SLOVENSKI STANDARD

SIST EN 50436-1:2014

01-marec-2014

Nadomešča:

SIST EN 50436-1:2006

Alkoholne zapore - Preskusne metode in zahtevane lastnosti - 1. del: Instrumenti za uporabo v programih proti pijanim voznikom

Alcohol interlocks - Test methods and performance requirements - Part 1: Instruments for drink-driving-offender programs

Alkohol-Interlocks - Prüfverfahren und Anforderungen an das Betriebsverhalten - Teil 1: Geräte für Programme mit Trunkenheitsfahrern

Ethylotests anti-démarrage - Méthodes d’essais et exigences de performance - Partie 1: Appareils pour des programmes pour personnes ayant conduit en état d’ivresse

Ta slovenski standard je istoveten z: **EN 50436-1:2014**

ICS:

13.200	Preprečevanje nesreč in katastrof	Accident and disaster control
43.040.80	Varnostne naprave in sistemi za zadrževanje	Safety installations and restraint systems

SIST EN 50436-1:2014 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 50436-1

January 2014

ICS 43.040.10; 71.040.40

Supersedes EN 50436-1:2005

English version

Alcohol interlocks - Test methods and performance requirements - Part 1: Instruments for drink-driving-offender programs

Ethylotests anti-démarrage -
Méthodes d'essais et exigences de performance -
Partie 1: Appareils pour programmes de lutte contre la conduite en état d'ivresse

Alkohol-Interlocks -
Prüfverfahren und Anforderungen an das Betriebsverhalten -
Teil 1: Geräte für Programme mit Trunkenheitsfahrern

This European Standard was approved by CENELEC on 2013-10-21. 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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

CEN-CENELEC Management Centre: Avenue Marnix 17, B - 1000 Brussels

Contents

Page

Page

Foreword

This document (EN 50436-1:2014) has been prepared by CLC/BTTF 116-2 "Alcohol interlocks".

The following dates are fixed:

• latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement	(dop)	2014-10-21
• latest date by which the national standards conflicting with this document have to be withdrawn	(dow)	2016-10-21

This document supersedes EN 50436-1:2005.

EN 50436-1:2014 includes the following significant technical changes with respect to EN 50436-1:2005:

– Clause 3: definitions are added for mouthpiece, data memory, supply voltage, calibration interval, service reminder, recall, manufacturer and aftermarket installation.

– Clause 4: requirements for communication integrity, wireless communication and basic funtionality are added.

– Sub-clauses 5.1 and 5.3.2: accessory devices are included.

– Sub-clause 5.5: the requirement in test type 3 is modified.

– Clause 6: tests with 24 V power supply are added.

– Sub-clause 6.8: the chapter electrical discharge is added.

– Clause 7: the requirement for the calibration curve is increased.

– Clause 8: the references to basic standards are updated.

– Clause 9: the chapter for environmental tests is revised, the references to basic standards are updated, and tests for 24 V power supply are added.

– Clause 10: the chapter for breath sample with volume, flow, exhalation time and response time is revised.

– Clause 12: manipulation and circumvention is completely revised.

– Normative Annex A with requirements for the description of events is added.

– Informative Annex B with performance testing is added.

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

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. 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 drink driving offender programmes in different countries over several decades. Therefore, alcohol interlocks used in programmes for drink driving offenders should comply with this European Standard.

Alcohol interlocks for general preventive use are the subject of EN 50436-2. General preventive use, which concerns a much larger number of drivers and vehicles, applies to both professional and private drivers of motor vehicles.

The purpose of 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 European Standard.

1 Scope

This European Standard specifies test methods and performance requirements for breath alcohol controlled alcohol interlocks. It covers alcohol interlocks intended to be used in programmes for drink driving offenders as well as in programmes monitored or controlled in a comparable way.

This European Standard 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 European Standard 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 parameters differently when the alcohol interlocks are in use.

This European Standard 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 European Standard does not apply to

– alcohol interlocks intended for general preventive use (see EN 50436-2),
– 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, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 by 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 16750-2:2010, *Road vehicles – Environmental conditions and testing for electrical and electronic equipment – Part 2: Electrical loads*

ISO 16750-3:2007, *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 following terms and definitions apply.

3.1
alcohol interlock
device which is normally in the blocking state when installed to prevent the starting of the vehicle motor, and which can be brought into the not-blocking state only after the presentation and analysis of a breath sample with an alcohol concentration below a limit value

Note 1 to entry: It normally consists of a handset and a control unit electrically connected to the vehicle.

Note 2 to entry: In this European Standard the expression “starting of the vehicle motor” includes provision of an output signal from the alcohol interlock to the vehicle to enable the starting, operation or movement of the vehicle.

3.2
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

3.3
breath sample
breath air sample taken under forced expiration

3.4
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.

3.5
breath test
providing a breath sample to an alcohol interlock

3.6
mouthpiece
part through which the breath sample is delivered into the alcohol interlock

3.7
blocking state
state in which the alcohol interlock inhibits the starting of the vehicle motor

3.8
not-blocking state
state in which the vehicle motor can be started

3.9
breath alcohol concentration limit
set value of the breath alcohol concentration at or above which the vehicle motor will be prevented from being started

3.10
ready for test
indication that the operating parameters of the alcohol interlock are met

3.11
initial test
breath test provided before the vehicle motor is started

3.12
retest
breath test provided after the vehicle motor has started

Note 1 to entry: The retest function is a measure to assist in the detection of circumvention.

3.13
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 vehicle motor may be started

3.14
restart period
time interval after the ignition is switched off during which the vehicle motor may be started again without the delivery of another breath sample

Note 1 to entry: This restart period is intended to ensure the driver's ability to restart the vehicle motor after a stall situation.

3.15
override
method of allowing the starting of the vehicle motor without providing a breath sample

Note 1 to entry: The override function is for use in exceptional circumstances only, for example in case of a device malfunction.

3.16
bypass
starting the vehicle motor without providing a breath sample or without engaging the override function

3.17
tampering
unauthorised change to or interference with the alcohol interlock or its installation in the vehicle or its functioning

3.18
data memory
record of breath test results and other events with date and time stored in the internal memory of the alcohol interlock

3.19
supply voltage
voltage obtained from the electric power source of the vehicle for operation of the alcohol interlock

3.20
calibration interval
time period between calibrations during which the alcohol interlock fulfils the stability requirements for the measurement of the breath alcohol concentration

3.21
service reminder
notice by the alcohol interlock to remind the driver of a service requirement

3.22
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

3.23
manufacturer
person or organisation responsible for the design, construction and/or production of the alcohol interlock

3.24
aftermarket installation
any installation of an alcohol interlock in a vehicle after the original production of a vehicle

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 be in the blocking state without supplementary action from the driver after switching off the ignition of the vehicle motor and the following expiration of a restart period (see 13.2).

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.

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

4.5 Mouthpiece

The alcohol interlock shall have an exchangeable mouthpiece.

4.6 Readiness

The alcohol interlock shall provide a visual and/or audible indication when it is ready for a breath test. A breath test shall only be accepted after a ready indication.

4.7 Data memory, download and evaluation

The alcohol interlock shall be capable of recording events with date and time in a data memory, even if the handset is disconnected. These events are at least the following:

– breath samples,

– test results,