SLOVENSKI STANDARD
oSIST prEN 50436-1:2022

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Alkoholne zapore - Preskusne metode in zahtevane lastnosti - 1. del: Instrumenti z ustnikom in merilnikom alkohola v izdihanem zraku za uporabo v programih proti pijanim voznikom in za splošno preventivno uporabo

Alcohol interlocks - Test methods and performance requirements - Part 1: Instruments having a mouthpiece and measuring breath alcohol for drink-driving-offender programs and general preventive use

Alkohol-Interlocks - Prüfverfahren und Anforderungen an das Betriebsverhalten - Teil 1: Geräte mit Mundstück zur Messung des Atemalkohols für Programme mit Trunkenheitsfahrern und für den allgemein-präventiven Einsatz

Ethylotests antidémarrage - Méthodes d'essais et exigences de performance - Partie 1: Appareils équipés d'un embout qui mesurent le taux d'alcoolémie dans l'air expiré, pour programmes de lutte contre la conduite en état d'ivresse et à usage préventif général

Ta slovenski standard je istoveten z: **prEN 50436-1**

ICS:

13.200	Preprečevanje nesreč in katastrof	Accident and disaster control
43.040.80	Sistemi za zaščito pri trku in sistemi za zadrževanje potnikov	Crash protection and restraint systems

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EUROPEAN STANDARD

NORME EUROPÉENNE

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ICS 43.040.10; 71.040.40

Will supersede EN 50436-2:2014 EN 50436-1:2014 EN 50436-2:2014 + A1:2015 EN 50436-1:2014 + AC:2016-03

English Version

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This draft European Standard is submitted to CENELEC members for enquiry.
Deadline for CENELEC: 2022-08-05.

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).
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.

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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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European foreword

This document (prEN 50436-1:2022) 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)

This document will supersede EN 50436-1:2014 and EN 50436-2:2014 and all of their amendments and corrigenda (if any).

prEN 50436-1:2022 includes the following significant technical changes with respect to EN 50436-1:2014 and EN 50436-2:2014:

— EN 50436-2 was integrated into EN 50436-1 and all essential requirements incorporated into EN 50436-1;

— Clause 1, Scope, was updated to consider the requirements from part 2;

— Clause 3, Terms and definitions, definitions were added for immobiliser, alcohol interlock, digital interface, low-power-consumtio state and handset. Some existing definitions were updated;

— Clause 4, General requirements, was updated to reflect current communication requirements;

— Clause 6.7, Electrical disturbances, was updated;

— Clause 6.7.1, Supply lines, test levels were adjusted;

— Clause 6.9, Electromagnetic compatibility, a second note was added for the RED-directive;

— Clause 7; Calibration curve, the tolerance was changed from ± 0,02 mg/l or ± 15 % of the nominal value to ± 0,02 mg/l or ± 10 % of the nominal value;

— Clause 8.4, Drop test, a description for the handset was added;

— Clause 9, Environmental test, the procedure for the test was revised and tolerances added where necessary;

— Clause 10.2, Flow, tolerances were added to the test gas flow;

— Clause 11.1, Test gases, carbon dioxide was added;

123 — Clause 12.6, Filter, the complete clause was updated to distinguish between tube filter and disc
124 filter;

125 — Clause 12.7, Condensation, the clause was updated;

126 — Clause 12.8, Water, the clause was updated;

127 — Clause 12.10, Removal of handeset, two additional test were added;

128 — Clause 15.1, Instructions for installation, a note with the reference to EN 50436-7 was added;

129 — Clause 17, Labelling and marking, further requirements were added.

Introduction

The purpose of alcohol interlocks is to enhance traffic safety by preventing persons with alcohol concentrations exceeding a set limit value from driving a motor vehicle. The EN 50436 series specifies test methods and essential performance requirements for alcohol interlocks and gives guidance for decision makers, purchasers and users.

The content and requirements of this part of EN 50436 are based on the experience and necessities of using alcohol interlocks to prevent drink driving in several countries over several decades.

Therefore, alcohol interlocks to be used in all general preventive programmes and those for drink driving offenders and legally regulated programmes monitored or controlled in a comparable way should comply with this document.

Part 3 of this series of standards gives information on how to implement the usage of alcohol interlocks.

The purpose of the EN 50436 series is to specify essential performance requirements and to provide the respective test methods for available technologies. The technology of alcohol interlocks continues to evolve, and further innovations can be expected. These could be considered in new parts or revisions of this document.

1 Scope

This document specifies test methods and performance requirements for alcohol interlocks having a mouthpiece. It covers alcohol interlocks to be used in all general preventive programmes and those for drink driving offenders and legally regulated programmes monitored or controlled in a comparable way.

This document can also be used for alcohol interlocks intended for other applications.

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

Several parameters (such as alcohol concentration or breath volume) are specified in this document for the purpose of type testing according to this document only. However, it can be necessary due to national regulations or depending on user requests to set the values of the prescribed parameters differently when the alcohol interlocks are in use.

