EESS
Electrical Equipment Safety System

2023-2024 Check Testing Report

FRONT LOADER WASHING MACHINE

STANDING COMMITTEE OF OFFICIALS (SCO)
Secretariat: c/o Electrical Safety Office Queensland
GPO Box 69, Brisbane QLD 4001
✉ eess.secretariat@oir.qld.gov.au

Prepared by:	Principal Advisor
Reviewed by:	SCO Secretariat
Approved by:	Standing Committee of Officials
Approved date:	

More information is available on the internet (www.eess.gov.au).

Contents

Introduction **1**

Check Testing Objective 1

Our Check Testing Strategy **2**

Targeted Choice of Tests 2

Severity Category **3**

Non-Compliance Categories 3

Results Summary **4**

Test Results: Front loader Washing Machines 5

Graphs - Place of purchase vs non-compliance **6**

Place of Purchase 6

Failures by Place of Purchase 6

Introduction

This report presents the results of check testing undertaken on front-loader washing machines as part of the 2023-2024 EESS Check Test Program on in-scope electrical equipment.

Electrical safety legislation of participating EESS jurisdictions focus on the prevention of death, injury and destruction of property caused by electricity. Within the legislation there are requirements on parties in the supply chain of equipment to ensure safe electrical equipment is supplied.

This includes manufacturers and importers of electrical equipment (responsible suppliers) being required to ensure they test the equipment they supply to show it is electrically safe. Jurisdictions that apply the EESS have legislative requirements for in-scope electrical equipment regulated under the EESS. The EESS is a system safeguarding the supply chain of in-scope electrical equipment (low voltage electrical equipment for household personal or similar use).

Responsible Suppliers (Australian or New Zealand based manufactures or importers) make a declaration that all equipment they supply is electrically safe and meets relevant safety standards. It is the duty of the responsible supplier to ensure this by having appropriate processes in place to ensure ongoing compliance of all equipment they manufacture or import.

Regulators have established an annual testing program to check compliance of in-scope electrical equipment with the relevant electrical safety standard. The objective of the check testing program is to identify and remove non-conforming electrical equipment from the marketplace before it becomes, or is revealed to be, a safety issue.

Check Testing Objective

To improve consumer safety for household electrical equipment in Australia and New Zealand by:

- sourcing in-scope electrical equipment from the marketplace and testing it to the relevant standard.
- taking regulatory action on non-compliances.
- providing information about results to stakeholders; and
- stop sale of, remove, or rectify any identified non-compliant equipment.

Check Testing is conducted as part of the EESS activities where in-scope electrical equipment is purchased from the marketplace and subject to tests to the relevant standard by independent accredited test laboratories. Where non-compliances occur, the Regulator engages with the Responsible Supplier and will take appropriate enforcement actions based on the severity of risk the non-conformity presents. Irrespective of the resulting compliance action taken, all non-compliances are required to be rectified by the Responsible Supplier before supplying any further equipment.

This report provides results of check tests for a specific equipment type. The testing forms part of the regulators' annual targeted compliance activities aimed at identifying non-conforming electrical equipment supplied to the Australian and New Zealand markets.

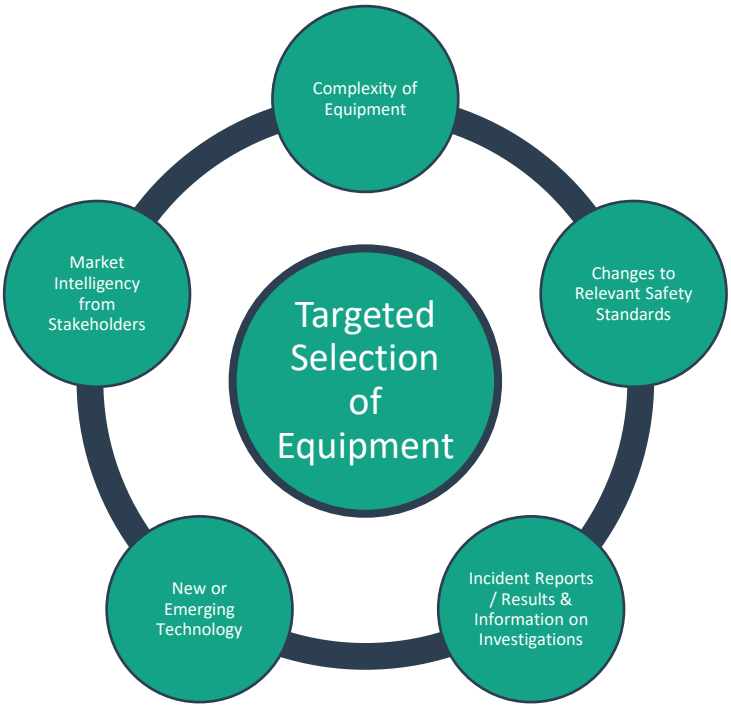
The 2023-24 Check Testing Program focused on level 3 in-scope electrical equipment, tested to selected safety clauses. Equipment types selected for testing were chosen using a risk assessment selection tool to identify the most appropriate equipment for testing.

