

Active cooling for bullet proof vests

Unico swiss tex GmbH

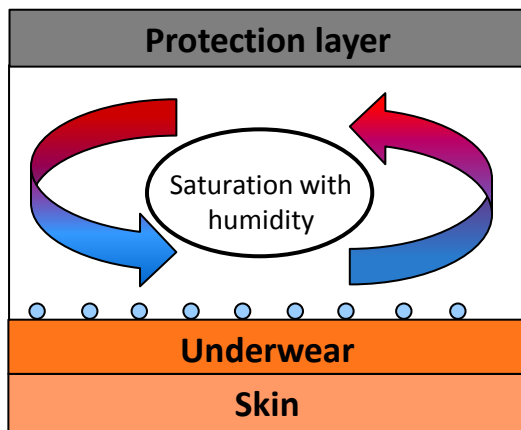


Introduction

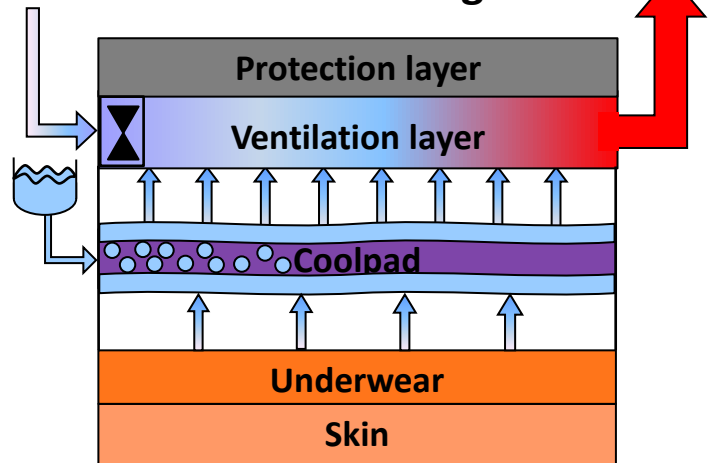
While wearing protective clothing, not only in summer conditions, a heat accumulation is occurred. The humidity produced by the body cannot evaporated satisfactorily. Thus a body is heated up which in turn cause and a reduction of the efficiency of a human body. An active cooling unit was developed to support the heat transfer between the body and the environment.

Task

Without cooling



With cooling



○ ≡ Water ↑ ≡ Water vapour ↘ ≡ unsaturated air ↗ ≡ humid air

Details cooling vest

In order to reduce the sweat production by a human body, the system combines micro ventilation of about 150 l/min and an evaporation cooling phenomenon. The evaporation cooling next to the skin is realized through a so called Coolpad with needs a less amount of about 100 ml water. With this active cooling system the skin temperature can be decreased about 4 degrees Celsius. Through devised entrances and exit the air is led optimal through this flexible and special for this application designed ventilated fabric.

(Weight included 200 ml of water: 950 g)

Layout cooling vest:

- Coolpad
- Ventilation layer
- Bulled proof layer
- Ventilation Unit

