

TEMPERATURE MAINTENANCE SYSTEMS

T - TA - TV - TP

Silicon elastomer heater mats



Characteristics

- Takes up little space.
- Highly flexible.
- A variety of shapes.
- Quick and easy to fit.
- Any voltage on request.
- Length of power cable : 1 m as standard.
- T : silicon elastomer insulated mats.
- TA : with adhesive back for permanent fitting.
- TV : factory vulcanised on metal backing.
- TP : factory preformed version.
- Special production on request.
- **EN 45545** certification on request.
- Ingress protection code : IP53 (others on request).



Applications

Military: radars, missiles, temperature maintenance of electronic circuits or protective housings anti-condensation for aiming devices, etc.

Office equipment: photocopiers, printers.

Rolling stock: rear-view mirrors, batteries, vehicle floors, driving cabs for locomotives, locks, tank wagons, etc.

Food service industry: electric hot-plates, double boilers, trays, etc.

Photography: developing and fixing trays.

Medical: X-rays, trays for wax impressions, apparatus for bacteria cultures or blood tests, transformation of cosmetic products, etc.

Various industries: substances in drums, heating trays, distillers, boilers, ultrasound vessels, tanks for electrolysis, process tanks, storage silos and vats, hoppers, conveyor belts, control desks, presses, repair kits for composite materials, etc.

Miscellaneous: photoelectric cells, decomposition toilets, various drying devices, etc.

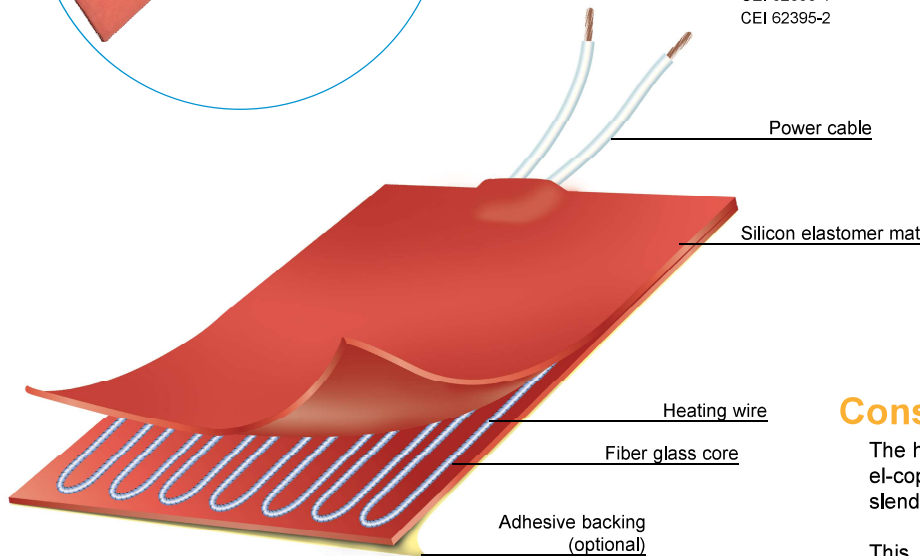
To ensure that these heating elements enjoy a long service life, we recommend using a control device.



Standards

CEI 62395-1
CEI 62395-2

NF EN 45545-2 on request
NF EN 60077-1 on request
NF EN 60077-2 on request



Constitution

The heating part is made up of a nickel-chrome or nickel-copper alloy heating wire wound in a spiral around a slender fiber glass core.

This heating element is then placed between two layers of woven fiber glass impregnated with silicon elastomer.

This material is an excellent electrical insulator (approx. 12 kV/mm), a good conductor of heat (7.10-4 W/cm/K) and flexible. It can withstand continuous temperatures of around 200°C. The fiber glass weave endows the assembly with good mechanical resistance, while allowing it to remain very flexible.

Use

Consult the pages of the catalogue devoted to the corresponding general operating principles, general instructions for use and accessories.

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Heating mats are manufactured to order and their sizes and shapes can be adapted to each situation.

They can be fixed using eyelets or hooks incorporated into the heating mat and, in some cases, vulcanized directly by us onto your metal parts. An adhesive backing can also be provided.

Other options such as double insulation, fuses, thermal cut-out devices or temperature sensors (PT100, PT1000, thermocouple,...) are available.

T - TA - TV - TP	
Heating wire	Nickel-Copper or Nickel-Chrome
Heating element insulation	Silicon elastomer
Max. surface	1.5 m ²
Max. length	3 m
Max. width	1 m
Thickness	~ 3 mm (thicker at connection point)
Max. power	0.5 W/cm ²
Permissible surface temperature	From - 60°C to + 200°C
Max. temperature maintenance	+ 160°C
Tolerance	Power ± 10%

Surface temperature according to power

Power W/cm ²	Surface temperature (°C)
0.05	50
0.10	70
0.15	90
0.20	110
0.25	130
0.30	145
0.35	160
0.40	175
0.45	190
0.50	205
0.55	215
0.60	230
0.70	250
0.80	265
0.90	280
1.00	290

For information, silicon elastomer will rapidly degrade beyond these values.

The above table gives surface temperatures for heating mats according to their power level in W/cm², measured in the following conditions:

Heating mats placed on a 1.5mm thick horizontal aluminium plate in a calm atmosphere at +20°C. The plate is suspended in the air. Temperatures are recorded after stabilising.

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