



# Check Testing Report

2020 - 2021

## **STANDING COMMITTEE OF OFFICIALS**

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More information is available on the internet ([www.eess.gov.au](http://www.eess.gov.au))

# Introduction

## This report presents the results of check tests on in-scope electrical equipment for the July 2020 to June 2021 program

Electrical safety legislation of participating EESS jurisdictions focuses 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.

The supply chain 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.

### 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;
- proving 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.

The Check Testing Program for 2020-2021 focused on Level 1-3 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 Australia and New Zealand.

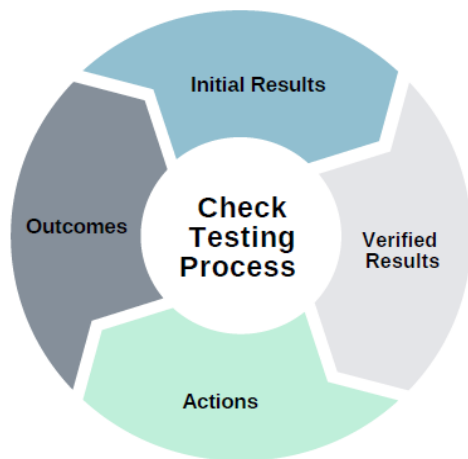
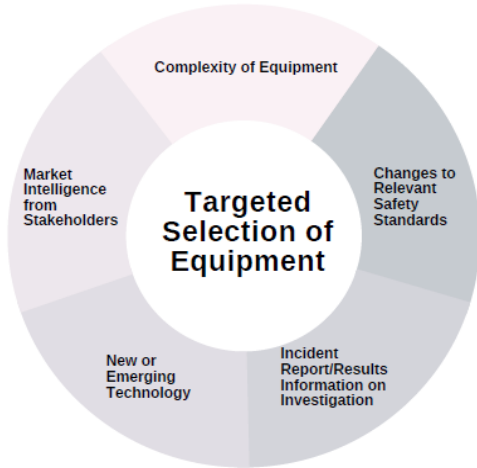
Testing included:

Deep Fryers/ Frying Pans, DC Isolators, Exhaust Fans, Coffee Machines,  
Fixed Luminaires, Battery Chargers and Cord Extension

Equipment to be tested was purchased nationally from retailers, wholesalers and national online sellers, with brands and models chosen irrespective of price or brand name.

# Our Check Testing Strategy

A targeted approach is used 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 for the targeted equipment based on issues identified for the type of equipment, 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 (and ageing on cables)
- Earthing
- Flexing
- Residual current/operation test/fault current ratings

# Severity Category

All non-compliances must be rectified by Responsible Suppliers irrespective of 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.

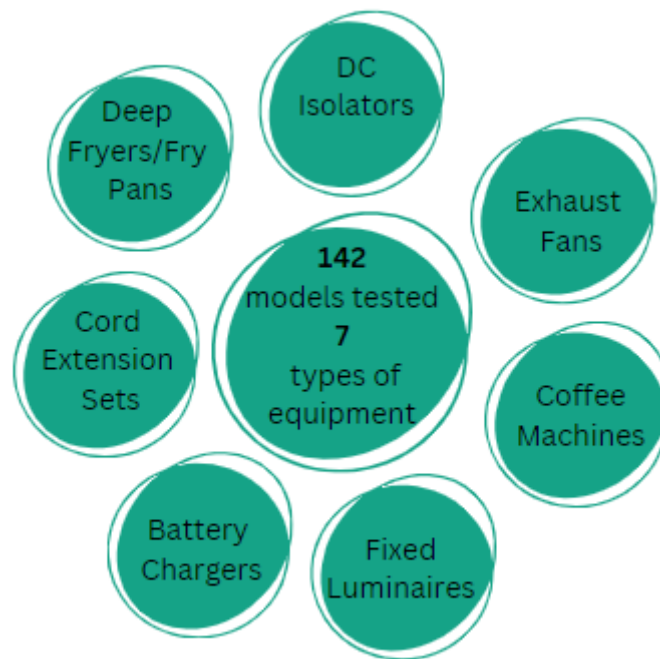
Passed	Minor non-compliance (e.g. failure of markings)	Medium non-compliance (e.g. failure of a safety related clause by a small margin that is within uncertainty /repeatability limits). Multiple minor non-compliances.	Mid-level non compliances. (e.g. clear failure to a safety related clause).	Major non-compliance (e.g. multiple failures to safety related clauses in a model or multiple samples fail a safety related clause).	Significant non-compliance. (e.g. failure of critical safety related clause or significant failures of safety related clauses - failure notably not within limits or many samples fail).
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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 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 prosecution or prohibition activities.