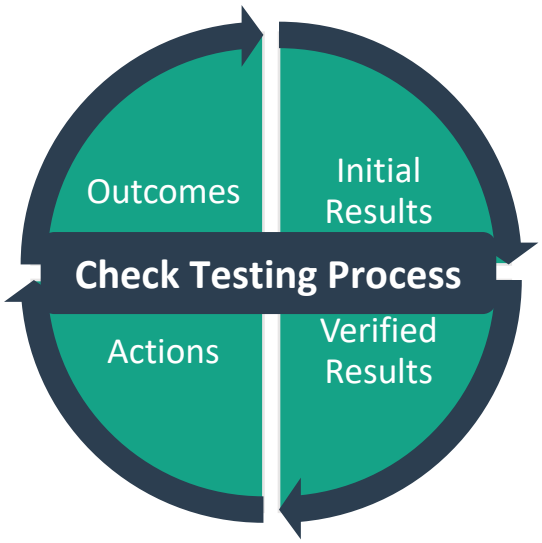
The selection tool included various factors such as incident data, recalls, previous equipment history, characteristics of the equipment type and previous check testing results.

Testing on all equipment was conducted at accredited laboratories in either Australia or New Zealand.

Our Check Testing Strategy

The EESS uses a targeted approach when selecting equipment for check testing. Equipment is identified using a selection tool. The selection tool aims to highlight equipment with a greater likelihood of non-compliance or has a significant consequence if non-compliant.





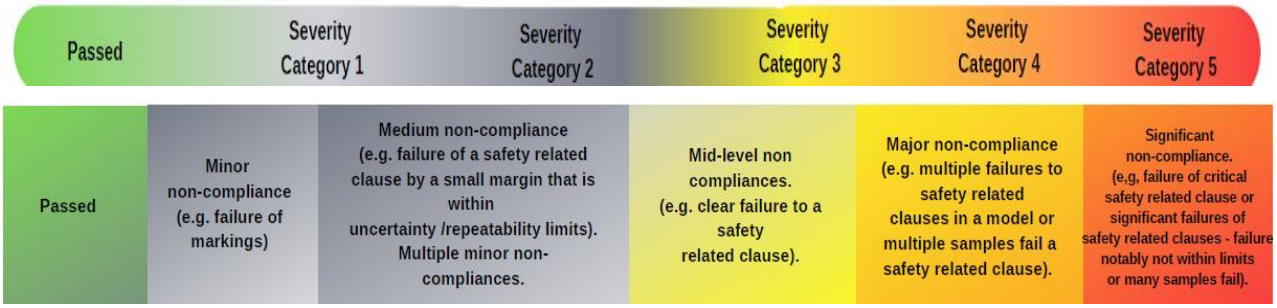
Targeted Choice of Tests

Tests chosen as identified for the equipment type as being likely non-compliant, or if non-compliant would be a significant issue, such as:

- Heating
- Abnormal operation
- Clearance distances and creepages (distances from live parts to accessible parts)
- Resistance to fire (flammability)
- Weatherproof ratings (IP ratings)
- Markings
- Electric strength (high voltage tests)
- Resistance to heat (ball pressure on plastics)
- Strength of contacts /withdrawal forces (power boards/appliance connectors)
- Insulation thickness
- Earthing
- Flexing
- Residual current/operation test/fault current ratings.

Severity Category

All non-compliances must be rectified by Responsible Suppliers irrespective the level of severity. Below is a ratings classification that the Regulator may apply. The action the regulator may take increases, as the severity increases.



Non-Compliance Categories

After the test results have been received from the testing laboratory, the results must be confirmed as legitimate and accurate results. Once the test report and results have been confirmed, the classification of severity category level of can be determined.

The severity should be taken on a case-by-case basis and there may be some overlap between categories (that is there is not a hard cut off between categories). Actions that may be taken by the Regulator are dependent on the severity and can range from a notice to stop sale, rectify, or modify equipment before further sale, cancellation of registrations or certification, recalls or infringement notices or other prohibition activities.

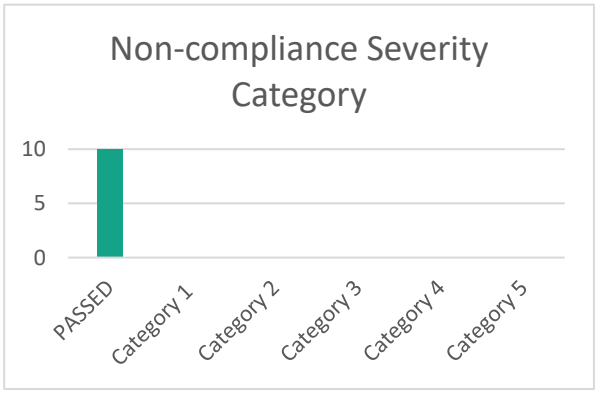
Results Summary



Number of Models tested: 10

Ten models of front-loader washing machines tested against selected clauses of AS/NZS 60335.2.7:2020 and additionally Amendment 1:2024 of that standard (Amendment not yet in force at time of check test).

