness: 250 µm (initial) / reduced to 100 µm in flexible areas
- 150 µm or 70 µm options for specific applications
- Resistivity: 1.8 µΩ·cm
- Forming: Flat or shaped fingers, solder-ready

Insulator

- Material: Polyimide (Kapton®) – 25 µm thickness
- Adhesive: Modified acrylic
- Dielectric Constant: 3.4 to 1 kHz / 3.6 to 1 MHz
- Dissipation Factor: 0.02 to 1 MHz
- Dielectric Strength: up to 5600 V to 60 Hz
- Chemical Resistance: Excellent, except to strong alkalines

Physical & climatic characteristics

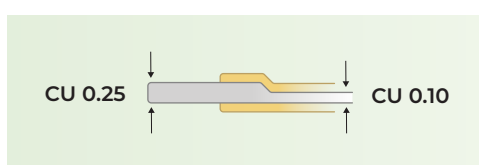
- Operating Temperature: -55°C to +105°C (continuous)
- Flex Part Thickness: 0.25 mm
- Minimum Bending Radius: ≥ 4 mm (excluding connector zones)
- Thermal Cycling Resistance: Excellent, for dynamic or static use
- Humidity Resistance: High, suitable for industrial environments

Catalogue standard

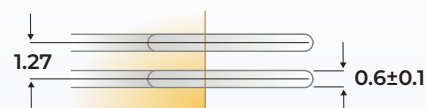
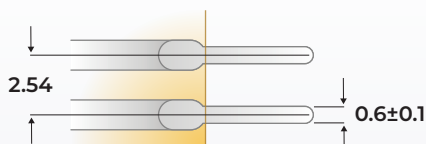
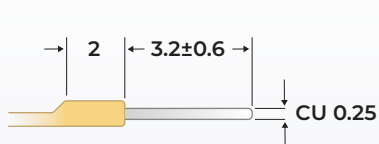
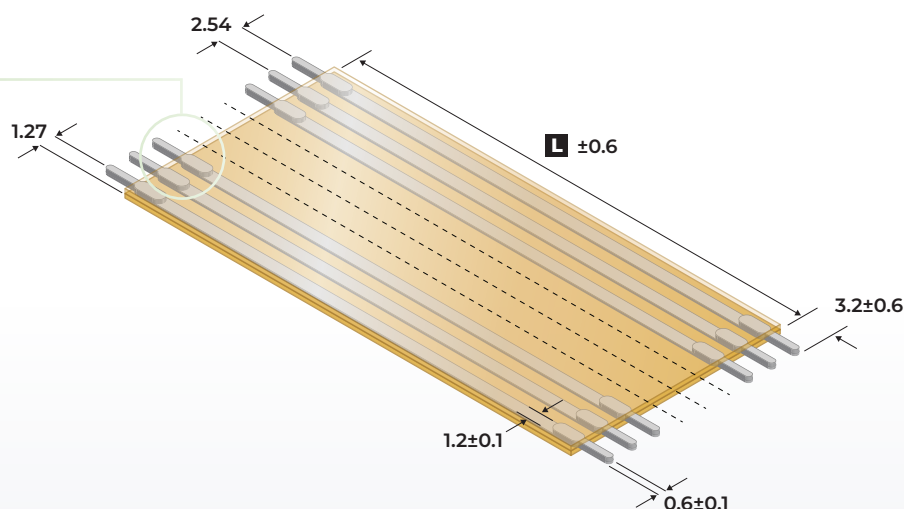
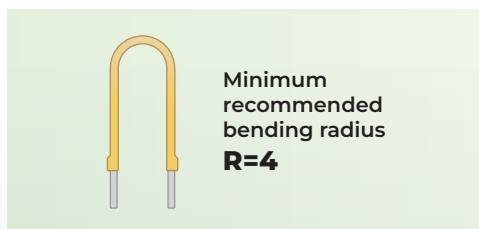
©-FLEX standard 1.27 / 2.54 mm pitch jumpers

©-FLEX jumpers provide a flat and flexible electrical link between two rigid printed circuit boards. Engineered for compact integration, they eliminate the need for traditional connectors while maintaining high electrical performance.

Each jumper features solid copper contact fingers, precision-reduced to 100 μm in the flexible zone. These conductors are encapsulated within a 25 μm thick polyimide insulating layer, hot-bonded to ensure optimal mechanical flexibility and thermal stability.



The fingers are the integral extension of conductors



Standard features

Pitch | 1.27 mm or 2.54 mm

Current Rating | up to 2.5 A
(depending on copper width & thickness)

Voltage Rating | up to 1500 V

Circuit Thickness | 0.25 mm typical

Bend Radius | min. 4 mm
(non-termination area)

Key applications

- Signal routing between stacked PCBs
- Military, aerospace, and industrial-grade assemblies
- Weight and space sensitive systems
- Vibration-prone environments

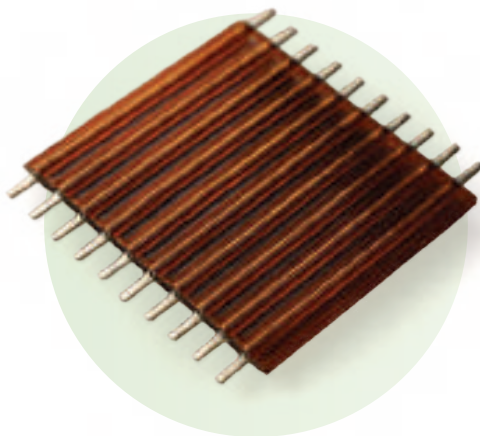
Catalogue standard

Ordering specifications

Ex.: For 1 jumper with 1.27 mm pitch, 38.1 mm length, 10 conductors, and Enig finish

