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Photovoltaic that is Ultra-thin and Light for use in Buildings

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Introduction

e Integrating solar thermal collectors and photovoltaic modules into the building envelope is critical for achieving the current objective of producing net-zero and plus-energy structures. Photovoltaic/thermal hybrid (PVT) collectors have been proposed to maximise energy harvest [1].

e solar cells act as an absorber in a PVT collector, capturing the incident solar light. A portion of the radiation is converted to electricity (usually 10-20%), while the rest is turned to useable heat in a neighboring thermal collector. As a result, a PVT collector can not only produce heat for building systems, but also improve the power generation of solar cells by reducing their temperature. A variety of PVT collector concepts have been presented in the past based on use (e.g. air/water pre-heating, hot water for domestic/industrial use, etc.) and location-dependent circumstances (e.g. climate and orientation).

Description

Design (e.g. glazing, concentration, degree of integration) and kind of heat removal (natural/forced uid/gas ow) were used to categorize the various proposals, PVT class de nitions include liquid/air PVT, covered/uncovered PVT, and concentrating PVT, depending on the type of solar cell (e.g. monocrystalline/polycrystalline silicon, thin- lm solar cells, etc.) and the type of solar cell (e.g. monocrystalline/polycrystalline silicon, thin- lm solar cells, etc.). e level of thermal insulation has been o ered as an alternative classi cation in recent years [2].

Improved insulation (for example, side and rear insulation, as well as an additional transparent cover) is associated with higher stagnation temperatures, which raises issues relating to material temperature resistance, long-term degradation, thermal expansion, and overheating prevention [3].

e majority of PVT collectors are based on a standard glazed at

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Conflict of Interest

None

References

1. Joshi N, Kolte MT (2013) Digital Hearing Aid-A Review. Int j adv res electr 1:369-372.
2. Turner CW, Humes LE, Bentler RA, Cox RM (1996) A review of past research