



# THIN AND FLEXIBLE HEATING RESISTANCE WITH PTC “SELF-LIMITING” INK

Alper presents high PTC (Positive Temperature Coefficient) effect film heaters. A special carbon ink with high PTC effect is printed by screen printing on a flexible and thin PET substrate. The heater is "self-limiting", it reaches the temperature defined by the PTC ink without exceeding it. When the temperature of the system increases, the PTC heater increases its resistivity with the consequent decrease in its power. This peculiarity, which distinguishes these Alper flexible heaters, makes them suitable even for the most particular and delicate applications, such as those that come into contact with skin and textiles. The PTC ink heater does not require any accessory temperature limiters. In this way, the heater is thin as a foil and production costs are reduced in order to take advantage of more convenient prices. On request the product can be adhesive, even in part, and can be completed with any type of cable and connector. The continuous search for new materials has allowed Alper to make its PTC heaters extremely flexible and performing with long life. Our production processes guarantee high quality standards combined with a high production capacity. Additive production processes, produce harmless waste to the environment and humans.

## CHARACTERISTICS:

- Maximum dimensions: 1000x600mm (customized sizes available on request).
- Heat uniformity. High thermal and power stability.
- Fast reaching of the temperature.
- Wide range of double-sided adhesives specific for each use.
- Wiring to customer specification.
- No external temperature limiter needed.
- Design upon customer specification.
- Safe. For applications that come into contact with skin and textiles.
- Up to 15% energy savings compared to non-PTC heaters.
- “Self-limiting” temperature:
  - Max. 55°C (3V – 230V)
  - Max. 85°C (3V – 230V)
- Europe Directive 2014/35/UE  
EN 60335-1  
EN 50106
- S.I. 2016 No. 1101 (Electrical Equipment (Safety) Regulations 2016)  
BS EN 60335-1  
BS EN 50106
- RoHS e REACH

