

Title (en)
COMBINATION OF PHOTOVOLTAIC (PV) CELLS AND TEXTILE - BASED AIR HEATER SOLAR COLLECTOR (PV-T)

Title (de)
KOMBINATION AUS PV-MODULEN UND ALUFILTERHITZER-SONNENKOLLEKTOR AUF TEXTILBASIS

Title (fr)
COMBINAISON DE CELLULES PHOTOVOLTAÏQUES (PV) ET D'UN CAPTEUR SOLAIRE RÉCHAUFFEUR D'AIR À BASE DE TEXTILE (PV-T)

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EP 2609630 A2 20130703 (EN)

Application
EP 11768185 A 20110805

Priority
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• TR 2011000183 W 20110805

Abstract (en)
[origin: WO2012026901A2] In this PV-T collector/panel which is a combination of photovoltaic (PV) cells and Textile - Based Air Heater Solar Collectors (our patent application with no TR 2009 00196), at the inlet side of the collectors at the area close to the floor photovoltaic cells (9) are placed instead of some part of the textile surface (fabric, felt) (6). At the inlet part of the upper compartment of the collector, the compartment between the transparent upper layer (3) / the textile surface (6), the temperature of the air increases due to cooling of the photovoltaic cells and due to the greenhouse effect in the collector box. As this warm air passes through the hot textile surface (fabric) to the textile surface (6) / floor (2) lower compartment, due to diagonally placement of the photovoltaic cells and of the textile surface (fabric), its temperature increases even more. Because in the hybrid (PV-T) collectors according to the invention, both the cooling of the photovoltaic cells and therefore increasing the efficiency of theirs as high as 10-20%, and hot air at higher temperatures (= 50 °C) with high flow rate can be obtained, the total (electrical + heat) energy efficiency of these hybrid (PV-T) panels / collectors exceeds 80%.

IPC 8 full level
H01L 31/058 (2006.01); **F24S 10/80** (2018.01); **F24S 20/30** (2018.01)

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F24S 10/80 (2018.04 - EP US); **H01L 31/0521** (2013.01 - EP US); **H02S 40/44** (2014.12 - EP); **Y02E 10/44** (2013.01 - EP); **Y02E 10/50** (2013.01 - EP); **Y02E 10/60** (2013.01 - EP)

Citation (search report)
See references of WO 2012026901A2

Cited by
CN111486601A

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