
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 Trunkenheitsfahren

Alcool interlocks - Méthodes d'essais et exigences de performance -- Partie 1: Appareils pour des programmes pour conducteurs en état d'ivresse

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

Alcohol interlocks –
Méthodes d'essais et exigences
de performance
Partie 1: Appareils pour des programmes
pour conducteurs en état d'ivresse

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

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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

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Foreword

This European Standard has been prepared by the CENELEC BTTF 116-2, Alcohol interlocks.

The text of the draft was submitted to the formal vote and was approved by CENELEC as EN 50436-1 on 2005-06-01.

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) | 2006-06-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2008-06-01 |
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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 mainly in traffic safety programs for drink driving offenders.

This European Standard is mainly directed to test laboratories and manufacturers for alcohol interlocks.

Several parameters (as for example 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 according to national regulations to set these parameters differently for use of the alcohol interlocks.

2 Normative references

The following referenced documents are indispensable for the application 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 60068-2-30:1999, *Environmental testing - Part 2: Tests - Test Db and guidance: Damp heat, cyclic (12 + 12 hour cycle)* (IEC 60068-2-30:1980 + A1:1985)

EN 60529:1991 + A1:2000, *Degrees of protection provided by enclosures (IP Code)* (IEC 60529:1989 + A1:1999)

ISO 7637-2:2004, *Road vehicles - Electrical disturbances by conduction and coupling - Part 2: Electrical transient conduction along supply lines only*

ISO 7637-3:1995, *Road vehicles - Electrical disturbances by conduction and coupling - Part 3: Vehicles with nominal 12 V or 24 V supply voltage - Electrical transient transmission by capacitive and inductive coupling via lines other than supply lines*

International Recommendation OIML R 126: *Evidential breath analyzers*. Ed. 1998 Bureau International de Métrologie Légale, 11, rue Turgot – 75 009 Paris – France

3 Definitions

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

3.1

alcohol interlock

device which is intended to prevent in the blocked state the starting of a vehicle motor, and which can be brought into the unblocked state only after presenting and analysing a breath sample with an alcohol concentration below a limit value

NOTE It normally consists of a handset and a control unit electrically connected to the vehicle.

3.2

breath alcohol concentration

mass concentration of ethanol, given in mg/l, in an end-expiratory breath sample delivered into an alcohol interlock

3.3

end-expiratory breath sample

breath air sample taken under forced expiration through the mouth at the end of a time interval in which the breath flow is above a predetermined minimal value

3.4**blocked state**

state in which the vehicle motor cannot be started

3.5**unblocked state**

state in which the vehicle motor can be started

3.6**breath alcohol concentration limit**

limit value below which the vehicle motor may be started. A breath test result equal to or above this limit will prevent the vehicle motor from being started

3.7**retest**

breath test after the vehicle motor has been started

3.8**start period**

period after an accepted breath sample has been delivered during which the vehicle motor may be started

3.9**restart period**

period after the ignition is switched off during which the vehicle motor may be started again without the presentation of another breath sample

NOTE This restart period is intended to ensure the driver's ability to restart the vehicle motor after a stall situation.

3.10**bypass**

starting the vehicle motor without providing an accepted breath test result below the concentration limit or without engaging the override function

3.11**override**

method of unblocking the start of the vehicle motor without providing an accepted breath test result below the concentration limit by use of a code or a key (electronic or physical) or any other secure method to provide a time-limited and use-limited ability to start the vehicle motor

3.12**tampering**

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

4 General requirements**4.1 General**

An alcohol interlock shall comply with the requirements of this European Standard.

4.2 Blocking and unblocking

Unblocking shall be achieved after delivery and analysis of an accepted breath sample with a breath alcohol concentration below a limit value. An override function is permissible.

The alcohol interlock shall be blocked without supplementary action from the driver after switching off the ignition of the vehicle motor and the following expiration of a restart period.

The restart period has to be at least 1 min.

4.3 Influence on the vehicle motor

The alcohol interlock may only prevent starting the vehicle motor. It shall not influence a running vehicle motor, even in the case of a missed or a failed retest.

4.4 Vehicle circuitry

The electrical properties of the on-board circuitry of the vehicle (lead cross-sections, contact safety, etc.) shall not be adversely affected by the alcohol interlock installed according to the manufacturer's instructions.

4.5 Mouthpiece

The alcohol interlock shall have an exchangeable mouthpiece.

4.6 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 and test results, blocking and unblocking, vehicle motor start or running and stop and/or vehicle motion, missing delivery of a breath sample during a retest, detachment and reattachment of handset, connections and disconnections of supply voltage, manipulation or circumvention attempts, overriding and bypassing.

Data shall be stored in such a way, that it will not be lost due to unintended data corruption or low vehicle battery voltage.

It shall be possible to download the data and to evaluate the data.

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4.7 Retests

The alcohol interlock shall be capable of requesting retests by visual and/or audible signals at random time intervals.

NOTE National regulations may restrict the use of visual signals.

4.8 Early recall

The alcohol interlock shall be capable of requesting an earlier service in case of certain events (for example failed initial test, failed or missed retest, overriding, bypassing).

4.9 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.

4.10 Tampering

The alcohol interlock shall be designed and built such that, when installed in a vehicle, according to the manufacturer's instructions, it cannot be put out of service or be rendered ineffective or destroyed, without visible changes to the alcohol interlock or its installation.

4.11 Electromagnetic compatibility

The alcohol interlock shall fulfil the relevant technical requirements of the European Directive 95/54/EC or the European Directive 2004/104/EC with regard to electromagnetic compatibility (EMC).

4.12 Electrical disturbances

4.12.1 Supply lines

The alcohol interlock shall be tested for the influence of electrical disturbances according to ISO 7637-2 with the following test conditions:

test pulses 2a, 2b, 3a, 3b (functional status: class A) and test pulse 4 (functional status: class C)
test level: IV.

4.12.2 Lines other than supply lines

The alcohol interlock shall be tested for the influence of electrical disturbances according to ISO 7637-3 with the following test conditions:

functional status: class A
test pulses: a, b
test level: IV.

4.13 Type of protection

The following types of protection in accordance with EN 60529 shall be provided:

- IP40 for parts to be fitted in the passenger or luggage compartment;
- IP42 for parts to be fitted in the passenger compartment of roadsters/convertibles and cars with moveable roof-panels if the installation location requires a higher degree of protection than IP40;
- IP54 for all other parts.

4.14 Combination with other systems

The alcohol interlock may be a stand-alone instrument, may be combined with other vehicle systems or may be integrated into them (e.g. engine management or alarm systems).

5 Labelling and marking

The alcohol interlock shall be marked legibly and indelibly with the following minimum requirements:

- name or trademark and country of origin of the manufacturer or of the authorised representative;
- designation of series or type;
- type approval, if required by national regulations;
- serial number.

6 Instructions

6.1 Instructions for installation

The manufacturer shall provide on request instructions for installation containing at least the following information:

- a) list of vehicles and vehicle models for which the device is intended. This list may be specific or generic, e.g. „all cars with petrol engines and 12 V batteries with grounded negative pole“;
- b) method of installation illustrated by photographs and/or very clear drawings;
- c) detailed installation instructions being such that when correctly followed by a competent installer, the safety and reliability of the vehicle is not affected;