Conductors Pitch	Length code	Finition of contacts	Number of conductors
CF1	L15	E	10

Code	Code	Inches	mm	Code	Code
CF1 = 1,27 mm	L05	0.5"	12.7	E = Enig	2 à 60
CF2 = 2,54 mm	L10	1"	25.4	T = Bright Tin	
	L15	1.5"	38.1		
	L20	2"	50.8		
	L25	2.5"	63.5		
	L30	3"	76.2		
	L35	3.5"	88.9		
	L40	4"	101.6		



Key benefits



High interconnection reliability



Easy and fast integration into assemblies



Compact and lightweight design, reducing overall bulk



Customizable termination shapes for seamless mechanical fit



Compatible with wave and hot air soldering processes



Excellent vibration resistance, ideal for dynamic environments

icafe-mmab

Our factory, your advantage

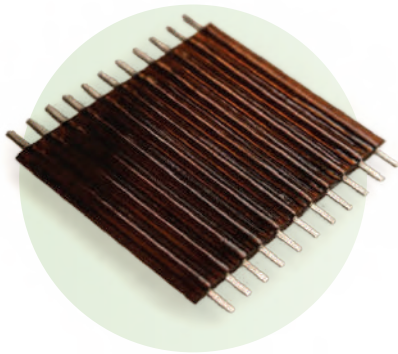
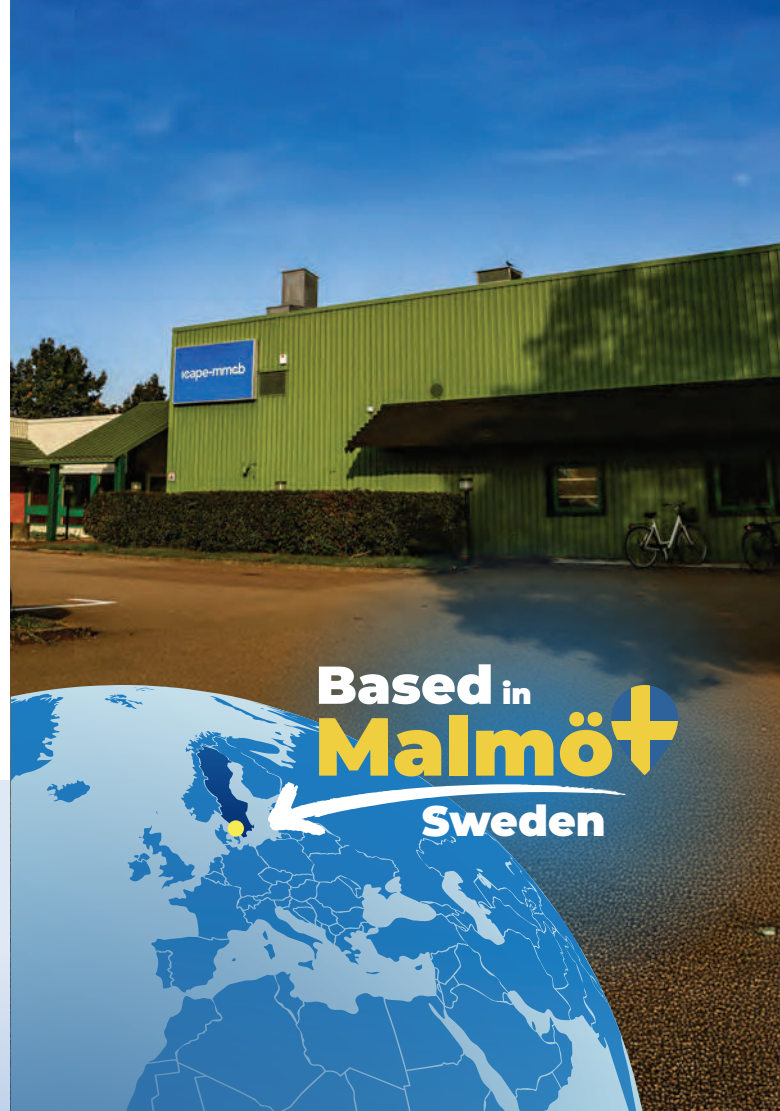
☉-FLEX circuits are built in our Swedish plant.

At ICAPE, we don't rely on third-party suppliers for ☉-FLEX production.

Our factory MMAB in Sweden manufactures these sculpted flex circuits in-house, with full process control, top-tier materials, and short lead times.

Why does it matter?

Because critical industries like aerospace, defense, and railway can't afford delays or connector issues. In these environments, a weak solder point or a late delivery can cause system failures or project hold-ups.



Why ICAPE-MMAB Manufacturing?

- ✓ **European site** = Fast lead times & responsive supply chain
- ✓ **In-house** = Full traceability and process control
- ✓ **Robust design** = Ready for harsh environments
- ✓ **Engineering on demand** = Complex folding, custom shaping, layout co-design



Specialized for demanding industries

- | Aerospace / MIL-spec systems
- | Defense electronics
- | Rail & industrial automation



OTD: specialized for on-Time, every Time

- | Short lead times
- | High responsiveness
- | Reliable European logistics
- | Compliance with IPC standards



Custom configurations on demand

From circuit length to connector plating, we manufacture ☉-FLEX solutions tailored to your product and integration needs.

ICAPE GROUP

Partnering for Excellence in **PCB** and **Custom Electronic Parts**

At **ICAPE Group**, we fuel your success from idea to market with tailored solutions in high-quality **PCBs** and **custom electronic parts**.

With over **25 years of expertise**, our reliable service, extensive product range, and competitive pricing empower you to lead in your industry.

www.icape-group.com



 **Contact us**

