



Presto Laboratories Pvt Ltd



**EMPOWERING INDUSTRY  
WITH ADVANCED  
RESEARCH &  
DEVELOPEMENT**



# Presto Laboratories Provides End-to-end Testing Support For:

- Solar PV Module Testing
- Fire Extinguisher Testing
- IP Testing
- Helmet Testing
- Refrigerator Testing
- Home Appliances Testing
- Washing Machine Testing
- Fan Testing Services



# SOLAR & ENERGY TESTING SERVICES

Powering Reliability. Energizing the Future."

Enduring power is proven power. At Presto Laboratories, we are determined to test solar panels, batteries, and energy systems under extreme production environments to guarantee their safety, adherence, and durability to international standards.

At Presto Laboratories, we regulate extreme weather conditions, durability, and electrical load stresses to make sure that your solar and energy products are fully developed, globally compliant, and built to last.

## What We Test

- Solar PV Modules & Cells – efficiency, durability, environmental resistance
- EV Batteries & Energy Storage Systems – abuse, safety, and lifecycle testing
- Solar Inverters & Controllers – safety, performance, and compliance
- Cables & Connectors – insulation, thermal cycling, and fire safety
- Protective Glass & Coatings – impact and UV resistance

## Core Tests We Offer for EV Batteries

Test	Standard	Sample Req.	TAT
Thermal Cycling Test	IEC 61215 / IEC 61646	3 panels/cells	15 days
Damp Heat Test	IEC 61215 / IEC 61730	3 panels	20 days
UV Exposure á Weathering	IEC 61215 / ASTM G154	3 samples	15 days
Mechanical Load Test	IEC 61215	1 module	12 days
Endurance & Durability Test	IEC 61730	Complete unit	7 days
Fire Safety & Flammability	UL 94 / IEC 61730	5 specimens	12 days
Battery Safety (Abuse Testing)	AIS 156 / IEC 62133	1 battery pack	15 days
Energy Efficiency Verification	BEE / IEC	Complete unit	20 days



## Advanced Instruments at Presto

- Solar PV Modules Test Chambers – Solar PV Test Chambers
- UV Weathering Chambers – simulate high UV radiation for coatings & encapsulants
- Damp Heat Chambers & Thermal Cycling - reliability testing for panels & cells
- Battery Abuse Test Rigs – crush, penetration, overcharge & thermal runaway simulation
- Flammability Chambers – fire hazard and safety verification
- Mechanical Load Testing Systems – wind, snow, and load simulation

## Standards We Help You Meet

- IEC 61215 / IEC 61730 (PV module performance & safety)
- IEC 61646 (thin film modules)
- UL 94 (flammability)
- ASTM G154 / ISO 4892 (weathering)
- AIS 156 / IEC 62133 (battery safety)
- BEE Compliance (energy efficiency)

## Why Choose Presto for EV Battery Testing?

- NABL & BIS Accredited: trusted for certification-ready testing
- Comprehensive Scope: PV, batteries, inverters, glass, cables, coatings
- Real-World Simulation: extreme heat, UV, dampness, and load conditions
- Accelerated Insights: predict decades of performance in weeks
- Certification Support: smooth approvals for domestic & global markets

## Success Story

- Challenge: A solar manufacturer faced frequent module failures during damp-heat tests for exports.
- Solution: Presto performed accelerated IEC 61215 tests to identify encapsulant weaknesses.
- Impact: The manufacturer switched to a superior encapsulant, secured European market approval, and increased exports by 30%.



# HELMET TESTING SERVICES

Safety starts with certified helmets. At Presto Laboratories, we test helmets against BIS and global standards to ensure maximum protection, durability, and rider confidence on every journey."

Helmets are more than accessories — they are life-saving equipment. A poorly tested helmet can be the difference between life and death on the road. With stricter regulations and rising consumer awareness, manufacturers must ensure their helmets meet the highest safety benchmarks

At Presto Laboratories, we specialize in BIS-certified helmet testing. Our NABL-accredited lab conducts rigorous impact, penetration, retention, and abrasion tests to ensure helmets provide maximum protection and long-lasting reliability.