This document also applies to alcohol interlocks integrated into other control systems of the vehicle as well as to accessory devices connected to the alcohol interlock.

This document does not apply to

— instruments measuring the alcohol concentration in the ambient air in the vehicle,

— alcohol interlocks not having a mouthpiece,

— methods of installation and connections to the vehicle.

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 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*

ISO 16750-1, *Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part 1: General*

ISO 16750-2:2012, *Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part 2: Electrical loads*

ISO 16750-3:2012, *Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part 3: Mechanical loads*

ISO 16750-4:2010, *Road vehicles — Environmental conditions and testing for electrical and electronic equipment — Part 4: Climatic loads*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 50436-4 and the following apply.

3.1
immobiliser
device which is intended to prevent the vehicle being driven away powered by its own motor

Note 1 to entry: In this document the expression motor includes combustion engine, electric motor or hybrid power unit.

3.2
alcohol interlock
device that acts as a vehicle immobiliser which, when installed, can be brought into the not blocking state only after the presentation and analysis of an accepted breath sample with an alcohol concentration below a limit value

3.3
breath alcohol concentration
mass concentration of ethanol, expressed in mg/l (milligram ethanol per litre breath air), in a breath sample delivered into an alcohol interlock

3.4
breath sample
breath air sample taken under forced expiration

3.5
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 the alcohol concentration.

3.6
breath test
providing a breath sample to an alcohol interlock

3.7
mouthpiece
part through which the breath sample is delivered into the alcohol interlock

3.8
blocking state
state in which the alcohol interlock immobilises the vehicle

3.9
not-blocking state
state in which the alcohol interlock does not immobilise the vehicle

3.10
breath alcohol concentration limit
set value of the breath alcohol concentration at or above which the alcohol interlock records a failed test

3.11
ready for test
indication that the operating parameters of the alcohol interlock are met

3.12
initial test
breath test provided while the alcohol interlock is in the blocking state that if the alcohol concentration is below the breath alcohol concentration limit will enable the alcohol interlock to go from blocking to not blocking state

3.13
retest
breath test provided while the alcohol interlock is in the not-blocking state

Note 1 to entry: The retest function is one of the measures used in the detection of circumvention.

3.14
retest period
time interval after the retest request to provide an accepted breath sample

3.15
start period
time interval after an accepted breath sample with an alcohol concentration below the breath alcohol concentration limit has been delivered, during which the alcohol interlock remains in the not-blocking state

3.16
restart period
time interval after the ignition switch or equivalent is switched off and during which the alcohol interlock remains in the not-blocking state

3.17
override
permissible method of causing the alcohol interlock to enter the not-blocking state without providing a breath sample

Note 1 to entry: The override function is for use in exceptional circumstances only.

3.18
bypass
unauthorised method of causing the vehicle to ignore the alcohol interlock blocking state

3.19
tampering
unauthorised change to or interference with the alcohol interlock or its installation in the vehicle or its functioning

3.20
data memory
record of breath test results and other events with date and time stored in the internal memory of the alcohol interlock

3.21
supply voltage
voltage obtained from the electric power source of the vehicle for operation of the alcohol interlock

3.22
calibration interval
time period between calibrations during which the alcohol interlock fulfils the stability requirements for the measurement of the breath alcohol concentration

3.23
service reminder
notice by the alcohol interlock to remind the driver of a service requirement

3.24
recall
response of the alcohol interlock due to a service requirement of the device or an action of the driver which requires service of the alcohol interlock or downloading of the data memory

3.25
manufacturer
person or organisation responsible for the design, construction and/or production of the alcohol interlock

3.26
aftermarket installation
any installation of an alcohol interlock in a vehicle after the original production of a vehicle

3.27
digital interface
shared boundary used for the exchange of digital information

3.28
low-power-consumption state
state in which as less power as possible is consumed

3.29
handset
entire component of the alcohol interlock into which the breath sample is delivered into the mouthpiece

4 General requirements

4.1 Blocking and not-blocking

Not-blocking state shall be achieved after delivery and analysis of an accepted breath sample with a breath alcohol concentration below a limit value.

The alcohol interlock shall return to the blocking state after expiration of the restart period (see 13.2) without supplementary action from the driver.

4.2 Influence on the vehicle motor

The alcohol interlock shall not cause a running vehicle motor to stop, even in the case of a missed or a failed retest.

4.3 Tampering

The alcohol interlock shall be designed and manufactured such that, when installed in a vehicle, according to the manufacturer‘s instructions, it cannot be opened or the electrical connection cannot be modified without visible changes.

The access to the data memory or to means for setting parameters or to adjustment possibilities shall be designed so as to deter unauthorised or inadvertent interference.

4.4 Concentration limit

The nominal breath alcohol concentration limit of the alcohol interlock shall be at least 0,09 mg/l.