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**NATIONAL STANDARD OF THE
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GB/T 47029-2026

**Test methods for the physical properties of supercapacitor
electrodes**

超级电容器电极片物理性能测试方法

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Foreword

This document is in accordance with GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting is scheduled. Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed and is under the jurisdiction of the Ministry of Industry and Information Technology of the People's Republic of China. This document was drafted by: Shanxi Coal Chemistry Institute, Chinese Academy of Sciences; Zhongtian Supercapacitor Technology Co., Ltd.; and Guangdong BUTET Electronic Technology Co., Ltd. Limited Liability Company, Shanghai Aowei Technology Development Co., Ltd., CRRC Qingdao Sifang Vehicle Research Institute Co., Ltd., and Lirong New Energy Technology (Tianjin) Co., Ltd. Limited Liability Company, Zhejiang Srite Electronic Technology Co., Ltd., Shenzhen Qingyan Electronic Technology Co., Ltd., Zhaoqing Green Gem Electronic Technology Co., Ltd. The company, Jinzhou Kaimi Energy Co., Ltd., Ningbo CRRC New Energy Technology Co., Ltd., Huizhou EVE Energy Co., Ltd., and Tianjin Pulan Energy. Source Technology Co., Ltd., Shandong Shengquan New Energy Technology Co., Ltd.,

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1 Scope

GB/T 47029-2026 is the Chinese national standard covering the electrode sheet before it becomes a cell - the coating weight and thickness, the porosity and density, the adhesion to the foil and the resistance, which between them decide the capacitance and the power the finished capacitor will have. First edition, published with GB/T 47030-2026 on cell sizes. It was issued on 28 January 2026 and has been in force since 1 August 2026, as a first edition. The document is under the responsibility of the Ministry of Industry and Information Technology. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document describes the testing methods for the physical properties of supercapacitor electrode sheets, including appearance, burrs, thickness, areal density, compaction density, and reflectance. Elastic properties, resistivity, liquid absorption properties, coating peel strength, and flexural properties. This document applies to the physical performance testing of supercapacitor electrode sheets. It can be used as a reference for the physical performance testing of other types of electrode sheets.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are listed below. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 6742 Paints and varnishes - Bending test (cylindrical shaft)

GB/T 9286 Paints and varnishes - Cross-cut test

GB/T 22638.10 Aluminum Foil Test Methods Part

10.Determination of Surface Density of Coating SJ/T 11861-2024 Terminology for Supercapacitors

3 Terms and Definitions

The terms and definitions defined in SJ/T 11861-2024, as well as the following terms and definitions, apply to this document.

3.1 supercapacitor; ultracapacitor An electrochemical energy storage device, having at least one electrode primarily through a double-layer capacitor formed at the electrode/electrolyte interface or an electrode surface. Pseudocapacitance formed by rapid redox reactions enables energy storage; the time-voltage relationship curve during constant current charging or discharging is typically close to... Similar to linear.

3.2 Electrode In a supercapacitor, one end of the supercapacitor is electrically connected to the supercapacitor electrolyte, forming an electrical contact with it. The components that undergo chemical or physical reactions.

4 Test conditions

4.1 Unless otherwise specified, all tests shall be conducted under standard atmospheric conditions for testing.

- a) Temperature. 15°C~35°C.
- b) Relative humidity. 25%~75%.
- c) Atmospheric pressure. 86 kPa~106 kPa.

4.2 When measurements are taken under other environmental conditions, this should be noted in the measurement report.