SLOVENSKI STANDARD
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Naprave za daljinsko nadzorovanje alkohola - Preskusne metode in zahtevane lastnosti - 1. del: Instrumenti za ocenjevalne programe

Remote alcohol monitoring devices - Test methods and performance requirements - Part 1: Instruments for assessment programmes

Geräte zur Fernüberwachung von Alkoholkonsum - Prüfverfahren und Anforderungen an das Betriebsverhalten - Teil 1: Geräte in Beurteilungsprogrammen

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ICS:

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Remote alcohol monitoring devices - Test methods and performance requirements - Part 1: Instruments for assessment programmes

To be completed

Geräte zur Fernüberwachung von Alkoholkonsum - Prüfverfahren und Anforderungen an das Betriebsverhalten - Teil 1: Geräte zur Bewertung von Programmen

This draft European Standard is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2019-02-08.

It has been drawn up by CLC/BTTF 116-2.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CENELEC in three official versions (English, French, German).
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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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

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Contents

European foreword

This document (prEN 50980-1:2018) has been prepared by CLC/BTTF 116-2 “Alcohol Interlocks”.

This document is currently submitted to the enquiry.

The following dates are proposed:

- Latest date by which the existence of this document has to be announced at national level.	(doa)	dor + 6 months
- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	dor + 12 months
- latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	dor + 36 months (to be confirmed or modified when voting)

Introduction

The purpose of remote alcohol monitoring devices is to monitor the compliance of persons subject to mandatory or voluntary programmes focused on monitoring alcohol consumption.

The purpose of prEN 50980-1 is to specify essential performance requirements and to provide the respective test methods for available technologies. The technology of remote alcohol monitoring devices continues to evolve, and further innovations can be expected. These could be considered in new parts or revisions of this European Standard.

1 Scope

This document specifies performance requirements and test methods for remote alcohol monitoring devices that use breath alcohol testing technology. It covers remote alcohol monitoring devices having a mouthpiece and which are intended to be used by participants in programmes designed to monitor alcohol consumption.

This document is directed at test laboratories and manufacturers of remote alcohol monitoring devices. It defines requirements and test procedures for type testing.

Several parameter settings (such as alcohol concentration, breath volume or units of measurement) are specified in this document for the purpose of type testing according to this standard only. However, it may be necessary due to national regulations or depending on user requests to set the values of the prescribed parameter settings differently when the remote alcohol monitoring devices are in use.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 50436-6, *Alcohol interlocks - Test methods and performance requirements - Part 6: Data security*

EN 60068-2-1, *Environmental testing - Part 2-1: Tests - Test A: Cold (IEC 60068-2-1)*

EN 60068-2-2, *Environmental testing - Part 2-2: Tests - Test B: Dry heat (IEC 60068-2-2)*

EN 60068-2-6, *Environmental testing - Part 2-6: Tests - Test Fc: Vibration (sinusoidal) (IEC 60068-2-6)*

EN 60068-2-27, *Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock (IEC 60068-2-27)*

EN 60068-2-31, *Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens (IEC 60068-2-31)*

EN 60068-2-64, *Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance (IEC 60068-2-64)*

EN 60068-2-78, *Environmental testing - Part 2-78: Tests - Test Cab: Damp heat, steady state (IEC 60068-2-78)*

EN 60529, *Degrees of protection provided by enclosures (IP Code) (IEC 60529)*

ISO 7637-2, *Road vehicles — Electrical disturbances from conduction and coupling — Part 2: Electrical transient conduction along supply lines only*

ISO 7637-3, *Road vehicles — Electrical disturbances from conduction and coupling — Part 3: Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines*

ISO 10605, *Road vehicles — Test methods for electrical disturbances from electrostatic discharge*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at http://www.electropedia.org/
- ISO Online browsing platform: available at http://www.iso.org/obp

3.1
remote alcohol monitoring device
device or system that measures the breath alcohol concentration of a person in an unsupervised environment and which provides means for identification of the person providing the breath sample and means of data communication in a secure format

Note 1 to entry: Devices can be fixed, mobile or portable and may be a system consisting of more than one element.

3.2
breath alcohol concentration
mass concentration of ethanol, expressed in mg/l (milligram ethanol per litre breath), in a breath sample delivered into a remote alcohol monitoring device

3.3
breath alcohol concentration limit
set value of the breath alcohol concentration at or above which the remote alcohol monitoring device will register a failed breath test

3.4
mouthpiece
part that is fitted to the remote alcohol monitoring device through which the subject under test provides the breath specimen

Note 1 to entry: A mouthpiece is used to prevent the breath sample from being mixed with ambient air and thus diluting the alcohol concentration.

