

Use and Maintenance of Cooling Vests



In accordance with Occupational Safety and Health Ordinance (Cap. 509) and subsidiary legislation, employers must, so far as reasonably practicable, ensure the safety and health at work of their employees, including the provision of sufficient potable water at the workplace. Persons performing job tasks in a hot work environment especially in the extreme environment are at risk for the development of heat related injuries and illnesses. The first line of defense should be the elimination of hazards. Next in the hierarchy is the adoption of engineering controls and administration measures. Only if these controls are not feasible, or being set up or temporarily out of order, then PPE shall be considered as short term and/or complimentary protection.

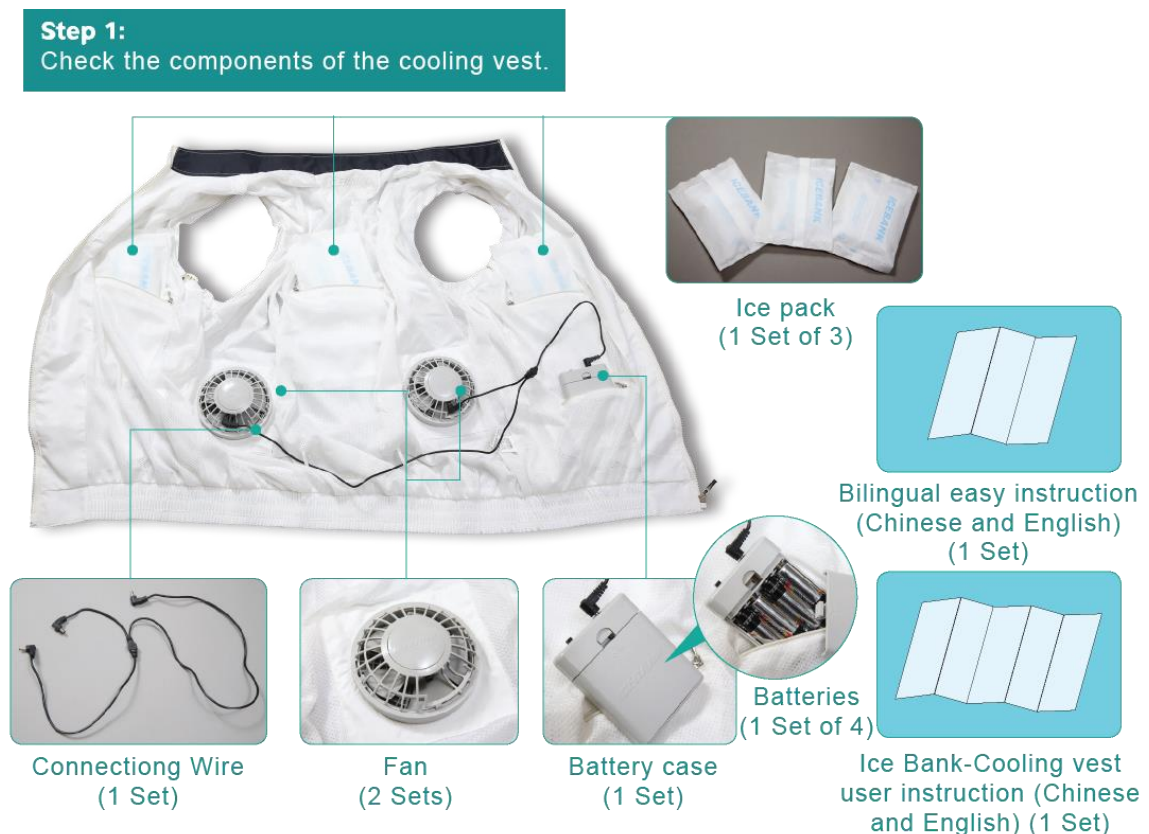
Standard Test Method of Cooling Effectiveness of Cooling Vest

In order to lessen the risk of heat related injuries, OSHC commissioned the Kansas State University to test a number of commercially available personal cooling products that are commonly used in Hong Kong. The cooling effectiveness of the personal cooling systems was measured according to ASTM F2371, Standard Test Method for Measuring the Heat Removal Rate of Personal Cooling Systems Using a Sweating

Heated Manikin. Two types of personal cooling vest were identified for further on-site qualitative comfort and usability assessments. The aim of the field studies is to conduct qualitative comfort and usability assessment with a group of front-line workers in four industries, including construction, horticulture and outdoor cleaning, airport apron, and catering and kitchen. Different scales of subjective assessments and effective cooling times were recorded for the two types of cooling vests. In general, participants preferred one vest type to the other.

Use of Cooling Vests

The cooling vest should be ideal for work in hot environment, with ergonomic design to ensure comfort, and the innovative cooling and fan system to reduce the risk of heat stress. The vest has features of good cooling capacity performance, lightweight, long lasting, comfortable without any allergy effect while contacting the garment materials and safe to be used.





Step 2:
Insert 4 AA batteries and check if the wires are connecting the fans located on both sides of vest and the battery base.



Step 3:
Insert 3 ice packs which have been frozen at a temperature less than -6°C for at least 4 hours respectively into the pockets on the left and the right side of the vest as well as the one at the back.



Step 4:
Put the cooling vest on and switch on the fans which can be set at high ("H") or low ("L") speed.



Step 5:
Zip up the vest fully and tighten the drawing strings under the armpits.



Step 6:
If the vest is too tight, adjust the side zips.

Maintenance of cooling vests

1. Use wet cloth to gently scrub to remove stain on the surface of the vest.
2. Take out the fans, ice packs and battery case before washing.
3. Machine washable in temperature not exceeding 30 °C.
4. Use a mild detergent.
5. Do not dry clean.
6. Iron at 80-120 °C.
7. Dry in a well ventilated place.
8. If you do not use the vest for long periods of time, clean it and store without folding.
9. If you do not use the vest for long periods of time, clean the fans and keep dry.

Cautions

1. Do not forcefully pull the cooling vest. The fans will easily break off.
2. Do not cover the operating fans with clothes or other materials that may block the air inflow.
3. Do not force to stop the fans while they are operating. It may cause malfunction.
4. Do not put any pointy things into the fans that may obstruct the normal operation of the fans.
5. Keep the fans, battery case and connecting wire away from water.