

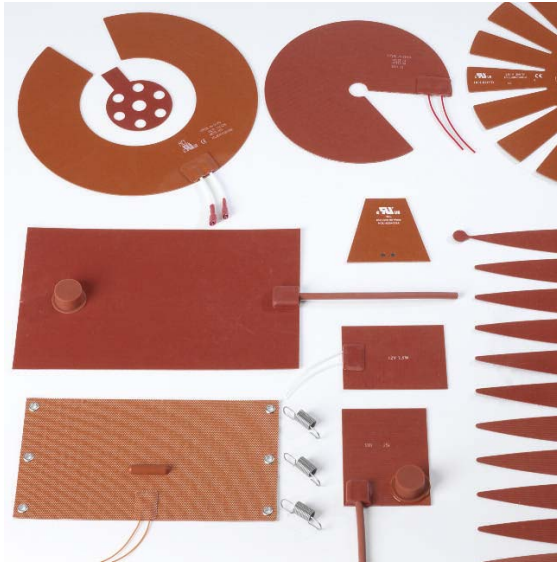


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CF- 140.30E

FLEXIBLE SILICON HEATERS



Silicone rubber is ideally suited for the production of heater mats with its low thermal mass and superb electrical insulation properties, it allows high power densities with fast response to temperature control. With silicones wide temperature range tolerance of -60°C to 230°C , being thin and lightweight it has a distinct advantage over other forms of heating elements. Where direct precise and intimate heating is required silicone heaters are the ideal solution.

Wire Wound

Using evenly spaced resistance wires laminated between sheets of silicone, wire wound mats are ideal for prototyping or problem solving applications. Manufactured to customer specifications they can be made in a limitless range of shapes and sizes. High flexibility can be obtained using tough, robust materials which are finding ever increasing applications in industries.

Etch Foil:

Computer designed chemically etched foil tracks are laminated between thin sheets of silicone to give precise even heating. Suitable for both low and high volume production Etched foil heaters have rapid heat up properties with precise temperature control. Available in a limitless range to customer specification etch foil heaters provide heating solutions in a multiple of industries.

Suitable for heating surfaces, flat or irregular.
Can be supplied with an adhesive side
It always made to order

Available with VDE and UL approval

H/SR	Silicone Rubber .
H/SR-A	Silicone Rubber Adhesive

Dimensions:	Width 940 mm maximum Length 3000 mm maximum
Nominal Thickness	H/SR 0,7 mm - 3,0 mm H/SR-A 0,8 mm - 3,0 mm
Construction:	Two ply woven glass textile reinforced silicone rubber
Temperature:	H/SR -60°C to $+200^{\circ}\text{C}$ maximum continuous 230°C short term H/SR-A -20 to $+180^{\circ}\text{C}$ maximum continuous 230°C short term

Ratio of density and temperature heating Heater surface

Density	W /cm ²	°C
0,050		40
0,075		60
0,100		70
0,125		80
0,150		90
0,200		105
0,250		121
0,300		135
0,350		150
0,400		164
0,450		176
0,500		188
0,550		200
0,600		210
0,650		220
0,700		230

Physical Characteristics:

- Weather & Ageing resistance
- Ozone resistance
- Gas Permeability
- Steam Resistance
- Fungus & Bacteria Resistance
- Combustibility:
- Good Resistance to

Very Good

Very Good

Adequate

Good up to 130 °C 2,5 bar

Very Good

Various Flame retarding materials available

Acetone, Alcohol, Formic Acid, Brake Fluid, Chlordihenyl, Acetic Acid, Greases, Polar Solvents, Hydrchloric Acid 10%, Sulphuric Acid 10%, Waxes, Plasticisers

- Thermal Conductivity
- Specific Heat

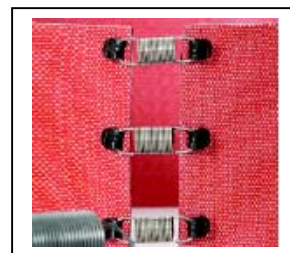
0,22 W/m/°K

1623 Joulss/Kg

INSTALLATION AND FIXING

Many types of fixing are available dependant upon the application of the heater. For a permanent bond a high temperature self adhesive backing can be applied which allows for simple fixing and gives superb adhesion to most surfaces including low energy materials such as plastics.

Room temperature vulcanising (RTV) adhesive and factory bonding to components is also available where a permanent bond is necessary. Where removal of a heater is required, fixings such as hooks and springs, Velcro and magnetic backings are available. These can be incorporated on any part of the product to provide ease of operation and accessibility



TEMPERATURE SENSORS

Silicone heaters can be supplied with factory fitted sensors and switches to suit all types of instrumentation. Available from stock are PT100's, J, K and T type thermocouples, bi-metal thermostats and thermal fuses. We also fit customer specified thermistors and other resistance temperature devices as well as extruded pockets for customers to fit their own sensors.

Separate mechanical or digital thermostats can be supplied for process control



CONNECTIONS

Standard termination is via single leads or multi-core silicone cables.

These can be terminated with connectors by major manufacturers such as Amp and Molex.

Other types of cable as well as spiral wrap and standard heatshrink sleeveings are available on request



INTEGRAL FOAM INSULATION

To provide higher efficiency during heating, Silicone heater mats can be thermally insulated with a closed cell silicone foam insulation vulcanised to one face.

Many thicknesses are available from stock, as well as specialist types such as flame retardant that can be supplied on request..