3.5
breath sample
breath sample taken under forced expiration

3.6
accepted breath sample
breath sample fulfilling set requirements for volume, flow, exhalation time and other human breath sample characteristics

Note 1 to entry: The acceptance of a breath sample is independent from its alcohol concentration.

3.7
breath test
provision of an accepted breath sample to a remote alcohol monitoring device

3.8
passed breath test
breath test whereby the subject under test has provided an accepted breath sample with a breath alcohol concentration below the breath alcohol concentration limit

3.9
failed breath test
breath test whereby the subject under test has provided an accepted breath sample with a breath alcohol concentration equal to or above the breath alcohol concentration limit

3.10
test time interval
period of time following a test request within which the subject under test shall provide an accepted breath sample

3.11
missed breath test
absence of the provision of an accepted breath sample within the test time interval

3.12
ready for test
condition whereby the remote alcohol monitoring device is able to accept a breath test

3.13
error state
condition whereby the remote alcohol monitoring device detects an internal system non conformity that may cause the device not to function according to specification and normal function is suspended

3.14
breath test request
signal to alert the subject that a breath test is required

3.14.1
repeat test request
additional breath test request following a failed breath test

3.14.2
subject initiated test request
breath test request initiated by the subject

3.14.3
test on demand request
breath test request initiated by an external authority through communication with the remote alcohol monitoring device

3.14.4
scheduled test request
breath test request initiated according to a fixed or random time schedule

3.15
retry breath sample
additional breath sample request following a not accepted breath sample

3.16
programme authority
responsible authority for monitoring the compliance of the subject using a remote alcohol monitoring device

3.17
compliance
act of conformance of the subject to the requirements of the programme

3.18
non-compliance
act of non-conformance of the subject to the requirements of the programme

3.19
circumvention
manipulation of a breath test, subject identification and/or data communication for the purpose of achieving programme compliance

3.20
tampering
unauthorised change to or interference with the remote alcohol monitoring device or its function

3.21
supply voltage
voltage as obtained from the electrical power source (mains or battery) for the operation of the remote alcohol monitoring device

3.22
nominal operation voltage U_n
supply voltage as specified by the manufacturer for the normal operation of the device

3.23
stability period
period of time over which the remote alcohol monitoring device fulfils the stability requirements for the measurement of breath alcohol concentration

3.24
calibration interval
set time period after calibration, verification or adjustment following which the remote alcohol monitoring device will request the next calibration, verification or adjustment

3.25
working day
working day means Monday to Friday inclusive, and does not include public holidays and weekends

Note 1 to entry: For the purposes of this standard, assume a 5 day working week.

3.26
calibration adjustment
set of operations carried out on a remote alcohol monitoring device so that it provides correct breath alcohol concentration results within the accepted tolerances

3.27
service
service is the sum of actions that are necessary to maintain the proper function of the remote alcohol monitoring device

3.28
verification test
test of the remote alcohol monitoring device with a gas sample of known alcohol concentration to determine the proper function of the device and the accuracy of the alcohol sensor response within the stability requirements

3.29
service notification
notification to alert the subject that a service or inspection of the remote alcohol monitoring device is required

3.30
programme notification
notification to alert a subject of a special request from the programme authorities

3.31
data memory record
record of breath test results and other events with date, time and other parameters stored in the memory of the remote alcohol monitoring device

3.32
data communication
transmission of data to or from the remote alcohol monitoring device

3.33
security target
description and analysis of the assets, the threats to those assets, the countermeasures (in the form of security objectives) and a demonstration that the countermeasures are sufficient to counter the threats

3.34
manufacturer
person or organisation responsible for the design, construction and production of the remote alcohol monitoring device

3.35
g_n
standard acceleration due to the earth gravitational field, which varies with altitude and geographical latitude

Note 1 to entry: For the purposes of this standard, the value of g_n is rounded to the nearest whole number, that is $10 m/s^2$

3.36
operational state
state in which the remote alcohol device is powered and ready to operate and to communicate. It may be in a low power consumption mode

4 General requirements

4.1 Objectives

The remote alcohol monitoring device shall monitor the compliance of persons participating in mandatory or voluntary programmes focused on monitoring alcohol consumption. This shall be achieved through the recurrent measurement of breath alcohol concentration as well as means for subject identification and data communication.

4.2 Mouthpiece

The remote alcohol monitoring device shall have an exchangeable mouthpiece for the delivery of the breath sample that shall prevent the breath sample from mixing with ambient air.

The mouthpiece shall be hygienically wrapped.

4.3 Breath alcohol concentration limit

The nominal breath alcohol concentration limit of the remote alcohol monitoring device shall not be lower than 0,09 mg/l.

NOTE There is a limitation for the lower limit of the detection of alcohol concentrations in breath due to technological and physiological reasons. Consequently, the lowest limit for a reliable measurement of breath alcohol concentration is 0,09 mg/l.