ACTIVARMR®

Cooling Vest

Instructions for Use
ActivArmr® COOLING VEST
Standard 97-609 / FR 97-610

Ansell

1. Product description

1.1. Function

The ActivArmr® Cooling Vest is a comfort garment, which helps the user to stay comfortable e.g. during work in hot environments or with extreme physical exertion. It provides a cooling effect just when the body needs it.

The vest functions by means of PCM (phase change material) elements, which absorb excess heat from the body. The heat absorption continues until the PCM (TEMPTECH) elements soften i.e. get a jelly-like consistence.

1.2 Models

The ActivArmr® Cooling Vest comes in two models:
- **Standard 97-609**: Made from polyester fabric, black
- **FR 97-610** (flame retardant): Made from a flame-retardant material, dark blue

2. Before use

For optimal function of the Cooling Vest, the following measures must be taken prior to use:
- Check that all PCM elements are in place.
- Check that the Cooling Vest and the PCM elements are undamaged.
- Optimal operability is provided when the salt mixture inside the PCM elements is completely solid, and the PCM elements are flat and uniform in shape.

3. Wearing the vest

To achieve the best performance and comfort level, the ActivArmr® Cooling Vest should be worn ***over*** a thin garment such as a T-shirt, preferably with moisture wicking properties.

It is important that the Cooling Vest is worn tightly to the body, to ensure maximum performance. Ensure you have the correct size of Cooling Vest and use the hook and loop fastener to fasten the vest correctly. Garments may be used on top of the vest.

4. After use

Open the vest and place it on a horizontal, smooth surface. Flatten the PCM elements with your hands. This is important since the PCM elements provide the best effect when they are equal in thickness.

In order to speed up the recharging process, leave the vest to lie open, and ensure that the PCM elements are not lying on top of each other.

4.1 Recharging time

The PCM elements recharge automatically in approximately 2 hours at room temperature (20°C / 68°F). The process requires less time in lower temperatures.

5. Care instructions

5.1 Washing instructions

- Remove the PCM elements before washing the vest
- Maximum washing temperature 40°C / 104°F
- The vest should be dried in a drying cabinet or in a well-ventilated room
- Do not tumble dry
- Do not bleach

5.2 Deformed PCM elements

If the PCM elements are deformed, but still intact, they can be reshaped by putting them in a hot cupboard or in warm water (35°C / 95°F).

When they soften, remove them and place them on a smooth surface. Flatten them with your hands until they are as uniform in shape as possible. Allow them to cool down and solidify.

5.3 Damaged PCM elements

A damaged or leaking PCM element must be replaced. If a PCM element is punctured and the content is leaking, a white solution/compound will appear on the outside. If the content gets in contact with skin or eyes, rinse with water

6. Storage

The Cooling Vest and the PCM element should be stored:
- In a dry place
- In temperature 10-22°C / 50-72°F
- Placed on a flat surface, or on a hanger.

Do not hang the Cooling Vest with soft PCM elements on a hanger. This could cause deformation of the elements. Be aware that the temperature in the storage room may change over time, and this can affect the shape of the elements.

Handle the PCM elements with care. Do not bend a stiff (frozen) element.

7. Disposal

- The Cooling Vest itself, without PCM elements, can be disposed of in the domestic garbage.
- The PCM elements shall be disposed of according to European List of Wastes no 160507 and in accordance with local waste management regulations.

8. Sizes

VEST SIZE	CHEST WIDTH	STANDARD VEST ARTICLE NO	FR VEST ARTICLE NO
S/M	84-100 cm / 33"-39"	487 106 200	487 106 300
L/XL	100-116 cm / 39"-45"	487 106 205	487 106 305
2XL/3XL	116-132 cm / 45"-51"	487 106 210	487 106 310
4XL/5XL	132-148 cm / 51"-58"	487 106 215	487 106 315

9. Spare parts

SPARE PART	ARTICLE NO
PCM element, 1 pce	487 106 022
Set of PCM elements, 20 pcs	487 106 020

10. Technical data

10.1 Weight

Approx. 2.1 kg (4.6 lbs) incl. cooling elements.

10.2 Packaging

Cardboard box 56 x 39 x 5 cm (22”x15”x2”), 1 vest/box.

10.3 Functional parameters

PROPERTY	VALUE
Phase change temperature	28°C / 82°F
Cooling effect, duration @ 60°C / 140°F	approx. 90 minutes
Cooling effect, duration @ 45°C / 113°F	approx. 4 hours
Regeneration time @ 20°C / 68°F	at least 2 hours
Regeneration time @ 8°C / 46°F	at least 30 minutes

10.4 Shelf life

The vest and cooling elements have 3 years shelf life i.e. if not used and stored according to instructions herein.

10.5 Reusability & Replacement

The PCM elements last at least 1000 cycles of recharging, if properly maintained. However, to ensure maximum performance, the cooling elements should be replaced every three (3) years. Even if handled with care, the elements will lose their effectiveness as the amount of changes in state of aggregation and storage time rise.

10.6 Materials

PART	MATERIAL
Standard vest, exterior & lining fabric	Knitted polyester
FR vest, exterior & lining fabric	Marko® flame-retardant material (54% modacrylic, 44% cotton, 2% antistatic fibers)
PCM element "TEMPTECH"	Phase change material (PCM) consisting of a salt of sodium sulphate hydrate packed in aluminum coated plastic cover/bags. Non-toxic material, compliant with REACH and CLP.

10.7 Material performance - FR material

PROPERTY	TEST METHOD	RESULT
Tensile strength, warp/weft	EN ISO 13934-1	820 / 410 N
Tear strength, warp/weft	EN ISO 13937-2	33.5 / 35.0 N
Antistatic properties	EN 1149-5	Pass
Limited flame spread	ISO 15025	Level A1*
Convective heat	ISO 9151	Level B1*
Radiant heat	ISO 6942	Level C1*
Contact heat	ISO 12127	Level F1*
Electric arc protection	EN 61482-1-2	Class 1
Arc rating, E_{BT}	ASTM F1959 / F1959 M-06ae1	5.5 cal/cm^2
Heat attenuation factor, HAF	ASTM F1959 / F1959 M-06ae1	74.2 %
*Classification levels according to EN ISO 11612. **IMPORTANT!** Please note that only the ***material*** is tested according to EN ISO 11612. The Cooling Vest is not tested nor approved as fire or heat protective garment.		

DISCLAIMER: The vest does not completely eliminate the potential for heat stress, especially if used for firefighting, response to chemical incidents and other physical activities and/or work in hot environments.

ANSELL 2003 [EN]

Ansell Protective Solutions AB
Arenagatan 8B
215 33 Malmö, Sweden
Tel. + 46 (0)10 205 1800
order.protective@ansell.com
http://protective.ansell.com