

Cooling vest to protect workers from heatstroke

防止工人中暑的「冷凍背心」



Workers in extreme heat could be protected from heatstroke by innovative cooling vests.

創新冷凍背心有助在酷熱環境工作的從業員預防中暑。



The cooling vest is an ideal choice for workers in the construction site and the hot kitchen.
在建築地盤和熱廚房內工作的工人，
均適合穿著冷凍背心。

A team of researchers from the Faculty of Construction and Environment led by Prof. Albert Chan recently conducted a study to evaluate the effectiveness and acceptability of personal cooling vests for workers in extreme heat.

Commissioned by the Occupational Health Safety Council, the study compared a 'passive' vest with internal pockets containing phase change materials such as packs of ice or frozen gel, and a 'combo' system using the same packs combined with a fan at the sides and back of the vest. Workers from four industries wore the vests on the job for a month and found it less difficult to work when wearing the 'combo' vest. More than 90% said they preferred wearing it to the 'passive' vest.

Prof. Chan said the 'combo' vest facilitates the evaporation of sweat, keeping the body cool and dissipating the oppressive heat, thus reducing the risk of heat stroke especially outdoors in very hot conditions.

The vest is currently being assessed in a larger pilot study, and the research team has received more than \$830,000 from the Research Grants Council to design a cooling vest specifically for local construction workers.

Prof. Albert Chan (right) conducted a wear trial test in the airport apron industry with the assistance of Mr Lawrence Law (left), Safety Manager of the Airport Authority.
陳炳泉教授(右)在香港機場管理局安全經理羅國良先生(左)的協助下讓機場停機坪服務人員試用冷凍背心。



由 陳炳泉教授領導的理大建設及環境學院研究團隊最近完成了一項研究，旨在評核工人在炎熱工作環境下使用冷凍背心的成效及接受程度。

這項由職業安全健康局委託的研究，主要比較「被動型」與「混合型」兩款冷凍背心的效能，前者設有內袋盛載可拆下替換及重覆使用的冷凍包，後者則在背心左右兩側及背部內置小型風扇。研究找來四個行業的工人，在慣常炎熱的工作環境試穿冷凍背心一個月，發現「混合型」冷凍背心較方便工人工作，而這款冷凍背心亦為超過百分之九十的參與工人所喜愛。

陳教授指「混合型」冷凍背心能「幫助汗水蒸發，讓身體涼快，舒解悶熱」，故可減低工人尤其在炎熱的戶外工作環境下中暑的風險。

該冷凍背心現正在一項更大規模的先導計劃中進行測試，而研究團隊亦已獲研究資助局撥款超過八十三萬港元，以研發專為本地建造業工人而設計的冷凍衣。