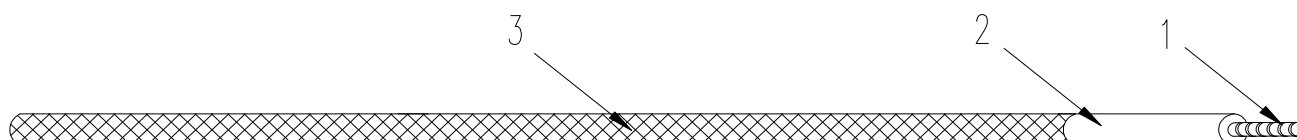


## SHIELDED AND INSULATED HEATING WIRES - CCTx

The manifold application of Calorflex heating wires bring them to be often used in environments and situations so complex to require external extra protection. When the wires are exposed to shocks, abrasions, cuts, and serious mechanical stress in general during installation, Calorflex advises a surface shielding, such as a multi-thread metal braiding or an electrical glass braiding impregnated with a silicon resin, that is carried out by means of special braiding machines.

### METAL BRAIDING SHIELDING

This option is universally used for the surface protection of heating wires. The outer metal shielding guarantees not only exceptional mechanical strength that makes the wire shock and abrasion proof, but it also guarantees a higher dissipation of temperature and a subsequent increase of thermic exchange between the heating wire and the final application. Calorflex builds the metal braiding generally using fixed braiding systems at 16, 24 or 32 multi-wire terminals made of red copper, tinned copper or galvanized steel. The metal braiding can contain one or more multi-coloured wires for identification purposes in case of specific needs.

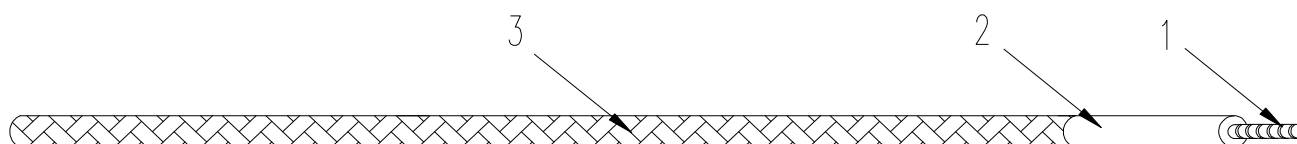


- 1 – Resistive spiral on insulating support
- 2 – Surface insulating layer (single or double)
- 3 – External protection made of multi-wire metal braiding

Remarkably, the presence of an electrically conducting coating on the entire surface of the heating wire, allows to exploit the metal braiding as earthing conductor for a possible safe connection of the wire or in the final application itself.

### INSULATION OF AN ELECTRICAL GLASS BRAIDING

A surface insulation by means of an electrical glass braiding is employed for heating wires with industrial applications, when a high mechanical and thermic resistance, and a high resistance to abrasions and vibrations is required. The fibre glass is a mineral, synthetic, inorganic, sterile, non combustible material. It is resistant to solvents, oils and the majority of chemical agents: furthermore, it does not rot, and is not damaged by fungi or bacteria, a fundamental prerequisite for a certain kind of application in the food industry. The glass filaments used to protect Calorflex heating wires is safe as it is constituted by non-breathable fibres (9 micron) that are totally free of lead, asbestos and their by-products.



- 1 – Resistive spiral on insulating support
- 2 – Surface insulating layer (single or double)
- 3 – External protection made of fibre glass braiding (at request, it can be impregnated with silicone resin)

### PROVISIONS AND REFERENCE HOMOLOGATIONS

The presence of an additional protection, be it metal or electrical glass, does not cause any variation in the electric characteristics of the heating wire. It improves and widens its range of possible applications for the reasons described above, as well as it guarantees a remarkable improvement of the heating wire life-time. As regards the dimensions, the additional braiding is to be considered as an increase of 0.6÷0.8mm in the diameter. The reference homologations for the manufacture and testing of the CCTx heating wires are the same as for the same wires with no external surface protection (see: technical specifications of Cx wires).