

Sanwei (SWESD): A Global Leader in ESD Protection Solutions for Critical Electronics Industries

Sanwei (SWESD) delivers industry-leading esd magazine rack solutions and expert insights on esd surface tester usage to ensure electrostatic discharge control.

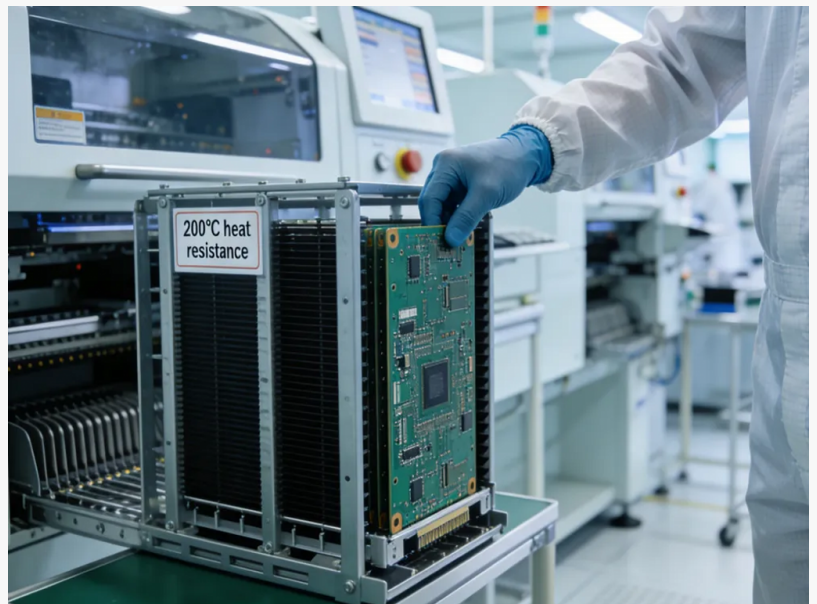
YUEQING, ZHEJIANG, CHINA, July 9, 2026 /EINPresswire.com/ -- Across semiconductor fabrication, aerospace engineering, defense electronics, and precision manufacturing, electrostatic discharge (ESD) poses a constant, costly threat to sensitive components. Even invisible static buildup can damage microchips, reduce product reliability, and lead to costly production losses. For facilities worldwide seeking proven, standards-aligned electrostatic control, [SWESD](#) — the flagship brand of Sanwei Company — stands as a trusted global leader in end-to-end ESD protection solutions.

1. Decades of Technical Authority in ESD Innovation

Founded in 1988, Sanwei has grown from a specialized material research firm into China's leading integrated ESD solutions provider, with a market presence across 80+ export markets including the United States, Germany, Israel, Singapore and Malaysia. Its 70,000+ square meter state-of-the-art production facility in Yueqing, Zhejiang, houses full-chain manufacturing capabilities from raw material formulation and mold development to finished product testing and global delivery.



swesd



esd-magazine-rack

What sets SWESD apart is its unwavering focus on independent core technology. The company holds dozens of proprietary patents for anti-static materials, and serves as an official drafting unit for three Chinese national and military ESD standards — a credential that underscores its technical authority in the global industry. All products adhere to strict international benchmarks including IEC 61340-5-1, ANSI/ESD S20.20, ISO 9001, ISO 14001, RoHS and SGS certification requirements.



esd-surface-resistance-tester

This commitment to quality and innovation has earned SWESD the trust of Fortune 500 and industry-leading clients including Intel, Motorola, Siemens, IBM, Panasonic, Nokia and Dell. Beyond manufacturing, the brand delivers 24/7 technical support and after-sales service to global customers, ensuring that ESD systems remain effective and compliant throughout their full lifecycle.

[2.ESD Magazine Rack](#): High-Temperature Reliability for SMT Production Lines

For surface-mount technology (SMT) facilities, safe handling and storage of printed circuit boards (PCBs) and sensitive components is the foundation of ESD control. Among SWESD's most widely adopted production-line solutions is its ESD Magazine Rack lineup, engineered specifically to withstand the demanding thermal conditions of SMT manufacturing while maintaining consistent static dissipation performance.

Constructed with Sanwei's patented heat-resistant anti-static composite materials, these ESD magazine racks deliver exceptional temperature resistance up to 200°C — making them suitable for use in SMT reflow oven environments where standard plastic racks would warp, degrade or lose their anti-static properties. For semiconductor cleanroom applications, the brand also offers a clean white permanent anti-static material rated for 160°C, combining low particulate generation with long-lasting, stable ESD performance.

The product portfolio includes a wide range of standard sizes to fit different PCB dimensions and production line configurations, with options including 355×315 mm, 355×320 mm, 400×320 mm, 460×400 mm, 535×460 mm, 535×530 mm, and 630×530 mm models. Each rack is precision-molded to ensure uniform surface resistance, structural rigidity, and smooth edges that prevent scratching or damage to delicate PCB substrates.

Complementing the magazine rack lineup, SWESD also manufactures matching ESD trolleys for safe material transport across production floors, warehouses and assembly zones. For facilities with unique layout or component requirements, the company's in-house tooling and R&D teams can develop custom-sized racks and specialized material formulations to meet exact project specifications.

