SPECIFICATION SHEET

E·COOLINE cooling textiles

E.COOLINE
PowerSignal Vest SX3

PRODUCT DECSCRIPTION

The E.COOLINE PowerSignal Vest SX3 protects workers, fire fighters, security staff and servicemen in hot environments from the impact of high temperatures.

- improves concentration and work performance and prevents people from heat stress and exhaustion
- is a system based on innovative functional textiles, which checks and stabilizes the body temperature to save energy and protect health at high temperatures for up to 10 hours
- is a body worn independent natural air condition
- having stabilized the body temperature the impact of the vest is perceived as cooling comfort effect. No risk of hypothermia or cold burns
- consists of high tech materials that require careful handling, comparable with other premium functional textiles

PLUS X AWARD honoured as: BEST BRAND OF THE YEAR 2023

TECHNOLOGY Made in Germany

PROTECT UV UPF 50+

CE EN ISO 20471

Article number

27101800

HS-Number

63079098

Sizes (unisex)

	M	L	XL	2XL	3XL	4XL	5XL
Chest size (cm)	97	103	109	116	124	132	139
to	104	109	116	124	133	138	150

PRODUCT BENEFITS

- Fastest activation without preparation (saving of working time)
- Dry inside and outside, pleasant surface instead of hours of humidity/wetness
- Washability (machine) with detergent and thus hygienic application
- 100% climate-neutral product and technology Made in Germany

PRODUCT INSTRUCTION

E.COOLINE products

- are activated evenly with water in a few seconds and can be put on immediately.
- are worn like any other bandanas.
- Washing instructions: Wash separately. Dry cleaning Ⓟ, machine wash or hand wash (30°C) with pH neutral detergent. Do not tumble or spin dry, do not use functional or color detergent that does contain fiber protection, no bleaching.
- Industrial washing according to instructions.
- To dry completely, simply hang in an airy space.
- Storage: in a dry place with air exchange.

Please note the instructions attached to the product!

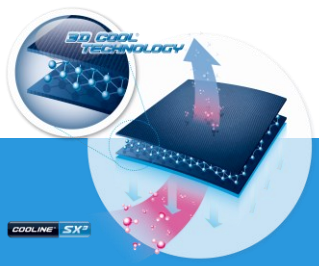
Packing

PowerSignal Vest per piece packed in plastic bag with zipper and instructions.

TECHNICAL DATA

The 3D- high-tech fleece made of polyester is able to store 0,5-0,7 liters of water directly on the fibres due to a superabsorbent surface. There is no condensation. When properly activated and worn there are no water drops on the clothes. The body and clothes of the user remain dry.
The water inside can no longer be squeezed out; it escapes only through evaporation, physically producing evaporative cooling of up to 660 watt – depending on a slight air movement. Due to the large surface of the 3D-fleece, this effect is significantly higher than with other superabsorbent materials.
In the field of medical applications, the product has CE Class 1 certification in Europe.

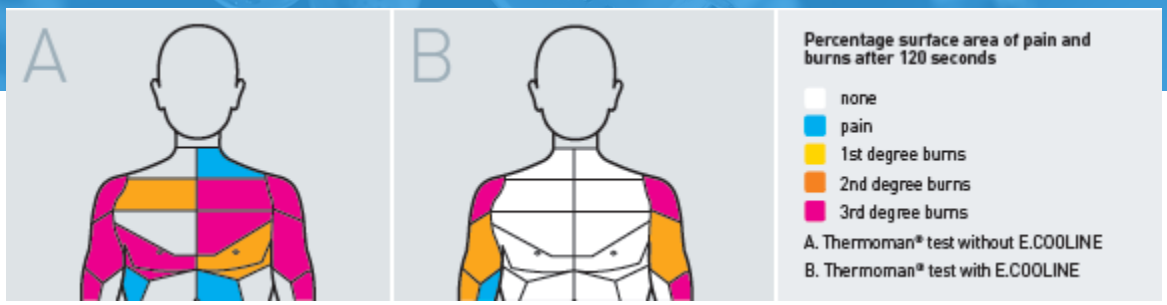
- outer fabric: Oekotex 100
- sizes: M – 5XL
- colors: signal orange (col-no. 310), signal yellow (col-no. 510)
- 3 layer material: outer material: 100% Polyester, mesh-material: 83% PES, 17% EL
  core material: 100% COOLINE ®Polyester (super absorber)
- outer fabric antibacterial due to DEOXX fresh (natural silver ions, complies with BPR EU Regulation No. 528/2012) for hygienic reasons
- siliconfree version



