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(19) **United States**(12) **Patent Application Publication****Zhang et al.**(10) **Pub. No.: US 2024/0213386 A1**(43) **Pub. Date: Jun. 27, 2024**(54) **ENCAPSULANT SHEET WITH LOW
POTENTIAL INDUCED DEGRADATION****Publication Classification**(51) **Int. Cl.****H01L 31/048** (2014.01)**H01L 31/18** (2006.01)(52) **U.S. Cl.****CPC H01L 31/0481** (2013.01); **H01L 31/186**
(2013.01)(71) Applicant: **Dow Global Technologies LLC,**
Midland, MI (US)(72) Inventors: **Wenxin Zhang,** Shanghai (CN); **Yabin
Sun,** Shanghai (CN); **Yunfeng Yang,**
Shanghai (CN); **Yuyan Li,** Shanghai
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ABSTRACT

An encapsulant sheet includes a material formed from an ethylene/C₄-C₈α-olefin copolymer having a resin volume resistivity (VR) from greater than 1×10¹⁴Ω cm at 60° C. to less than 1×10¹⁶Ω cm at 60° C. and from 0.01 wt % to 0.2 wt % of an ion scavenger. The encapsulant sheet has a transmittance greater than 91%. A photovoltaic module (10) includes a front encapsulant sheet (12a) and a rear encapsulant sheet (12b) composed of the material. The photovoltaic module (10) has a power loss after potential induced degradation (PID) test from 0.05% to less than 5%.

