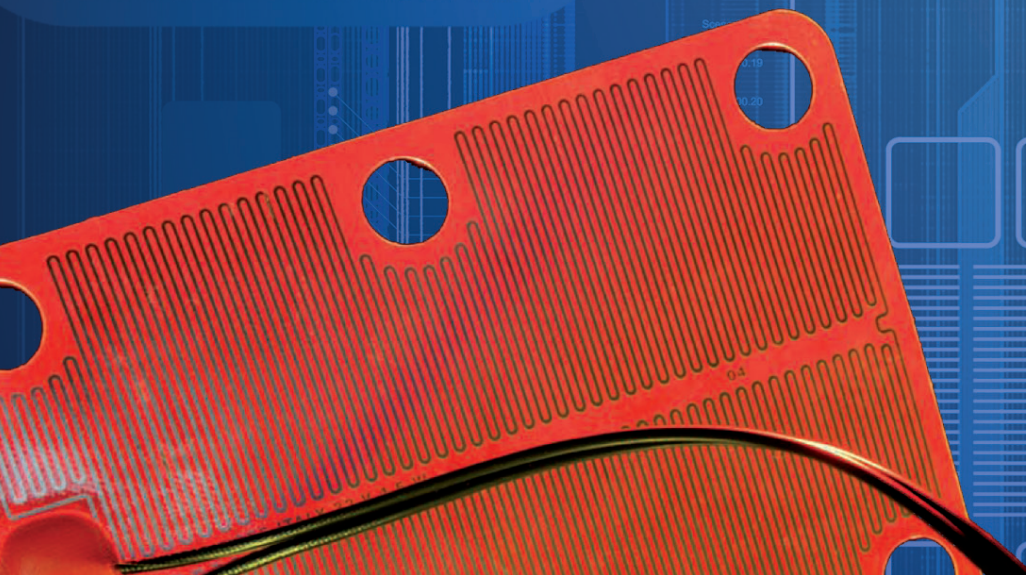


# ETCHED FOIL

## Ultra-flat heaters



Flexible ultra-flat heaters are produced using etched foil technology on a silk-screened circuit, which is then coupled with insulating materials such as silicone, polyester, polyimide (kapton®), teflon and mica, depending on operating temperatures.

The heaters can be realized according to customer specifications, can be provided with adhesive, either on one or both sides, completed with connectors, connection cables, control thermostats, limiters, sensors, NTC probes, PT100, probe support pockets, diodes, slots, etc.

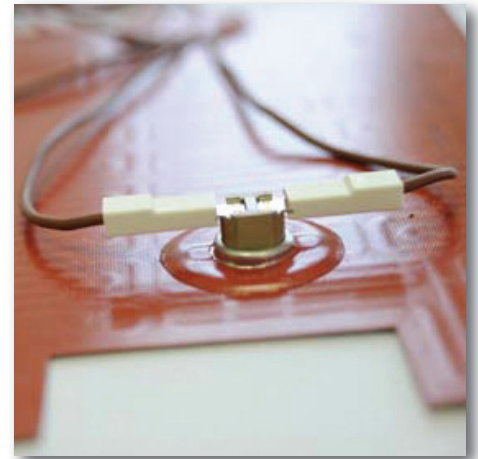
### **The main benefits are:**

- Adaptability to flat and curved surfaces
- High flexibility
- Good thermal distribution over the whole heating surface
- Reduced thickness
- Differentiated powers
- Easy installation



## APPLICATIONS

Automotive and transports (car and truck rear mirrors, train carriages); industrial applications (heated presses, dies, heating surfaces); catering (hot plates, bain-maries, food warmers); air conditioning (air conditioners, crankcase heaters); industrial and commercial refrigeration (drip trays, anticondensation for refrigerated display cabinets); medical (ultrasound washing, medical and lab instruments); bathrooms (saunas, hydromassage pools, electric blankets, demist bathroom mirrors, towel rail heaters); household appliances (coffee makers, ice cream makers, yogurt makers, slow cookers, feeding bottle heaters, electric trouser presses); miscellaneous (telecommunication antennas, incubators for pets, anticondensation for electric equipment and panel, heating of greenhouses, aquariums and terrariums).



## TECHNICAL DATA

INSULATION	Polyester	Silicone	Polyimide
CLASS	I/II	I/II	I
TEMPERATURE	-20°C ÷ +110°C	-30°C ÷ +180°C	-20°C ÷ +250°C
INSULATION MINIMUM THICKNESS	0.2mm	0.8mm	0.1mm
SUPPLY VOLTAGE	5V ÷ 400V	5V ÷ 400V	5V ÷ 400V
MAX. SPECIFIC CHARGE	0.2W/cm <sup>2</sup>	2.0W/cm <sup>2</sup>	2.5W/cm <sup>2</sup>
ELECTRICAL CONNECTION	Cable or faston	Cable or faston	Cable or faston
THERMAL REGULATION	Thermostat or limiter	Thermostat or limiter	Thermostat or limiter
MAXIMUM DIMENSIONS	2000x600mm	2000x600mm	2000x600mm
FASTENING (IF REQUIRED)	Adhesive	Adhesive	Adhesive
TERMINAL (ON REQUEST)	Pin or faston	Pin or faston	Pin or faston

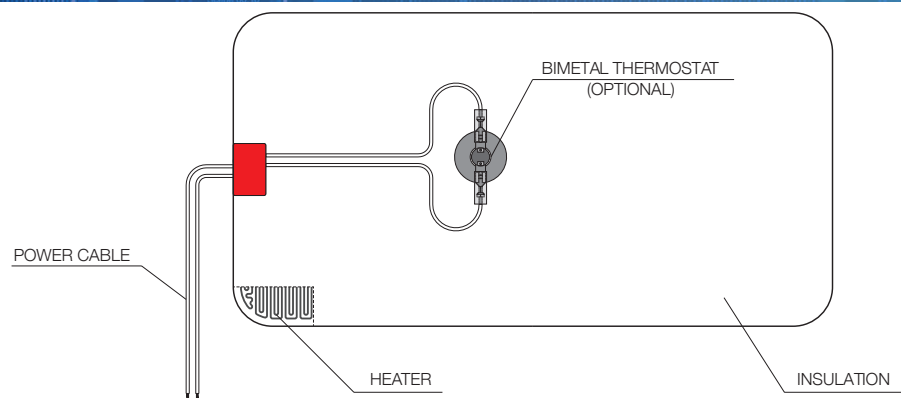
## APPROVALS



## TESTS

EN 60335-1, EN 50106

## TECHNICAL DRAWING



GENERIC EXAMPLE