## Tests We Conduct on Helmets

Test	Standard	Sample Req.	TAT
Impact Absorption Test	IS 4151 / ECE R22	3 helmets	10 days
Penetration Resistance	IS 4151 / ECE R22	3 helmets	12 days
Retention System Test (Strap Strength)	IS 4151	3 helmets	7 days
Abrasion & Scratch Resistance	IS 4151 / ASTM D1044	2 visors	7 days
Field of Vision & Optical Test	IS 4151 / ECE R22	2 helmets/visors	8 days
Flammability Resistance	IS 4151 / IEC 60695	2 samples	12 days

## Testing Infrastructure

- Drop & Impact Testers – simulate crash impact energy
- Penetration Testing Machines – verify shell toughness
- Retention Strap Testing Rigs – check strap strength & stability
- Abrasion & Scratch Testers – ensure visor clarity and durability
- Flammability Chambers – check resistance to fire hazards

## Standards We Help You Meet

- IS 4151 (BIS Helmet Safety Standard)
- ECE R22.05 / R22.06 (European Standard)
- DOT FMVSS No. 218 (US Standard)
- Snell Standards (for high-performance helmets)



## Why Choose Presto for Helmet Testing?

- BIS-approved lab for helmet testing
- Comprehensive safety validation – NABL, BIS, and globally recognized standards
- End-to-End Safety Validation– impact, retention, visor clarity, fire resistance
- Proven expertise – trusted by top helmet manufacturers in India
- Faster turnaround times without compromising on accuracy
- Certification-ready reports for domestic & global compliance

## Success Story

- **Challenge:** A helmet manufacturer faced rejections in export markets due to visor scratch resistance failures.
- **Solution:** Presto performed optical clarity and abrasion tests to highlight weaknesses.
- **Impact:** After material improvements, the helmets cleared ECE R22 compliance, opening doors to new European markets.



# HOME APPLIANCE TESTING SERVICES

Every appliance in every home must be safe, durable, and compliant. Because when safety is compromised, the risks can be devastating. Electrical failures, overheating, and poor durability lead not only to fires, shocks, and recalls, but also to loss of consumer confidence.

At Presto Laboratories, we provide end-to-end testing solutions for home appliances, ensuring they meet BIS, IEC, and international standards for safety and performance. From refrigerators and washing machines to small kitchen appliances, we validate your products under real-world usage conditions to make them market-ready and globally compliant.

## What We Test

- Major Appliances (White Goods): refrigerators, washing machines, ovens, air conditioners
- Kitchen & Cooking Appliances: mixers, toasters, induction cooktops, microwaves
- Cleaning Appliances: vacuum cleaners, dishwashers, irons
- Small Electrical Appliances: fans, hairdryers, heaters, kettles
- Portable & Smart Devices: chargers, IoT-enabled home appliances

## Core Tests We Offer for Home Appliances

Test	Standard	Sample Req.	TAT
Insulation Resistance	IS 302 / IEC 60335	3 specimens	7 days
Dielectric Strength Test	IS 302 / IEC 60243	3 specimens	7 days
Leakage Current & Earth Continuity	IEC 60335	Complete unit	10 days
Flammability (Glow Wire / UL 94)	IEC 60695 / UL 94	5 specimens	12 days
Endurance & Durability Test	IS 302 / IEC 60335	Product sample	15 days
Temperature Rise & Overload	IS 302 / IEC 60335	Complete unit	12 days
Energy Efficiency Verification	BEE / IS Standards	Appliance sample	20 days
Mechanical & Drop Tests	c	Appliance sample	10 days

# Testing Infrastructure



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- Dielectric & Insulation Testers – verify electrical safety
- Glow Wire & Flammability Testers – simulate fire hazards
- Endurance Rigs – long-term operation testing
- Thermal Chambers – high/low temperature durability
- Drop & Impact Machines – accidental fall resistance
- Energy Efficiency Meters – BEE compliance validation

## Standards We Help You Meet

- BIS IS 302 series (domestic electrical appliances)
- IEC 60335(safety of household appliances)
- IEC 60695 / UL 94 (flammability & fire safety)
- IEC 60068 (mechanical & environmental testing)
- SAE J2464 (EV battery safety test procedures)
- BEE Energy Efficiency Compliance

## Why Choose Presto for Appliance Testing?

- Trusted Certification Partner: BIS & NABL-approved lab for domestic and global compliance
- Wide Testing Scope: Covers white goods, small appliances, and IoT-enabled devices
- Real-World Accuracy: Simulates heat, overload, shocks, and daily usage stresses
- Proven Track Record: Trusted by top appliance brands and electronics manufacturers
- Fast & Reliable Reports: Certification-ready documentation within strict timelines

## Success Story

- Challenge:A popular home appliance brand faced frequent motor burnouts in washing machines, leading to warranty claims.
- Solution: Presto conducted temperature rise and endurance testing, identifying design flaws in the motor coil.
- Impact:After corrective action, the brand reduced failure rates by 60% and secured BIS certification for its new product line.