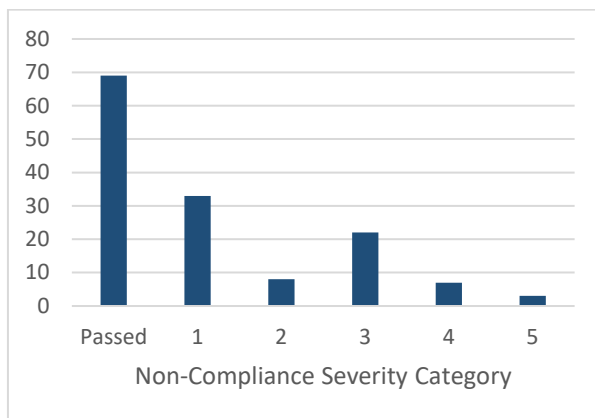


# 2020-2021 Check Testing Program



## Overall Results of Check Testing

After all results were classified for severity category level they were tabled in a graph for easy comparison of level as shown below. The more severe classifications were reviewed for any trend. A common link was identified as indicated by the statistics to the right of the graph.

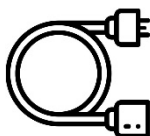


3 Out of 142  
Of the 142 models tested, there were 3 significant non-compliances reported. (Severity category 5)

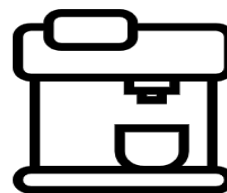
20 Out of 20  
Cord extension sets failed (all failed marking requirements). All three severity 5 – attachment of conductors - failures resulted in recall of product.

