EESS
Electrical Equipment Safety System

# 2023-2024 Check Testing Report

## OUTLET DEVICES – ELECTRICAL PORTABLE OUTLET DEVICES (EPODS) - POWERBOARDS

**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 ..... 5

Outlet Devices – Electrical Portable Outlet Devices (EPODs) - Powerboards ..... 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 outlet devices – Electrical Portable Outlet Devices (EPODs) - powerboards 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.

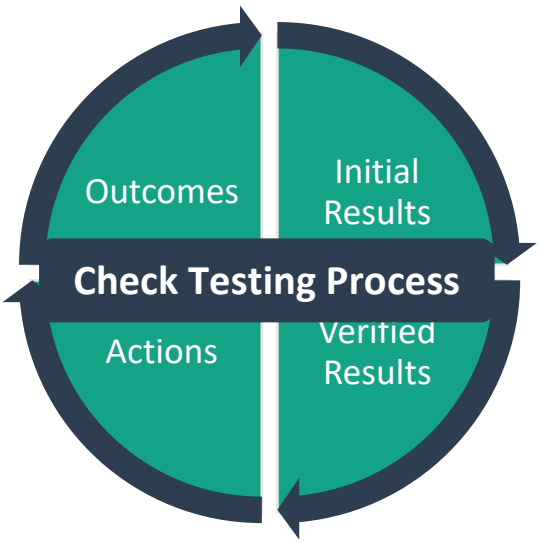
The selection tool included various factors such as incident data, recalls, previous equipment history, characteristics of the equipment type and previous check testing results.

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.



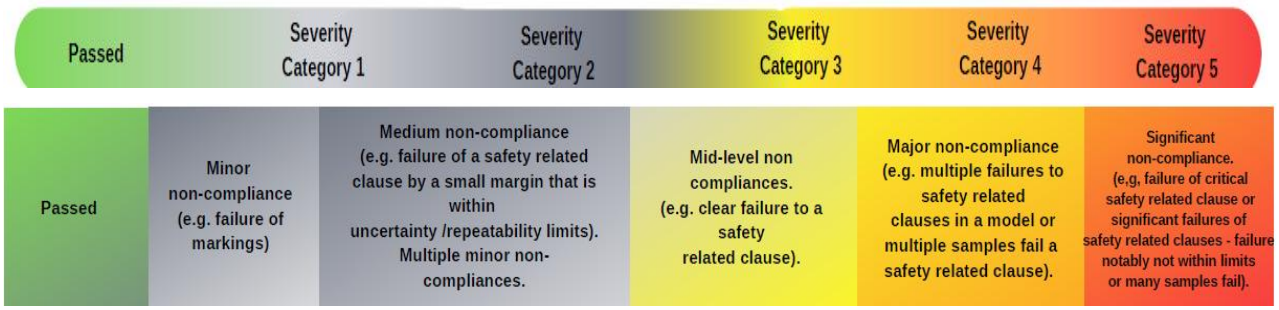

## Targeted Choice of Tests

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.

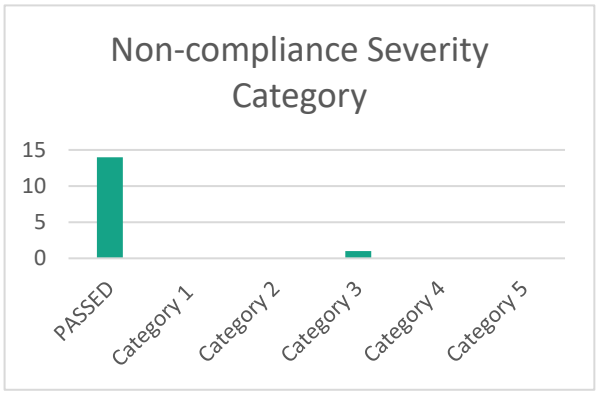
# Results Summary




## Number of Models tested: 15

Fifteen models of 'Outlet devices – Electrical Portable Outlet Devices (EPODs) - Powerboards' were tested against selected clauses of AS/NZS 3105:2014 + Amendment 1:2017; AS/NZS 3112:2017 + Amendment 1:2021; AS/NZS 3100:2022 + Amendment1:2023

