

INDUSTRIAL EMERGENCY LIGHTING

Technical Guide | Inspection, Functional Testing & Full-Duration Verification

A practical technical reference for planned emergency lighting testing in factories, production plants, warehouses and other operational industrial facilities. The inspection and test strategy should be based on the installed system, site fire risk assessment and current applicable standards.

01 | System types and operational modes

Identify self-contained luminaires, central battery supplies, maintained/non-maintained operation, combined emergency fittings, illuminated exit signs and automatic test systems. Confirm whether each unit should illuminate continuously or only on loss of its normal supply. Verify the specified rated emergency duration from design and equipment records.

02 | Pre-test survey and asset schedule

Obtain existing drawings, fire risk assessment, previous test records and fitting schedule. Identify fitting locations, circuits, test keys or control interfaces, access requirements, system age and outstanding defects. Check whether production lines, forklift routes, high-bay racking or hazardous processes affect safe test planning.

03 | Inspection of emergency luminaires

Check for physical damage, obscured signs, incorrect orientation, missing legends, contamination, corrosion, failed indicators and changes to building layout. Confirm that final exits, route changes, stairways, fire points and relevant high-risk task areas are considered by the design. Functional testing alone does not establish adequate emergency illuminance.

04 | Planning isolations in an operational factory

Agree testing zones and suitable work periods with the site engineering team. Identify whether a test will extinguish normal lighting or interrupt controls. Maintain safe escape arrangements and take account of operating machinery, mobile plant and personnel. Use authorised isolation and reinstatement procedures; never leave workers dependent on depleted emergency lighting.

TEST METHODS & VERIFICATION

05 | Monthly functional testing

Simulate failure of the normal lighting supply using the intended test facility and check that each emergency luminaire operates. Keep the test short enough to avoid unnecessary battery discharge. Record failures, unusual indicators, damaged fittings and units that do not respond correctly. Restore normal supply and confirm the charging or normal operating state as applicable.

06 | Annual full-rated-duration test

Simulate normal supply failure and verify that the emergency lighting operates for its **specified rated duration**; many industrial systems are three-hour rated, but the actual design requirement must be checked. Observe for premature failure, flickering or significant loss of output. Follow the relevant testing procedure and manufacturer guidance; a simple visual pass does not substitute for any required photometric assessment.

07 | Battery recharge and temporary precautions

After a discharge test, allow for the manufacturer-specified recharge period. Emergency lighting may not provide its full rated duration while batteries recharge. Schedule tests to avoid exposing occupied areas to an unacceptable period of reduced resilience; temporary arrangements may be necessary. Document any limitations and areas not tested.

08 | Central battery and automatic test systems

For central battery systems, review supply, charging, alarms, batteries, distribution and relevant test functions in accordance with the system documentation. For automatic test systems, review event logs, fitting addresses, communication faults, test outcomes and unresolved defects. Automated reports support—but do not replace—appropriate inspection, oversight and corrective action.

09 | Common industrial failure modes

Typical defects include battery degradation, charging circuit faults, failed LED modules or drivers, damaged exit signs, contamination, altered racking obscuring fittings and fittings disconnected during building alterations. Consider environmental suitability in dusty, wet, corrosive, cold-store or high-temperature locations.

REPORTING & MAINTENANCE

10 | Recording and classifying defects

Maintain a traceable record by location and fitting identifier. Record test date, test method, required duration, observed result, failures, limitations and follow-up actions. Prioritise faults by the risk to safe evacuation or high-risk work areas; emergency lighting defect categories are not the same as EICR C1/C2/C3 classification codes.

11 | Remedial works and retesting

Repair or replace failed batteries, luminaires, signs, control gear or wiring as appropriate. Confirm replacement fittings are suitable for location, operating mode, duration and environmental conditions. Retest repaired equipment and update the asset register. If the site layout has changed, a competent design review may be required rather than a like-for-like replacement alone.

12 | Handover documentation

Provide an inspection and testing report, identified defect schedule, any limitations, recommendations and appropriate records of remedial work. Maintain logbook records and up-to-date drawings or asset schedules where available. Confirm outstanding actions and any temporary precautions with the responsible site representative.

SITE TESTING CHECKLIST

Before	Review site risks, system information, asset register and isolation plan
Monthly	Functional operation, indicators, defects and restoration
Annually	Full rated duration, failures and battery recharge management
After repair	Confirm correct function, duration as necessary and update records
After layout change	Review escape-route coverage and need for design reassessment

Reference framework: BS 5266-1, BS EN 50172, BS EN 1838, BS EN 60598-2-22 and BS 7671, as applicable; follow current editions, manufacturer instructions and the site fire strategy.

QUEST Electrical: Planned industrial emergency lighting testing, fault reporting and remedial works coordinated around operational requirements. This guide is general information and not a substitute for a site-specific design or fire risk assessment.