Alarm systems - Part 5: Environmental test methods

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EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 50130-5:2002 sisaldab Euroopa standardi EN 50130-5:1998 ingliskeelset teksti. Käesolev dokument on jõustatud 18.12.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 50130-5:2002 consists of the English text of the European standard EN 50130-5:1998. This document is endorsed on 18.12.2002 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This standard specifies environmental test methods to be used for testing the system components of the following alarm systems, intended for use in and around buildings: Intruder alarm systems, hold-up alarm systems, social alarm systems, CCTV systems for security applications, access control systems for security applications. This standard specifies three equipment classes (Fixed, Movable & Portable equipment) and four environmental classes.	**Scope:** This standard specifies environmental test methods to be used for testing the system components of the following alarm systems, intended for use in and around buildings: Intruder alarm systems, hold-up alarm systems, social alarm systems, CCTV systems for security applications, access control systems for security applications. This standard specifies three equipment classes (Fixed, Movable & Portable equipment) and four environmental classes.

ICS 13.320, 19.040

Võtmesõnad: accident prevention, alarm systems, classification, definitions, electromagnetic compatibility, emergency call, environment, fire detection systems, intruder detection, tests

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English version

Alarm systems
Part 5: Environmental test methods

Systèmes d'alarme
Partie 5: Méthodes d'essai d'environnement

Alarmanlagen
Teil 5: Methoden für Umweltprüfungen

This European Standard was approved by CENELEC on 1998-08-01. 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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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CENELEC

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

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Contents

Foreword

This European Standard was prepared by the CENELEC Technical Committee TC79, Alarm Systems.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50130-5 on 1998-08-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1999-08-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2001-08-01

This standard is part of the EN 50130 series of standards. This series of standards is intended to give the requirements applicable to alarm systems in general (e.g. the environmental test methods, in this case, and EMC immunity requirements in the case of EN 50130-4). The following associated series of European standards are intended to give the other requirements (e.g. performance requirements), which are applicable to the specific types of alarm systems:

- EN 50131 Alarm systems - Intrusion alarm systems;
- EN 50132 Alarm systems - CCTV surveillance systems;
- EN 50133 Alarm systems - Access control systems;
- EN 50134 Alarm systems - Social alarm systems;
- EN 50135 Alarm systems - Hold-up alarm systems;
- EN 50136 Alarm systems - Alarm transmission systems;
- EN 50137 Alarm systems - Combined or integrated alarm systems.

Introduction

The purpose of environmental testing is to demonstrate that the equipment can operate correctly in its service environment and that it will continue to do so for a reasonable time. Alarm system equipment is however installed in many very different environments but it would be impractical to test every aspect of the most extreme conceivable environmental conditions.

The tests and severities listed in this standard are, therefore, intended to provide a practical series of tests to determine the ability of the equipment to withstand the failure mechanisms most likely to be produced by the environment, in which that type of equipment can be expected to be installed. (i.e. the normal service environment). This standard includes only service environments, which relate to equipment installed in general industrial/commercial premises. Hence it should be noted that, additional precautions may be necessary, in particular installations, where some aspects of the environment can be identified as being unusually severe. A special additional severity has been added to the cold test, to cater for the especially cold conditions found in the very north of Europe.

The tests are intended to demonstrate failures due to realistic service environments, however, some significant failure mechanisms are brought about by changes which occur slowly under these realistic service conditions. In order to make tests in a practical and economic time, it is sometimes necessary to accelerate these changes by intensifying the conditions (e.g. by increasing the level of an environmental parameter or by increasing the time or frequency of its application).

The tests in this standard are therefore divided into:

Operational tests:

In these tests the specimen is subjected to test conditions, which correspond to the service environment. The object of these tests is to demonstrate the ability of the equipment to withstand and operate correctly in the normal service environment and/or to demonstrate the equipment's immunity to certain aspects of that environment. The specimen is therefore operational, its condition is monitored and it may be functionally tested during the conditioning for these tests.

Endurance tests:

In these tests the specimen may be subjected to conditions more severe than the normal service environment in order to accelerate the effects of the normal service environment. The object of these tests is to demonstrate the equipment's ability to withstand the long-term effects of the service environment. Since the test is intended to study the residual rather than the immediate effects of the test conditioning the specimen is not normally supplied with power or monitored during the conditioning period.