## Highlights and Lowlights

**Top Non-Compliance**  
100% fail for Cord Extension Sets



**Top Compliance**  
100% pass for Coffee Machines

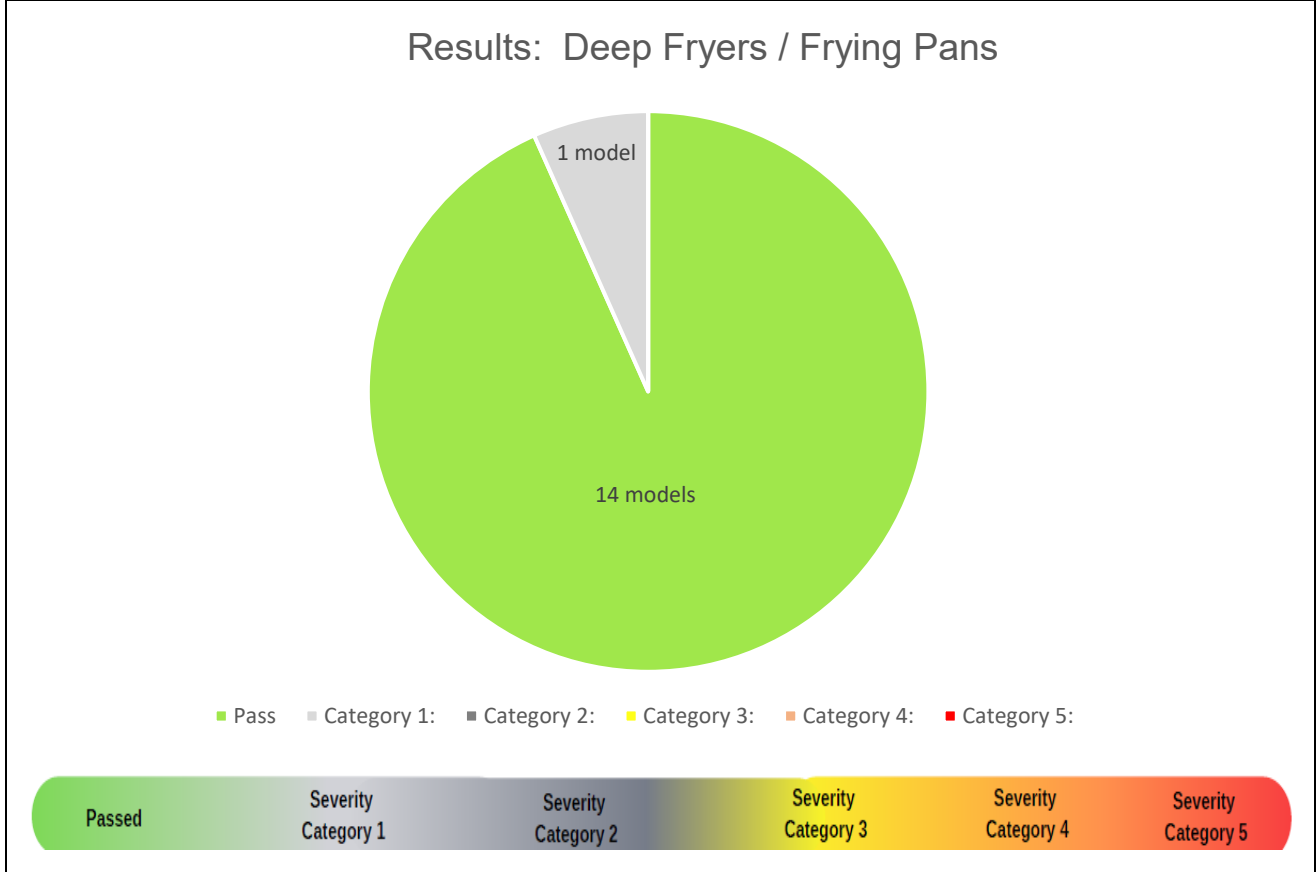


# Deep Fryers / Frying Pans

<b>Equipment Type:</b>	<b>Deep Fryers / Frying Pans</b>	
<b>Number Assessed:</b>	<b>Standard:</b>	<b>Clauses:</b>
15	AS/NZS 60335.2.13:2017	7 Marking and instructions 11 Heating 13 Leakage current and electric strength at operating temperature 25.7 Supply connection and external flexible cords - supply cord 25.23 Supply connection and external flexible cords - interconnecting cords 25.24 Supply connection and external flexible cords - interconnecting cords 27 Provision for earthing

