



NSAI
Standards

Irish Standard
I.S. EN 50699:2020

Recurrent Tests of Electrical Equipment

I.S. EN 50699:2020

Incorporating amendments/corrigenda/National Annexes issued since publication:

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):

NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.

This document is based on:

EN 50699:2020

Published:

2020-11-20

This document was published under the authority of the NSAI and comes into effect on:

2020-12-07

ICS number:

NOTE: If blank see CEN/CENELEC cover page

NSAI
1 Swift Square,
Northwood, Santry
Dublin 9

T +353 1 807 3800
F +353 1 807 3838
E standards@nsai.ie
W NSAI.ie

Sales:
T +353 1 857 6730
F +353 1 857 6729
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

National Foreword

I.S. EN 50699:2020 is the adopted Irish version of the European Document EN 50699:2020, Recurrent Tests of Electrical Equipment

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

Compliance with this document does not of itself confer immunity from legal obligations.

In line with international standards practice the decimal point is shown as a comma (,) throughout this document.

This page is intentionally left blank

EUROPEAN STANDARD

EN 50699

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2020

ICS 19.080; 29.020

English Version

Recurrent Test of Electrical Equipment

Essais récurrents des appareils électriques

Wiederholungsprüfung für elektrische Geräte

This European Standard was approved by CENELEC on 2020-09-21. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

EN 50699:2020 (E)

Contents

European foreword	3
Introduction	4
1 Scope	5
2 Normative references	6
3 Terms and definitions	6
4 Requirements	9
5 Tests	10
5.1 General	10
5.1.1 General test conditions	10
5.1.2 Visual inspection	10
5.1.3 Test of the effectiveness of protective measures against electric hazards	10
5.1.4 Confirmation of the compliance of additional protective measures	11
5.1.5 Documentation and evaluation of test	11
5.2 Visual inspection	11
5.3 Measuring of protective conductor resistance	12
5.4 Measurement of the insulation resistance	14
5.5 Measurement of protective conductor current	18
5.6 Measurement of the touch current	22
5.7 Confirmation of the compliance of the specifications for the protective measure SELV/PELV	25
5.8 Measurement of the leakage current produced by a floating input (measuring- and control input) with a rated input voltage above 50 V AC or 120 V DC	26
5.9 Confirmation of the operation of further protective measures	27
6 Documentation and evaluation of test	27
7 Test equipment	27
Annex A (informative) General guidance and rationale	28
A.1 Intended audience	28
A.2 Rationale	29
A.2.1 Clause 5 – Tests	29
A.2.2 Subclause 5.3 – Measuring of protective bonding resistance	29
A.2.3 Subclause 5.4 – Measurement of insulation resistance	29
A.2.4 Reasons for choosing different measuring methods for leakage current	30
A.2.5 Alternative method	30
A.2.6 Residual method	31
Annex B (informative) Schematics for test sequences	32
B.1 Schematic test sequence for equipment of class I	32
B.2 Schematic test sequence for equipment of class II	33
Annex C (normative) Special National Conditions	34
Bibliography	35

European foreword

This document (EN 50699:2020) has been prepared by CLC/BTTF 160-1 “Recurrent Test of Electrical Equipment”.

The following dates are fixed:

- latest date by which this document has (dop) 2021-09-21
to be implemented at national level by
publication of an identical national
standard or by endorsement
- latest date by which the national (dow) 2023-09-21
standards conflicting with this document
have to be withdrawn

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

EN 50699:2020 (E)

Introduction

This document intends to provide a uniform test procedure to test the effectiveness of the protective measures for electrical safety for recurrent tests of current-using equipment and appliances during their operating life time at work places.

This document can be considered by employers to support compliance with the European Directive 2009/104/EC concerning the minimum safety and health requirements for the use of work equipment by workers at work and does not necessarily involve the manufacturer.

In general, test procedures for verification of products is the responsibility of the related product technical committees. This document can be taken into consideration by product technical committees if they need to take into consideration modified or additional tests for verification of products falling within their scope.”

The described tests are simple and fast, well approved and safe for the testing person.

They can be carried out on site and/or in laboratories.

1 Scope

This document specifies the requirements of the test procedures to be applied for recurrent tests of current-using electrical equipment and appliances for the verification of the effectiveness of the protective measures and the permissible limits

This procedure is applicable to current-using electrical equipment connected at work places to final circuits with a rated voltage above 25 V AC and 60 V DC up to 1 000 V AC and 1 500 V DC, and currents up to 63 A. They can be either pluggable equipment type A connected to final circuits at work places via a plug or permanently connected equipment.

This document assumes that the current-using equipment or appliances under consideration complies with its related product standard, has been introduced on the market and is in use.

This document does not cover:

- tests after repair defined in EN 50678;
- type tests, routine tests, sample tests, special tests and acceptance tests for product safety nor for product functional requirements.

NOTE 1 type tests, routine tests, sample tests, special tests and acceptance tests are usually defined in product standards. This document does not replace tests covered by product standards.

This document does not apply to:

- devices and equipment that are part of the fixed electrical installations defined in HD 60364 (all parts);

NOTE 2 For these devices, tests for initial and periodic verifications are covered by HD 60364-6.

- uninterruptible Power Supply (UPS), photovoltaic inverters and power converters, e.g. AC/DC converters;
- charging stations for electro-mobility;
- stationary power supplies (generators);
- programmable Logic Controllers (PLC);
- power Drives;
- devices for EX-zones or for mining applications in general;
- products already covered by standards addressing similar topics such as:
 - a) medical equipment covered by EN 60601-1. For these devices, EN 62353 applies;
 - b) arc welding equipment covered by EN 60974-1. For these devices, EN 60974-4 applies;
 - c) machinery covered by EN 60204-1. For these devices, EN 60204-1 applies.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

-
- [Looking for additional Standards? Visit Intertek Inform Infostore](#)
 - [Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation](#)
-