Dynamic Thermal Imaging

CSA Z32:21 Patient Care Area Electrical Test Checklist

A free planning and field-record checklist for hospitals, clinics, long-term care, dental and physician offices. Reflects CSA Z32:21 as reaffirmed in 2026.

How to use it. Work through the four steps: classify the areas, get the site ready, test room by room, then close out the deficiencies. This checklist organises the work and the records. It does not replace the standard. Test methods and acceptance limits come from Clause 5 of CSA Z32:21, which you can buy from CSA Group. Enter the limit for each area class in the record sheets.

Step 1: Classify every patient care area

The healthcare facility administrator is responsible for classifying patient care areas and may delegate the work to a qualified engineer, safety officer or facility manager. The class decides which tests apply and which limits are used, so get the declaration in writing before testing.

Class	Definition (summary)	Typical examples
Basic care	Body contact between a patient and medical electrical equipment is neither frequent nor usual.	Exam rooms, long-term care rooms, optometry, physiotherapy, chiropractic, many dental rooms
Intermediate care	Body contact between a patient and medical electrical equipment is frequent or normal.	General wards, treatment rooms, renal dialysis, ECG/EEG/EMG, physicians' procedure rooms
Critical care	General anaesthesia is routine, or cardiac contact with medical electrical equipment is frequent or normal.	Operating rooms, ICU/NICU, cardiac cath and angiography labs, trauma, burn units

Step 2: Site readiness (2 to 5 days before testing)

☐	Signed patient care area classification and declaration on hand, with drawings showing the patient care wiring methods.
☐	All hospital-grade receptacles, cover plates and labels installed; panel schedules installed and accurate for every circuit serving the rooms.
☐	Terminations of permanently connected equipment accessible, so a failed bonding or voltage-drop test can be traced on the spot. Electrician available for about 10 minutes per failure.
☐	Rooms clear of furniture and equipment blocking receptacles and headwalls; infection-control and escort rules agreed with the unit managers.
☐	Isolated power panels and line isolation monitors (critical care) accessible, with the manufacturer's LIM documentation.
☐	Previous Z32 test report available so results can be trended, not just passed.
☐	Test date confirmed with at least 2 to 3 weeks' notice; after-hours windows booked where rooms can't be released during the day.

Step 3: What gets tested

Typical periodic and acceptance tests for a patient care area. Which items apply depends on the area class and the installation. Confirm against Clause 5 for your facility.

Test	What it proves	Where	Record
Receptacle wiring and polarity	Line, neutral and bonding conductors connected correctly; bonding conductor present.	Every patient care receptacle	Pass/fail
Receptacle retention (blade tension)	Contacts still grip the plug blade firmly enough that equipment cords won't slip out.	Hospital-grade receptacles	Measured value vs limit
Bonding / voltage drop to the patient reference grounding point	The bonding path back to the reference point is intact under test current.	Receptacle bonding terminals and permanently connected equipment	mV or ohms vs limit
Voltage between exposed conductive surfaces	Metal surfaces a patient or staff member can touch at once are at the same potential (equipotential).	Patient vicinity: beds, headwalls, fixed equipment	mV vs limit
Tamper-resistant receptacles	Child-resistant receptacles are installed where required.	Pediatric areas and areas accessible to children	Visual pass/fail
Essential electrical system receptacles	Emergency-supply receptacles are identified, labelled with panel and circuit, and fed from the correct branch.	Where provided	Visual + circuit trace
Isolated power systems: LIM alarm verification	The line isolation monitor alarms at the correct hazard current.	Critical care areas with IPS	Alarm point vs spec
Isolated power systems: hazard current	Total prospective hazard current of the isolated circuit is within spec and matches the LIM reading.	Critical care areas with IPS	mA vs limit
Isolation transformer insulation resistance	Transformer insulation hasn't degraded.	IPS panels	Megohms, trended

Step 4: Close out

☐	Every failure listed with room, receptacle or circuit ID, measured value, limit and the likely cause.
☐	Urgent failures (lost bonding in critical care, LIM not alarming) reported to the facility contact before the tester leaves site.
☐	Repairs completed by a licensed electrician, then retested and recorded.
☐	Signed report filed with the area declaration. Results compared with the previous test, so receptacles that are drifting get replaced before they fail.
☐	Next test date set. Frequency comes from your maintenance program, Accreditation Canada and provincial authority requirements; annual testing is common practice, and isolated power systems degrade over time.

Need it done for you? Dynamic Thermal Imaging tests patient care areas to CSA Z32:21 across Canada, room by room, with a written report usually within 10 business days. Call 1-833-355-1428 or visit www.dynamicinfrared.ca/z32-testing.

Room record sheet

Facility: _____ Unit/floor: _____ Date: _____ Tester: _____

Room	Class	Receptacle / circuit	Polarity	Tension	Bonding (mV/ohm)	Surfaces (mV)	Pass / fail	Notes

Limits for this area class (from Clause 5 of your copy): Tension _____ Bonding _____ Surfaces _____

Isolated power systems

IPS panel	Room(s) served	LIM alarm verified	Hazard current (mA)	Insulation resistance	Pass / fail

This checklist summarises publicly available information about CSA Z32:21 and DTI's field practice. It is not a copy of the standard and does not replace it. Always apply the current edition, the Canadian Electrical Code Part I (Sections 24 and 52) and your provincial requirements. Free to copy and use. Dynamic Thermal Imaging Inc., 2026.