**Non-Compliances:**

Marking failure – warning label size incorrect



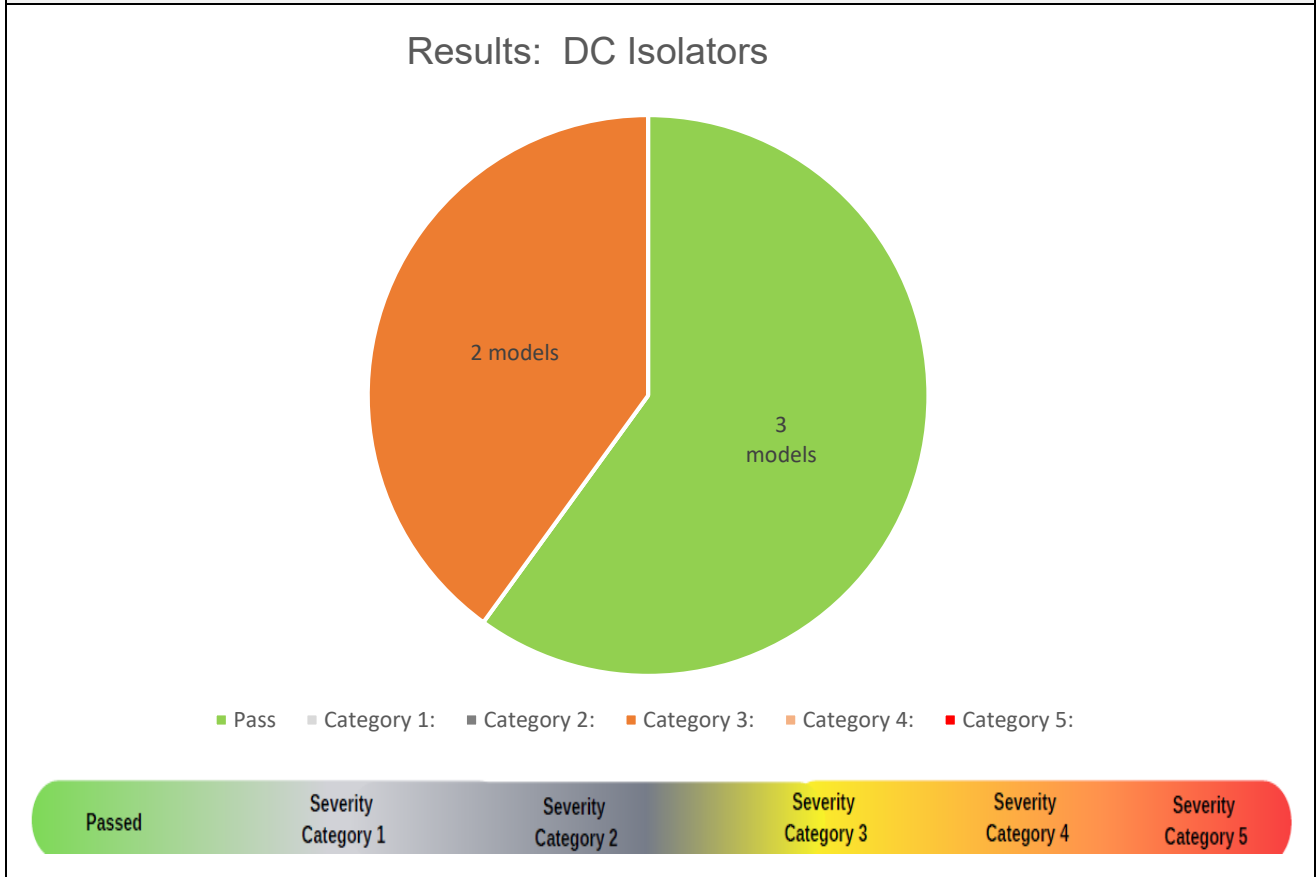
**Regulator Actions**

Responsible Supplier required to rectify

# DC Isolators

<b>Equipment Type:</b>	<b>DC Isolators</b>	
<b>Number Assessed:</b>	<b>Standard:</b>	<b>Clauses:</b>
5	AS/NZS 60947.3:2018	D5.2 Marking, identification, information and data D5.3 Instructions for installation and data D8.3.13.8 Inspection and acceptance conditions for IPNW 7.1.2.2 Glow wire testing

**Non-Compliances:**  
IP56 failure – marginal failure, Water ingress after IP test



**Regulator Actions**

Stop sale issued  
Models that fail no longer supplied.  
Monitoring for any incidents (no know incidents at this time).

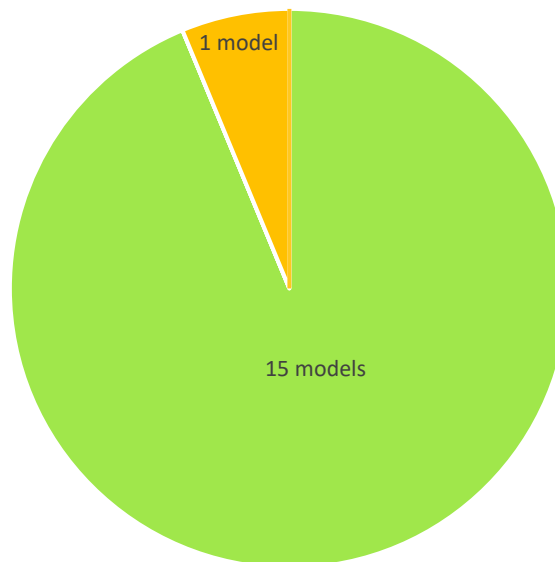
# Exhaust Fans

<b>Equipment Type:</b>	<b>Exhaust Fans</b>	
<b>Number Assessed:</b>	<b>Standard:</b>	<b>Clauses:</b>
16	AS/NZS 60335.2.80:2016	8 Protection against access to live parts 11 Heating 19 Abnormal operation 24 Components 29 Clearances, creepage distances 30 Resistance to heat and fire

**Non-Compliances:**

Resistance to heat and fire failure  
 Responsible Supplier incorrectly registered equipment