# ELECTRONICS & APPLIANCES TESTING SERVICES

In today's connected world, consumers expect electronics that are safe, durable, and globally compliant. A single malfunctioning component can lead to fires, shocks, recalls, and brand damage.

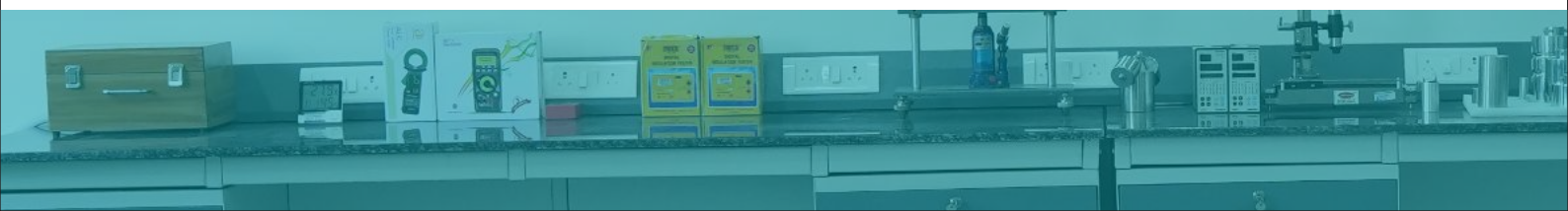
At Presto Laboratories, we help electronics and appliance manufacturers meet the strictest BIS, IEC, and global standards. From insulation resistance to drop, leakage, and flammability tests, our lab ensures your products perform safely in every home, every office, and every market worldwide.

## What We Test

- Home Appliances – fans, mixers, refrigerators, washing machines, irons
- Consumer Electronics – phones, chargers, TVs, set-top boxes
- Electrical Components – wires, cables, plugs, sockets, switches
- White Goods – air-conditioners, ovens, dishwashers
- Portable Devices – small appliances and handheld gadgets
- Metals & Coated Parts – fasteners, painted surfaces, corrosion resistance

## Core Tests for Electronics & Appliances

Test	Standard	Sample Req.	TAT
Insulation Resistance	IEC 60243 / IS 2584	3 specimens	7 days
Dielectric Strength	IEC 60243 / ASTM D149	3 specimens	7 days
Leakage Current Test	IEC 60335	Complete unit	10 days
Flammability (Glow Wire / UL 94)	IEC 60695 / UL 94	5 specimens	12 days
Temperature Rise Test	IS 302 / IEC 60335	Complete unit	10 days
Endurance & Durability	IS 694 / IS 302	Product sample	15 days
Drop & Impact Testing	IEC 60068	3 helmets	7 days
Energy Efficiency Verification	BEE / IS 302	Appliance sample	20 days



# Advanced Instruments at Presto



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- Dielectric Strength Testers – high-voltage insulation safety
- Glow Wire Test Apparatus – simulate fire hazard conditions
- Leakage Current Testers – verify electrical safety
- Thermal Chambers – endurance under heat & cold
- Drop Test Machines – simulate accidental falls & transit shocks
- Endurance Rigs – long-term performance testing for switches & motors

## Standards We Help You Meet

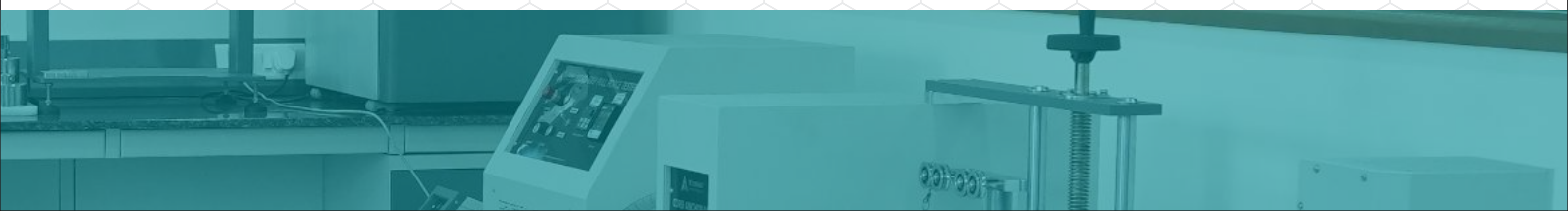
- BIS / IS Standards (IS 302, IS 694, IS 2584, etc.)
- IEC Standards (IEC 60335, IEC 60695, IEC 60068, etc.)
- ASTM Standards for materials
- UL Standards for flammability
- BEE Compliance for energy efficiency