3.Ensuring Long-Term ESD Compliance: The Role of the [ESD Surface Tester](#)

Installing ESD-safe materials and equipment is only the first step in a robust electrostatic control program. To verify ongoing performance, validate compliance with industry standards, and catch degradation before it leads to product damage, facilities rely on regular testing with an ESD Surface Tester — a critical instrument for measuring the surface resistivity of work surfaces, flooring, storage equipment and handling tools.

Surface resistance, measured in ohms per square, defines how readily a material dissipates electrostatic charge. Per ANSI/ESD and IEC standards, materials are classified into three categories: conductive (less than 10^5 ohms), static dissipative (10^5 to 10^{11} ohms), and insulative (greater than 10^{11} ohms). Only conductive and static dissipative materials are suitable for use in ESD-protected areas, as insulative surfaces allow charge to build up and discharge unpredictably.

Over time, normal wear and tear, surface contamination from dust, grease or cleaning chemicals, and prolonged exposure to extreme temperatures can gradually alter a material's resistive properties, pushing it outside the acceptable ESD range. Regular testing with a high-quality esd surface tester identifies these changes early, allowing facilities to clean, repair or replace affected surfaces before they pose a risk to sensitive components.

For teams new to ESD testing, SWESD's comprehensive technical guide covers proper testing procedures, including surface preparation, calibration best practices, correct probe placement technique, and how to interpret results against industry standards. The guide also outlines testing frequency recommendations, environmental factors that can affect readings, and troubleshooting steps for surfaces that fail resistance tests. Beyond surface resistance testers, SWESD also supplies a full suite of complementary ESD measurement tools including wrist strap testers, electrostatic field meters, ionization testers and ESD simulators to support complete facility-wide ESD audits.

4.Frequently Asked Questions

Q: Are SWESD esd magazine rack products compliant with international ESD standards?

A: Yes. All SWESD ESD magazine racks are manufactured in strict accordance with IEC 61340-5-1 and ANSI/ESD S20.20 standards. Sanwei Company is also an official drafting unit for three Chinese national and military ESD standards, and all products hold SGS certification for RoHS and environmental compliance.

Q: What is the maximum temperature resistance of SWESD esd magazine racks?

A: SWESD's premium SMT-grade esd magazine racks feature patented heat-resistant material formulations that withstand continuous temperatures up to 200°C, making them ideal for reflow soldering environments. For semiconductor cleanroom applications, the brand also offers a 160°C-rated clean white permanent anti-static material with low outgassing and particulate properties.

Q: Why is an esd surface tester a necessary investment for electronics manufacturing facilities?

A: An esd surface tester is the primary tool for verifying that ESD-protected surfaces remain within acceptable resistance ranges over time. Without regular testing, wear, contamination or material degradation can compromise electrostatic protection without being visible to staff, leading to silent ESD damage to components, reduced product reliability, and unplanned production losses. Testing also ensures compliance with industry audit requirements and customer quality standards.

Q: How often should ESD surface resistance testing be performed?

A: As a baseline, it is recommended to conduct comprehensive surface resistance testing every quarter. Additional testing should always be performed before introducing new materials, work surfaces or flooring into ESD-sensitive areas. High-traffic zones, facilities with strict ESD requirements (such as semiconductor fabs or aerospace manufacturing lines), and environments with fluctuating temperature or humidity may require more frequent monthly testing.

Q: Does SWESD offer custom ESD solutions for unique application requirements?

A: Absolutely. Sanwei maintains a full in-house R&D team and complete mold manufacturing capabilities. The company can develop custom anti-static material formulations, design custom-sized ESD storage and handling products, and engineer tailored solutions for specialized industries such as aerospace, defense and medical electronics. Custom projects are supported from initial concept through prototyping and full-scale production.

Q: What environmental factors can affect esd surface tester readings?

A: Temperature, relative humidity and surface contamination all have a measurable impact on surface resistance results. Higher humidity typically reduces measured resistance, while dry conditions increase resistance readings. Dust, oil residue and improper cleaning products can also alter results. For accurate, comparable measurements, tests should be conducted under controlled, documented environmental conditions, and surfaces must be clean and dry before testing.

5. Building a Complete, Compliant ESD Program with SWESD

Effective electrostatic discharge control requires more than just individual products — it demands a holistic approach that combines high-performance ESD equipment, regular verification testing, expert technical guidance and ongoing compliance management. As a

pioneer in anti-static technology with nearly 40 years of industry experience, SWESD delivers all of this and more, serving as a single trusted partner for facilities worldwide.

Whether you are outfitting a new SMT production line with durable, heat-resistant esd magazine rack systems, setting up a facility-wide ESD testing program and seeking guidance on esd surface tester selection and usage, or developing a custom ESD solution for a specialized aerospace or defense application, the Sanwei team brings deep technical expertise and manufacturing scale to every project.

To explore the full SWESD product portfolio, download technical datasheets, request a custom quote, or speak with an ESD solutions specialist, visit the official website or contact the global support team today.

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