Results: Exhaust Fans



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



**Regulator Actions**

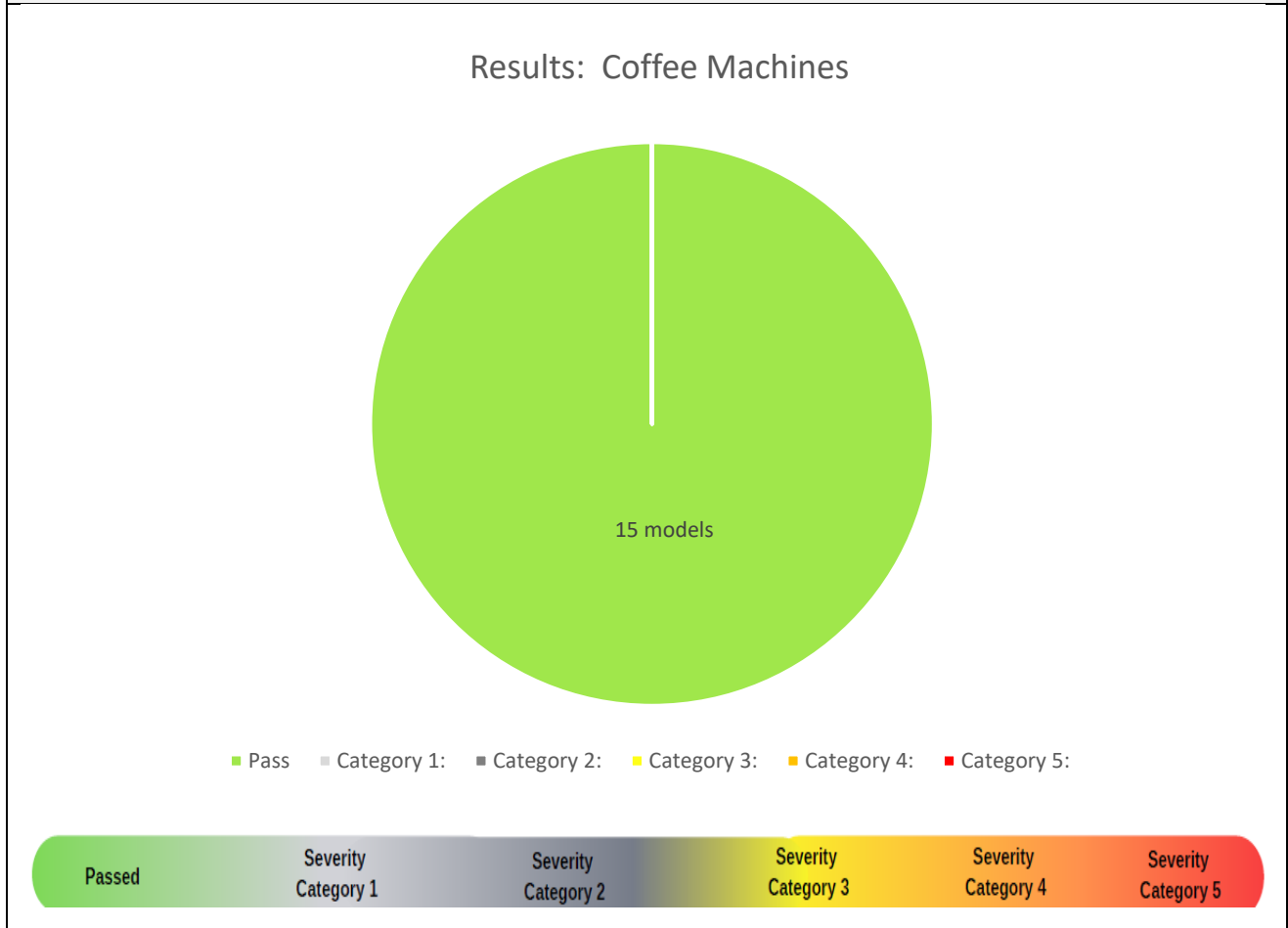
Stop sale issued  
 Non-compliant model no longer supplied  
 Responsible Supplier to rectify quality assurance issues  
 Responsible Supplier and equipment correctly registered.  
 Responsible Supplier equipment flagged for retest

# Coffee Machines

<b>Equipment Type:</b>	<b>Coffee Machines</b>	
<b>Number Assessed:</b>	<b>Standard:</b>	<b>Clauses:</b>
15	AS/NZS 60335.2.15:2019	5 General conditions for the test 8 Protection against access to live parts 11 Heating 13 Leakage current and electric strength at operating temperature 15 Moisture resistance 16 Leakage current and electric strength 19 Abnormal operation 25 Supply connection and cords 27 Provision for earthing 30 Resistance to heat and fire