10 out of 10 models passed



Key trend identified:

- All models passed tests as applied to the specifications of the equipment and requirement of the relevant standard in force.
- No models passed the revised test requirements for 'two separate independent means' start process (Amendment 1 not yet mandatory in relevant standard at time of testing).
- 2 models would have failed requirements of being able to open the door from the inside with a force of <70N and only passed by virtue of the clause being not applicable due to wash drum dimensions.

Highlights and Lowlights

Lowlight

One Model that did not pass test of opening door from inside is a marginal technical pass result (test is not applicable to wash machines with drum opening <200mm and drum volume does not exceed 60dm^3)

- Sample: 7.5kg rated wash load but drum dimensions of: - opening >200mm and volume = 58dm^3 (3% under limit where test would apply).

Noting other wash machines tested, of similar rated wash load (7kg, 7.5kg, 8kg), did pass this test.

Highlight

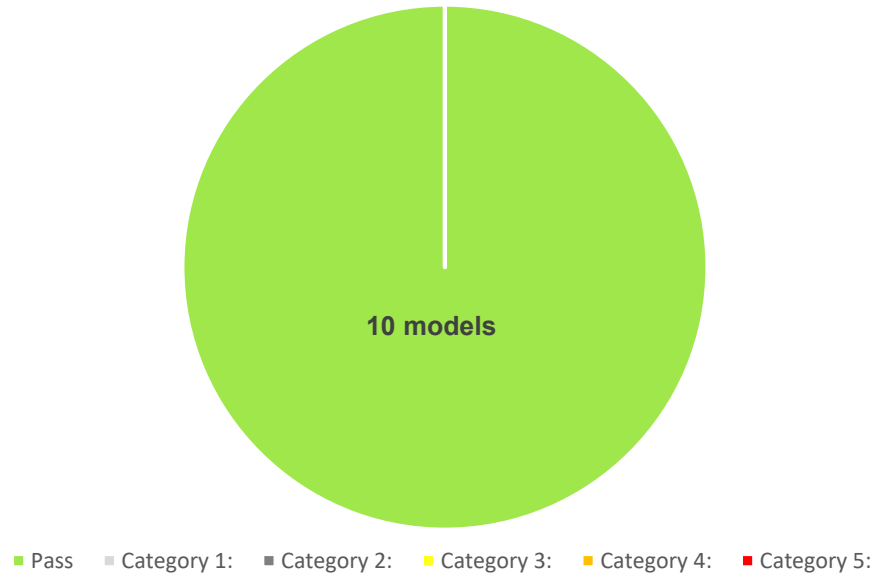
100% pass for this equipment (on basis of requirements of current relevant standard).

Test Results: Front loader Washing Machines

Number of models tested	Standard/s	Clauses tested	
10	AS/NZS 60335.2.7:2020 Amendment 1:2024 AS/NZS 60335.1:2020 Amendment 1:2021	7	Marking and instruction
		8	Protection against access to live parts
		10	Power input and current
		11	Heating
		13	Leakage current at operating temperature
		15.2	Moisture resistance – spillage of liquid does not affect electrical insulation
		15.101	Moisture resistance – foaming does not affect electrical insulation
		19	Abnormal operation
		20.103	Stability and mechanical hazards – interlocking
		20.106	Stability and mechanical – start by a separate manual means after door closed
		20.107	Stability and mechanical hazards – opening from inside the closed door
		27	Provision for earthing
		29	Clearances, creepage distances and solid insulation
		30	Resistance to Fire
	AS/NZS 60335.2.7:2024 60335.1:2022 Amendment 1:2022	20.106	Stability and mechanical hazards – start by two separate independent manual means after door closed

Non-Compliances

- Start by two separate independent manual means after door closed close - all 10 models did not comply but result not included. This clause not in force in relevant standard at time of check tests. All model under test complied with the version in force at time of check test.
- Opening from inside the closed door - 2 Models failed test but result not included as a fail as test was not applicable by virtue of wash drum dimensions just below values that make test applicable.





Regulator Actions

- Responsible Suppliers of models that would have failed requirements of being able to open the door from the inside with a force of <70N and only passed by virtue of the clause being not applicable due to wash drum dimensions to be informed to consider if their design is adequate.

Graphs - Place of purchase vs non-compliance

Equipment available for purchase nationally were obtained for test, with Trade Names and Models chosen irrespective of price or Trade Name. Place of purchase was either Bricks and motor store, Online marketplaces, or specific Online retailer.

Place of Purchase



Failures by Place of Purchase

