



PRODUCT APPLICATION NOTE

PCM Cooling Jacket



- **PCM Cooling Jacket**

The PCM Cooling Jacket has been designed to create a Cool Microclimate of 25° - 30°C to provide thermal comfort to a PPE user. These Jackets provide a Cooling comfort endurance of 3-4 hour under an ambient of 35° - 38°C. The jacket is to be worn under PPE or any other heavy wearable gear.

It is cotton fabric based, light weight jacket with a size to universally fit all body types.

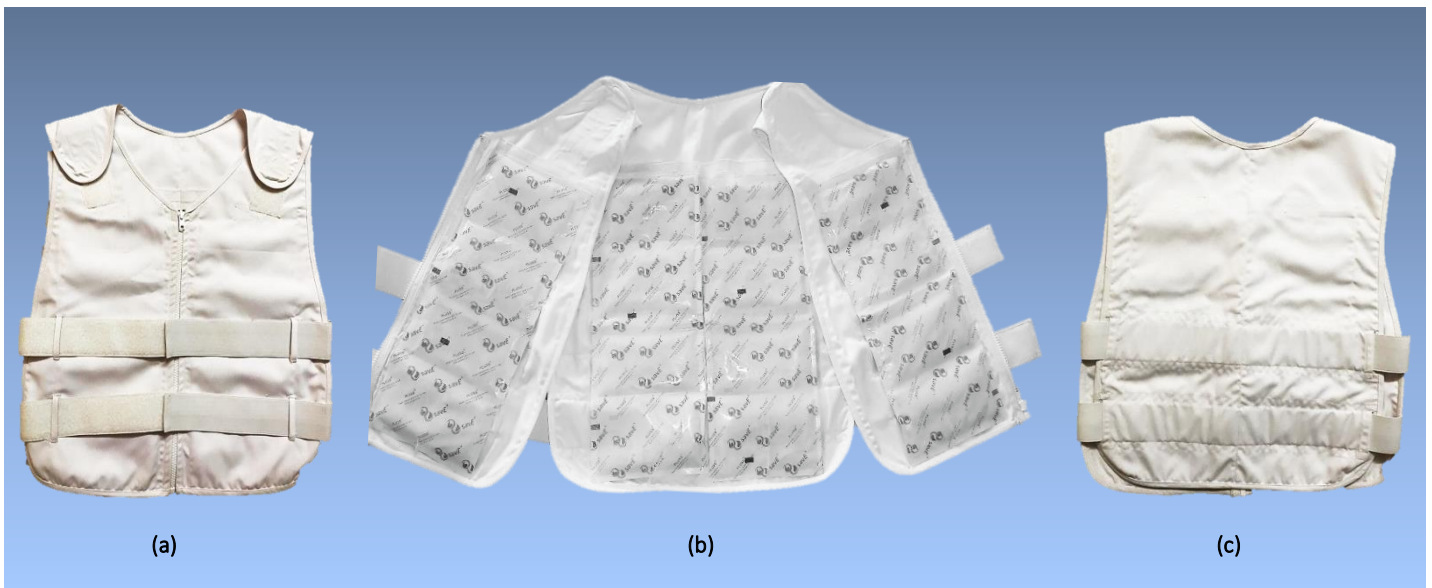


Figure 1: (a) Front view, (b) inner view, and (c) back view of PCM Cooling Jacket

- **How does it work?**

1. It is to be worn as a 2nd layer on the body, after wearing an inner most layer of clothing.
2. The torso portion of the jacket contains 4 pockets wherein the PCM filled pouches are to be inserted – 2 in front torso area and 2 in the backside torso area.
3. These 4 PCM pouches are to be thermally charged in a conventional refrigerator (2 to 8°C) for approximately 3 - 4 hours.
4. The thermally charged 4 PCM pouches are to be inserted: one each in each of the four pockets in the jacket. This should be done just before the cooling jacket is worn under the PPE.
5. The jacket has been designed with Velcro adjustment tapes to appropriately fit all adult sizes.

• **What advantage does it offer?**

1. It keeps the human body cool (in the range of 25°C to 30°C) even in a harsh hot climate of upto 38°C, reducing the need to have a continuous active cooling/air conditioning.
2. It is capable of providing a long lasting cooling impact of upto 4 hours duration, thereby reducing the need for quick recharge.
3. The used cooling PCM technology can easily last upto 3000 thermal cycles, thereby providing an un-diminishing performance for years of usage.
4. The jacket is extremely light weight – including the PCM, it weighs just about 2kg thereby offering greater flexibility to the user in usage.

Images for illustration:



Figure 2: Front view, side view and back view while using the jacket.

S. No.	Paramters	Values
1	Jacket Weight (without PCM)	250-300 grams
2	Jacket Weight (with PCM)	2.3 kg
3	Vertical Length	490 – 500 mm
4	Backup hours	3-4 hours

Disclaimer:

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