**Non-Compliances:**

Nil



**Regulator Actions**

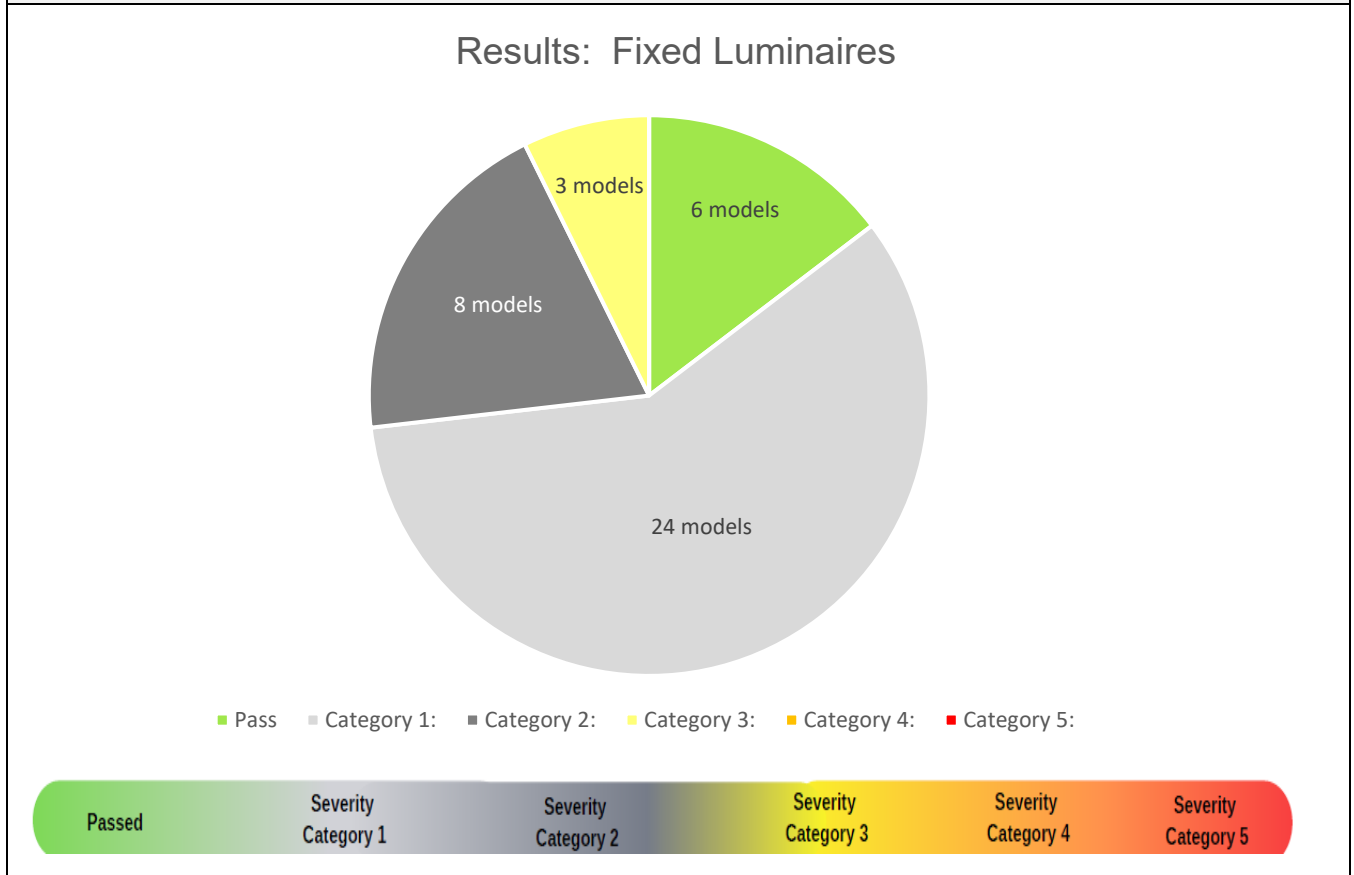
Nil

# Fixed Luminaires

<b>Equipment Type:</b>	<b>Fixed Luminaires</b>	
<b>Number Assessed:</b>	<b>Standard:</b>	<b>Clauses:</b>
41	AS/NZS 60598.2.1:2014	5 Classification of Luminaires 6 Marking 7 Construction 8 Creepage distances and clearances 9 Provision for earthing 10 Terminals and connections 11 External and internal wiring 12 Protection against electric shock 13 Endurance and thermal test 14 Resistance to dust solid objects and moisture 15 Insulation resistance and electric strength 16 Resistance to heat fire and tracking

**Non-Compliances:**

Marking Failure  
 Instruction Failure  
 Exposure to live parts (use of tool)