This standard is intended to act as a source document for environmental tests, which can be referred to in product specific standards for components of alarm systems which fall within its scope. In order to obtain consistency between these standards the working groups drafting the product specific standards should select the tests and severities recommended for the appropriate Equipment and Environmental classes, unless there are good technical reasons to do otherwise.

1 Scope

This standard specifies environmental test methods to be used for testing the system components of the following alarm systems, intended for use in and around buildings:

- Intruder alarm systems;
- Hold-up alarm systems;
- Social alarm systems;
- CCTV systems, for security applications;
- Access control systems, for security applications;
- Alarm transmission systems[1].

This standard specifies three equipment classes (Fixed, Movable & Portable equipment) and four environmental classes.

The environmental classes only include the general service environments envisaged for equipment installed in typical residential, commercial and industrial environments. It may be necessary for the product standard to require additional or different environmental tests or severities where

a) there could be specific environmental problems (e.g. some different severities may be required for break glass detectors stuck to glass windows, due to the local extremes of temperature and humidity);

b) the test exposure falls within the intended detection phenomenon of the detector (e.g. during a vibration test on a seismic detector).

In order to provide reproducible test methods and to avoid the proliferation of technically similar test methods, the test procedures have been chosen, where possible, from internationally accepted standards. (e.g. IEC Publications). For specific guidance on these tests, reference should be made to the appropriate document, which is indicated in the relevant sub-section. For more general guidance and background information on environmental testing reference should be made to IEC-Publications 60068-1 and 60068-3.

This standard does not specify

a) the requirements or performance criteria to be applied, which should be specified in the relevant product standard;

b) special tests only applicable to a particular device (e.g. the effects of turbulent air draughts on ultrasonic movement detectors);

c) basic safety requirements, such as protection against electrical shocks, unsafe operation, insulation coordination and related dielectric tests;

d) tests relating to deliberate acts of damage or tampering.

[1] Apart from equipment which is part of the public switched telephone network.

2 Normative references

This European Standard incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies:

IEC Publication	Year	Title	EN/HD	Year
60068-1 + corr. Oct. + A1	1988 1988 1992	Environmental testing – Part 1: General and guidance	EN 60068-1	1994
60068-2-1 A1 A2	1990 1993 1994	Part 2: Tests: Tests A: Cold	EN 60068-2-1 A1 A2	1993 1993 1994
60068-2-2 +60068-2-2A A1 A2	1974 1976 1993 1994	Tests B: Dry heat	EN 60068-2-2 A1 A2	1993 1993 1994
60068-2-3 + A1	1969 1984	Test Ca: Damp heat, steady	HD 323.2.3 S2	1987
60068-2-5	1975	Test Sa: Simulated solar radiation at ground level	HD 323.2.5 S1	1988
60068-2-6 + corr. Mar.	1995 1995	Test Fc: Vibration, sinusoidal	EN 60068-2-6	1995
60068-2-14 + A1	1984 1986	Test N: Change in temperature	HD 323.2.14 S2	1987
60068-2-18 corr. May A1.	1989 1991 1993	Test R & Guidance: Water	-	-
60068-2-27	1987	Test Ea & Guidance: Shock (third edition).	EN 60068-2-27	1993
60068-2-30 + A1	1980 1985	Test Db & Guidance: Damp heat, cyclic (12 + 12 hour cycle)	HD 323.2.30 S3	1988
60068-2-32 + A1 + A2	1975 1982 1990	Test Ed: Free fall	EN 60068-2-32	1993
60068-2-42	1982	Test Kc: Sulphur dioxide test for contacts and connections	-	-
60068-2-52	1996	Test Kb: Salt mist, cyclic (sodium chloride solution)	EN 60068-2-52	1996
60068-2-56	1988	Test Cb: Damp heat steady state, primarily for equipment	HD 323.2.56 S1	1990
60068-2-75	1997	Test Eh: Hammer tests	EN 60068-2-75	1997
60529	1989	Degrees of protection provided by enclosures (IP code)	EN 60529 + corr. May	1991 1993
-	-	Alarm systems - Part 4: Electromagnetic compatibility - Product family standard: Immunity requirements for components of fire, intruder and social alarm systems	EN 50130-4 A1	1995 1998
-	-	Degrees of protection provided by enclosures for electrical equipment against external mechanical impacts (IK Code)	EN 50102	1995