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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 37888-2019

**Sealant materials in terrestrial photovoltaic modules - Pressure
sensitive adhesive tape**

地面光伏组件用密封材料 压敏胶粘带

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009. This standard was proposed by the China Petroleum and Chemical Industry Federation. This standard is under the jurisdiction of the National Adhesive Standardization Technical Committee (SAC/TC185). This standard was drafted. Beijing Tianshan New Material Technology Co., Ltd., Zhongshan Crown Adhesive Products Co., Ltd., Shanghai Rubber Products Research Research Institute Co., Ltd., Shenzhen Meixin Electronics Co., Ltd., Kaiping Qiyu Adhesive Products Technology Co., Ltd., Zhejiang Ouren New Materials Co., Ltd. Division, Nanhai District, Foshan City, Xinyongtai Adhesive Products Co., Ltd., Zhongshan New Asia Adhesive Products Co., Ltd., 3M China Co., Ltd., Hangzhou Rong Pressure Sensitive New Materials Co., Ltd. The main drafters of this standard. Wang Linqing, Wang Min, Chen Yaju, Chen Weibin, Luo Jiel, Li Jianxiong, Xia Houjun, Pan Daman, Yang Yongqiang, Wu Xuan, Shi Yifeng. Pressure sensitive adhesive tape for sealing materials for ground photovoltaic modules

1 Scope

China's national standard for the pressure sensitive adhesive tapes used as sealing materials in photovoltaic modules. It specifies the technical requirements, the test methods, the inspection rules and the marking, packaging and transport. Tape is used in module assembly for the jobs that a liquid sealant does badly: holding the junction box while its potting cures, sealing the edge of a frameless laminate, bonding the backsheet, fixing cables and masking during lamination. What distinguishes a module tape from an ordinary one is the service life expected of it. A module is warranted for twenty-five years in the open, and a tape that dries out, yellows, creeps or loses adhesion at year eight has failed inside a product that cannot be repaired economically. The properties that matter are therefore retention after damp heat and ultraviolet exposure, dimensional stability under load at the temperatures a module reaches, and the absence of anything that could migrate into the encapsulant and reach the cells.

This standard specifies the technical requirements, test methods, inspection rules, marking,

packaging and transportation of pressure sensitive adhesive tapes for sealing of ground photovoltaic modules. And storage, etc. This standard applies to pressure sensitive adhesive tapes for frame sealing of ground photovoltaic components.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article. Pieces. For undated references, the latest edition (including all amendments) applies to this document.

GB/T 2792-2014 Test method for peel strength of adhesive tape Test method for

GB/T 7125 adhesive tape thickness

GB/T 9535-1998 Design, identification and characterization of crystalline silicon photovoltaic modules for ground use

GB/T 15331 Pressure-sensitive adhesive tape water vapor transmission rate test method

GB/T 16422.3-2014 exposure test methods for light source of plastics - Part 3. Fluorescent UV lamps

GB/T 22396 pressure sensitive adhesive article terminology

GB/T 30776-2014 Test method for tensile strength and elongation at break of adhesive tapes

GB/T 33332-2016 Test method for dynamic shear strength of adhesive tape

HG/T 4139-2010 Anti-stick material for pressure sensitive adhesive products

3 Terms and definitions

The following terms and definitions as defined in GB/T 22396 apply to this document.

3.1 Pressure-sensitive adhesive tape for sealing the ground PV module frame
pressuresensitiveadhesivetapeforsealinterrestrialphoto- Voltaic(PV)modules Double-sided adhesive tape for sealing and fixing the ground photovoltaic module frame, composed of substrate, pressure-sensitive adhesive layer and release material, structure indication figure 1.

Note. Common substrates are foams made of PE (polyethylene), acrylic (polymethyl methacrylate), PU (polyurethane). Fig.1 Schematic diagram of pressure-sensitive adhesive tape structure for frame sealing of ground photovoltaic components

4 Requirements

4.1 Appearance The appearance of the pressure-sensitive adhesive tape should be free

from wrinkles, and the section should be neat, free of foreign matter, and free from spillage.

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