**Regulator Actions**

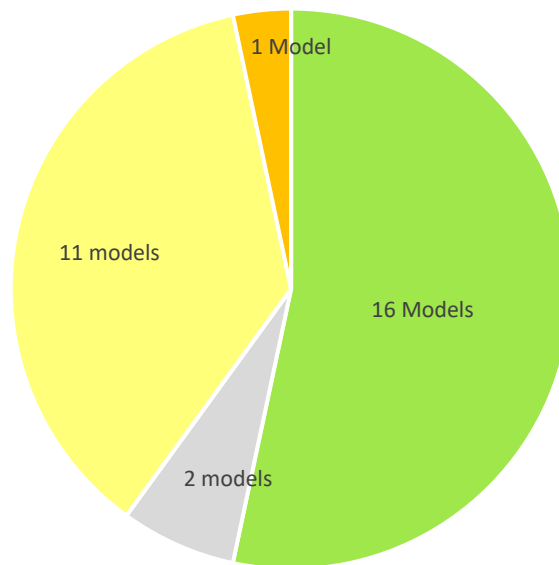
Stop sale issued  
 Responsible Supplier informed to rectify  
 Responsible Supplier to be audited

# Battery Chargers

<b>Equipment Type:</b>	<b>Battery Charger</b>	
<b>Number Assessed:</b>	<b>Standard:</b>	<b>Clauses:</b>
30	AS/NZS 60335.2.29:2017 +A1	7.1 General marking requirements 11 Temperature rise 19.11 Electronic circuit faults 19.12 Fuse link fault 19.13 Abnormal operation fault 19.14 Contactor/Relay fault 19.15 Voltage selector switch fault 19.101 Short circuit of controls 19.102 Reverse battery connection 30 Resistance to heat and fire

<b>Non-Compliances:</b>	
Temperature rise failure Marking failure Needle flame test failure	Glow wire test failure Output voltage under abnormal conditions failure

## Results: Battery Chargers



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



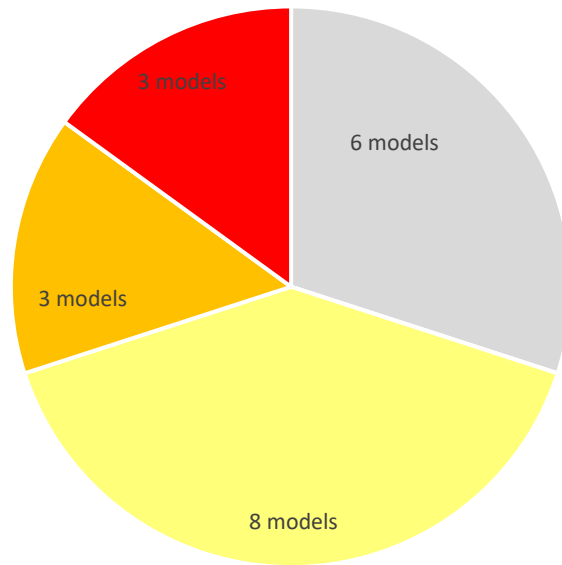
<b>Regulator Actions</b>
Stop sale issued Recall Responsible Supplier informed to rectify Advise relevant bodies of claimed V0 material that failed test Advise relevant bodies of test lab application inconsistencies Responsible Supplier equipment flagged for retest

# Cord Extension Sets

Equipment Type:	Cord Extension Sets	
Number Assessed:	Standard:	Clauses:
20	AS/NZS 3199:2020	4 (3100) 4.6 Joints and connections 4 (3100) 4.10 Mechanical Strength 4 (3100) 5.4 Insulation requirements 5 (3112) 2.13.7.2 Pin Bending test 5 (3191) 2.6 Sheath thickness 5 (3191) 2.1 Conductors nominal cross-sectional area, number of strands for each conductor and maximum diameter of each strand  5 (3191) 2.2.3 Insulation thickness 5 (3191) 2.6.3 Sheath thickness 6 Marking 7.1 Insulation resistance and High voltage tests 7.2 Flexing test 7.3 Attachment of insulated cores 7.4 Attachment of sheathing 7.5 Attachment of conductors

Non-Compliances:	
Sheath thickness failure Marking failure	Attachment of conductors failure Pin bending test failure

## Results: Cord Extension Sets



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



Regulator Actions
Stop sale issued Recall Investigate with Responsible Supplier – retest shows compliance Responsible Supplier informed to rectify Responsible Supplier to improve quality assurance processes Responsible Supplier equipment flagged for retest