

Title (en)

PROTECTIVE VEST WITH ACTIVE AND PASSIVE COOLING MECHANISMS

Title (de)

SCHUTZWESTE MIT AKTIVEN UND PASSIVEN KÜHLMECHANISMEN

Title (fr)

GILET PROTECTEUR AVEC MÉCANISMES ACTIFS ET PASSIFS DE REFROIDISSEMENT

Publication

EP 3350537 A1 20180725 (EN)

Application

EP 16846975 A 20160919

Priority

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Abstract (en)

[origin: WO2017048198A1] The present invention provides a protective vest (100, 100a, 100b, 100c) with a cool spreader (150), hot spreader (160) and active cooling mechanisms (200). The protective vest may be used with a uniform (1000), which incorporates passive cooling mechanisms (2000). Each active cooling mechanisms (200), including a TEM (210), a heat pipe (230), a heat sink (240), an insulator (250) with plenums (260) and a blower (270), is controlled by a micro-controller (280) and an adaptive algorithm (285) in response to three temperature sensors (290, 292, 294). The passive cooling mechanisms (200) include super absorbent polymer (SAP), phase change materials (PCM), phase change composites (PCC) and thermal conductive fibres (1040); when wetted, the SAP, PCM or PCC expands cyclically and gives rise to cyclical regenerative cooling.

IPC 8 full level

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