## Why Choose Presto for Electronics Testing?

- Comprehensive Testing: Appliances, consumer electronics & electrical parts under one roof
- Regulatory Edge: BIS, IEC, and UL compliance for domestic & export markets
- Real-World Simulation: Drop, fire, thermal, and endurance tests that reflect actual usage
- Trusted by Leaders: Serving top appliance brands and electronics manufacturers across India
- End-to-End Certification Support: From pre-compliance to full certification audits

## Success Story

- Challenge: A consumer electronics brand faced frequent charger failures and risk of overheating.
- Solution: Presto conducted dielectric strength, leakage current, and glow wire tests to identify weaknesses in the design.
- Impact: With design improvements, the brand achieved BIS certification, improved safety, and expanded into new export markets.



# FIRE EXTINGUISHER TESTING SERVICES

## Portable Fire Extinguishers Testing Services (IS 15683)

Presto Laboratories provides comprehensive testing services for portable fire extinguishers in accordance with IS 15683 – Portable Fire Extinguishers. The testing program is designed to evaluate the performance, safety, construction, and operational reliability of fire extinguishers under controlled laboratory conditions as specified in the Indian Standard.

These tests are essential to ensure that portable fire extinguishers perform effectively during fire emergencies and meet statutory requirements for manufacturing, certification, and market deployment.

## What Is the Importance of Fire Extinguisher Testing?

Portable fire extinguishers are critical first-response fire safety devices. Their effectiveness depends on reliable discharge, adequate fire suppression capability, and safe operation under pressure.

- Verify fire extinguishing performance for the specified fire class
- Ensure mechanical strength and pressure integrity of the extinguisher body
- Evaluate discharge characteristics and operational reliability
- Confirm safety of valves, hoses, and operating mechanisms
- Demonstrate compliance for BIS certification and regulatory approvals
- Presto Laboratories conducts testing strictly as per the procedures, conditions, and acceptance criteria defined in IS 15683.

## Visual Inspection

- Check for dents, rust, or corrosion
- Ensure labels are readable
- Verify the safety pin is in place
- Check the pressure gauge for correct levels

## Visual Inspection

Ensures the cylinder can handle the required internal pressure. Low pressure makes it ineffective, while excessive pressure is hazardous.



## Discharge Test

These tests assess how effectively the extinguisher discharges its extinguishing agent. Parameters evaluated include:

- Discharge time
- Discharge rate and continuity
- Effective range of discharge
- Ability to operate in the intended orientation

These tests confirm that the extinguisher can be easily operated and deliver the extinguishing medium effectively during use.



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## Pressure and Mechanical Strength Tests

Portable fire extinguishers operate under internal pressure and must withstand both normal operating and abnormal conditions. Testing includes:

- Hydraulic pressure test of the extinguisher body
- Leakage and pressure retention tests
- Burst pressure verification (where applicable)

These tests ensure that the extinguisher cylinder, valve assembly, and joints are structurally sound and safe for use.

## Environmental and Durability Tests

To simulate storage and field conditions, extinguishers may be subjected to environmental conditioning such as:

- Temperature exposure (high and low)
- Corrosion resistance evaluation (where specified)
- Vibration or handling-related checks

Post-conditioning, extinguishers are reassessed to confirm that performance and safety are not adversely affected.

## Test Reports and Documentation

Clients receive a comprehensive test report containing:

- Identification of samples tested
- Applicable standard reference (IS 15683)
- Test methods, fire sizes, and conditions
- Measured values and observations
- Pass/fail conclusions based on acceptance criteria

Reports are suitable for QAI & ISO certification, quality audits, and customer submission.





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## CONTACT US NOW FOR YOUR LAB TESTING NEEDS

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