



Cord Anchorage Torque Tester

Precision Strain Relief Evaluation for IEC 60335-1 and IEC 60950-1 Compliance

1. Executive Summary

The **Cord Anchorage Torque Tester** is a high-precision laboratory instrument engineered by **KingPo** to evaluate the mechanical integrity of power cord anchorages. Specifically designed to meet the rigorous requirements of **IEC 60335-1 Clause 25.15** and **IEC 60950-1**, this system verifies the effectiveness of cord anchorages in relieving conductors from tension and twisting strains at the terminals, while ensuring the insulation remains protected from abrasion and displacement.

2. Engineering Excellence & Technical Precision

KingPo has developed this tester to provide uncompromising accuracy and repeatability for high-stakes safety compliance:

- **Rigid Dual-Test Frame:** Features a reinforced chassis with precision-machined fixtures that ensure secure cord clamping without damaging the outer sheath.
- **Low-Friction Loading System:** The tension system utilizes calibrated dead-weights

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suspended via high-performance, low-friction pulleys to ensure the pull force is applied smoothly and without jerking.

- **Calibrated Torque Application:** Employs a dedicated torque arm and weight set (2 N, 5 N, 7 N) designed to deliver precise rotational force (0.1 Nm to 0.35 Nm) with minimal mechanical resistance.
- **Programmable Automation:** Integrated with a high-accuracy digital timer and counter, allowing for automated sequencing of the standard 25-cycle pull test and the 1-minute sustained torque test.
- **Traceable Reliability:** All weights and timing mechanisms are factory-calibrated to international standards, ensuring data acceptance by global certification bodies.

3. Technical Specifications

Table 1: Tension, Torque, and Sequencing Parameters

Parameter	Specification	Regulatory Reference
Primary Standards	IEC 60335-1 Cl. 25.15, IEC 60950-1	Safety of Household/IT Equipment
Pull Weights (Tension)	20 N × 2, 30 N × 2 (Max 60 N)	Calibrated Dead-weights
Torque Weights (Force)	2 N, 5 N, 7 N (0.1 / 0.25 / 0.35 Nm)	Adjustable Torque Arm
Test Cycles	0–9999 (Standard: 25 cycles)	Programmable Counter
Tension Frequency	1 time per second	Controlled Pulse Timing
Torque Duration	0.01 s – 99 h 59 min 59 s	Digital Precision Timer

4. Industrial Applications & Strategic Value

- **Household Appliance Manufacturers:** Essential for verifying strain relief in kitchen appliances, laundry equipment, and heating devices.
- **IT & Office Equipment Developers:** Compliance testing for power supplies and peripheral connectors per IEC 60950-1.
- **Third-Party Laboratories (UL, Intertek, SGS):** Accurate, traceable results for safety certification and market entry audits.
- **R&D and Product Design:** Iterative testing to optimize cord grip geometry and material selection for maximum durability.
- **Regulatory Compliance:** Generation of documented proof that power cord anchorages prevent internal wire displacement and insulation wear.

5. Global Support & Procurement Advantages

- **High-Efficiency Testing:** Versatile weight configurations allow for rapid switching between different product mass categories as defined by IEC tables.

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- **Certified Manufacturing:** Produced in an ISO 9001/14001/45001 facility. All units are CE certified and support ISO 17025 traceable calibration.
 - **Engineering Reliability:** Backed by a full one-year warranty, on-site installation guidance, and lifetime technical engineering support from KingPo's specialized team.
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Note: To ensure maximum repeatability, the cord must be marked 20 mm from the anchorage prior to testing. KingPo recommends performing the test with both the lightest and heaviest permissible cords to ensure comprehensive safety coverage. Periodic inspection of pulleys and clamps is advised to mitigate frictional errors.

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