Product with financial climate contribution
ClimatePartner.com/53721-1310-1001

Cooling effect confirmed by HOHENSTEIN
Test No.: 22.1.11.0048
DIN SPEC 60015

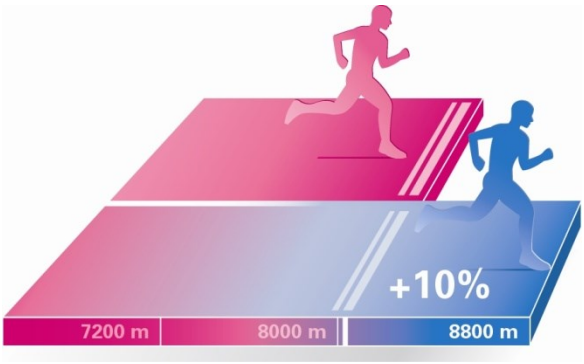
TESTS AND STUDIES



*Thermoman® is a registered Trade Mark of E.I. du Pont de Nemours Company

E.COOLINE WAS TESTED BY EMPA IN ST. GALLEN UNDER EXTREME CONDITIONS

The "Thermoman" study conducted by the national research institute Empa - Materials Science and Technology in St. Gallen confirmed the cooling effect of COOLINE. The areas of the body protected with COOLINE showed a lower temperature rise than the areas that were not protected with the new high-tech fleece.



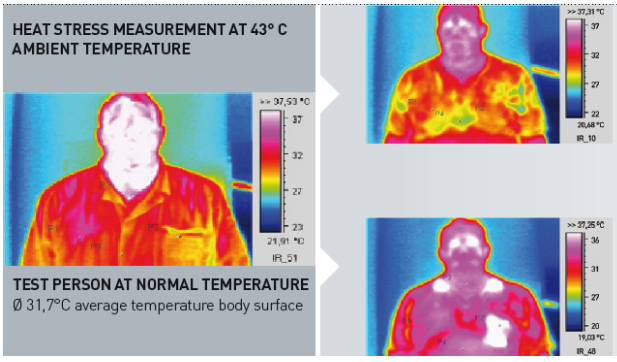
SPORTS SCIENCE PROVES 110% PERFORMANCE

Heat limits human performance at work because the heat-related effects cause 90% of energy to be spent on temperature regulation such as sweating, in addition to an increased heart rate.
This leads to lower concentration and performance. In addition to an increased risk of accidents as a result, there are also health problems due to exhaustion syndromes and a higher cardiovascular load.

In a randomized study conducted by the Universities of Münster and Dortmund, athletes were able to increase their performance up to 110% at 30°C.

Important body parameters such as heart rate and lactate values were significantly improved.

USER REPORTS IN NUMEROUS COMPANIES AND INDUSTRIES WITH IR CAMERA PROVE THE SIGNIFICANT TEMPERATURE REDUCTION



TEST 1: WITH COOLING
Ø 29,3°C average temperature body surface

Conclusion: The test person with cooling achieved the same low temperatures at head and upper body as in normal ambient temperatures. With increased temperatures of + 6.6°C the same test person exceeds without cooling vest temperatures which are conducive to health and performance and represent a health risk. On the long run, this may lead to health problems and lack of performance.

TEST 2: WITHOUT COOLING
Ø 35,9°C average temperature body surface