AS/NZS STANDARDS FOR COMMERCIAL ELECTRICAL COMPLIANCE SUMMARY

1. AS/NZS 2293.2 — Emergency Light Testing

Purpose

This standard covers the **routine inspection, testing, and maintenance** of:

- Emergency lights
- Exit signs
- Emergency evacuation lighting systems

The goal is ensuring systems operate during a mains power failure.

Emergency Light Testing Requirements

Six-Monthly Testing

Every **6 months**:

Required tests

- Simulate a mains power failure
- Confirm all emergency and exit lights operate correctly
- Verify lights remain operational for the required discharge period
- Check indicators and charging status
- Record defects and test results

The standard commonly requires a **90-minute battery discharge test** for self-contained units.

Annual Testing

Every **12 months** (in addition to the 6-monthly tests):

Additional requirements

- Clean fittings and lenses
- Inspect physical condition
- Check light output and visibility
- Verify signage direction and operation
- Confirm no building changes affect compliance
- Replace failed components where required

10-Year / End-of-Life Testing

For LED emergency luminaires and exit signs:

Requirements

- Assess light source life (LSL)
- Verify continued serviceability
- Replace units where required by manufacturer recommendations
- Review spacing and compliance performance

Record Keeping (Important)

The standard requires:

- Maintenance records/logbooks
- Test dates
- Defects found
- Rectification actions
- Technician details

Records may be digital or hard copy.

2. AS/NZS 3760 — Test & Tag / Lead Testing

Purpose

AS/NZS 3760 covers:

- In-service inspection
- Electrical testing
- Tagging of portable electrical equipment and extension leads

Commonly called:

- “Test and Tag”

Lead Testing Requirements

Visual Inspection

This is the most important part of testing.

Inspect for:

- Damaged plugs
- Cracked sockets
- Cuts or exposed conductors
- Burn marks
- Loose terminations
- Damaged insulation
- Incorrect wiring
- Missing strain relief

Most faults are identified visually.

Electrical Tests

Depending on equipment class, testing may include:

Earth continuity test

For Class I equipment and extension leads:

- Verifies earth continuity
- Maximum resistance generally ≤ 1 Ω

Insulation resistance test

Checks insulation integrity between active conductors and exposed metal parts.

Typical minimums:

- Class I: ≥ 1 MΩ
- Class II: ≥ 2 MΩ

Polarity testing

For extension leads:

- Ensures correct active/neutral wiring

Functional testing

Confirms equipment operates safely after testing.

Tagging Requirements

After testing, compliant equipment receives a durable tag showing:

- Tested by
- Test date
- Next test due date
- Pass/fail status

Failed equipment:

- Must be removed from service
- Clearly tagged “OUT OF SERVICE” or equivalent

Typical Retest Intervals (AS/NZS 3760)

Intervals depend on the environment/risk level.

Common examples

Environment	Typical Interval
Construction/demolition	3 months
Factories/workshops	6 months
Offices/schools/hotels	12 months
Low-risk residential-style areas	Up to 5 years

(Risk assessment may alter intervals.)

3. RCD Testing (AS/NZS 3760)

Portable RCDs

Portable/safety switch RCDs require:

Push-button test

Performed regularly by the user/operator.

Instrument test

Performed by a competent tester using an RCD tester or PAT tester.

Tests typically verify:

- Trip time
- Trip current
- Correct operation

Typical Portable RCD Test Intervals

Environment	Push Button	Instrument Test
Construction sites	Daily / before use	Monthly
Factories/workshops	Daily or monthly	6–12 months
Offices/low risk	Every 3 months	12 months

(Actual intervals depend on environment and state/site requirements.)

4. Permanent RCD Testing — AS/NZS 3000 & AS/NZS 3012

Purpose

Permanently installed RCDs (Residual Current Devices) in commercial and industrial electrical installations are generally governed by:

- **AS/NZS 3000** — Electrical Installations (Wiring Rules)
- **AS/NZS 3017** — Verification Guidelines for Electrical Installations
- **AS/NZS 3012** — Electrical Installations – Construction and Demolition Sites (where applicable)

Unlike AS/NZS 3760, these standards apply to **fixed/wired RCDs installed within switchboards and permanent electrical installations**.

AS/NZS 3000 — Fixed Installation RCD Requirements

Scope

AS/NZS 3000 governs:

- Installation requirements
- Safety performance
- Mandatory use of RCDs on specified circuits
- Verification requirements during installation and commissioning

Typical permanently installed RCDs include:

- Switchboard RCDs
- RCBOs
- Hardwired safety switches
- Circuit protection RCDs

Testing Requirements

Push-Button Testing

RCDs should be routinely tested using the integral test button to verify:

- Mechanical operation
- Correct tripping function

Typical commercial maintenance practice:

- Every 6 months
- Or in accordance with site maintenance procedures/manufacturer recommendations

Instrument Testing

Testing by a competent person/electrician using an RCD tester generally includes:

- Trip-time testing
- Rated residual current testing
- Non-trip testing
- Ramp testing (where applicable)

Testing verifies that the RCD trips within the required disconnection times.

Testing methodologies are generally performed in accordance with **AS/NZS 3017**.

AS/NZS 3017 — Verification Testing

Purpose

AS/NZS 3017 provides the procedures for:

- Verification of electrical installations
- Testing of permanently installed RCDs
- Initial commissioning and periodic verification

Typical RCD Verification Tests

Tests commonly performed:

- Operation at rated residual current
- Trip time at 0° and 180° phase angles
- Non-trip verification
- Ramp/current sensitivity testing

Typical Commercial Testing Intervals

Test Type	Typical Frequency
Push-button test	6 monthly
Instrument trip-time test	12 monthly

Test Type	Typical Frequency
Full installation verification	During installation/modification

Actual frequencies may vary depending on:

- Site risk assessment
- WHS requirements
- Insurance requirements
- Manufacturer recommendations
- Facility maintenance programs

AS/NZS 3012 — Construction & Demolition Sites

Scope

AS/NZS 3012 applies to:

- Temporary electrical installations
- Construction and demolition sites
- Site switchboards and fixed site RCDs

This standard imposes stricter testing requirements due to the hostile operating environment.

Construction Site RCD Testing Requirements

Push-Button Testing

Typically required:

- Daily
- Or before use by the operator

Instrument Testing

Common requirements:

- Monthly trip-time testing by a competent person

Testing confirms:

- Correct operation
- Required disconnection times
- Ongoing electrical safety compliance

Record Keeping

Testing records should include:

- RCD identification
- Test dates
- Test results
- Defects identified
- Rectification actions
- Technician details

Construction sites often require formal site test registers.

Important Notes

- Testing must be carried out by a **competent person**.
- Some states require licensed electricians/fire technicians for certain emergency lighting work.
- Site-specific WHS requirements may impose stricter intervals.
- Construction sites typically have the strictest testing regime.

Disclaimer

This document is provided as a general guide only and is intended for informational purposes. It does not constitute professional, legal, engineering, or electrical compliance advice.

While reasonable care has been taken in preparing this summary, standards, regulations, and testing requirements may change and can vary depending on the installation type, site conditions, jurisdiction, and specific application.

Users should always refer to the latest editions of the relevant Australian/New Zealand Standards, including but not limited to:

- AS/NZS 2293.2
- AS/NZS 3000
- AS/NZS 3012
- AS/NZS 3017
- AS/NZS 3760

Testing, inspection, and electrical work should only be carried out by a competent person and/or appropriately licensed electrical contractor where required by law.

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