### 14 out of 15 models passed




**Key trend identified:**

- Previous check testing of Electrical Portable Outlet Devices (EPODs) - Powerboards had identified failures of depth of contact and strength of contact (withdrawal force) of socket contact. In this year's check test all samples passed these tests.
- Previous check tests of Electrical Portable Outlet Devices (EPODs) - Powerboards had identified failure of ball pressure test (risk of fire or exposure to live parts) in multiple samples tested. In this years check testing only one failure of this test (and that sample was produced before industry informed of this particular issue).

## Highlights and Lowlights

**Lowlight**

**None**.

**Highlight**

**100% Pass** for depth of contact and strength of contact (withdrawal force test) of socket contact.

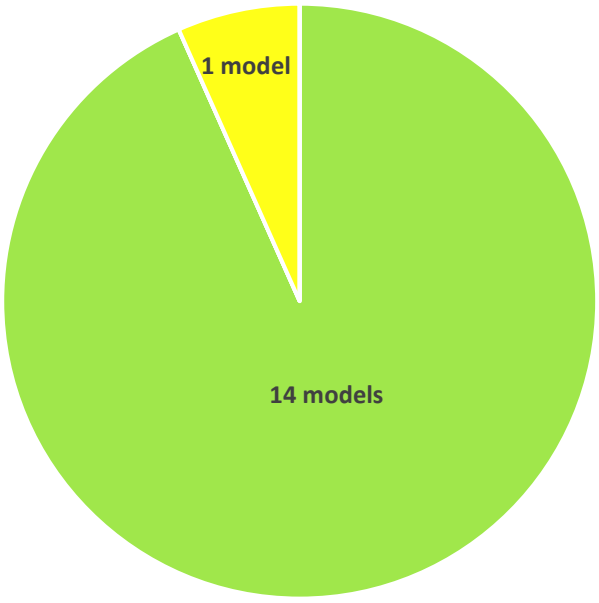
Improved trend of Pass results for all tests from previous (multiple fail results) check test programs.

# Test Results
# Outlet Devices – Electrical Portable Outlet Devices (EPODs) - Powerboards

| Number of models tested | Standard/s | Clauses tested |
|---|---|---|
| 15 | AS/NZS 3105:2014 Amendment 1:2017 | 5.3 - Insulating material<br>5.5.2 - Socket outlets (in part)<br>- including AS/NZS 3112:2017 Amendment 1:2021: clause 3.3.2 Construction, clause 3.3.3 Entry or withdrawal, clause 3.3.4 Depth of contact, 3.5 Components, clause 3.6 Dimensions, clause 3.7 Earthing, clause 3.8 Prevention of contact with live parts, Test 1 – Installation verification, Test 2 – General dimension tests, Test 3 – Contact independence tests, Test 4 – Insulation resistance test, Test 5 – High voltage test, Test 7 – Current breaking test, Test 8 – Temperature rise test, Test 9 – Insulation resistance test, Test 10 – Test of earthing connection, Test 11 – Test of lateral strain, Test 12 – Withdrawal force test, Test 14 – Determination of IP rating, Test 15 – Determination of ignitability and combustion propagation.<br>5.7 - Earthing<br>10.4 - Table 2 test 10 Mechanical strength<br>10.6 - Table 2 test 12 Overload protection<br>10.11 - Table 2 test 20 Determination of ignitability and combustion propagation<br>10.12 - Table 2 test 22 Resistance to heat test |
| | AS/NZS 3100:2022 Amendment 1:2023 | 3.7 - Design and construction – identification of wiring<br>3.14 - Equipment connected to supply by a plug<br>3.17 - Incorporated power supplies |

**Non-Compliance:**

- Resistance to heat




Pass Category 1: Category 2: Category 3: Category 4: Category 5:




## Regulator Actions

- Stop sale
- Rectify – Responsible Supplier removed product from sale and advised component will be replaced in future product

# 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

