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Alkoholne zapore – Preskusne metode in zahtevane lastnosti – 2. del: Instrumenti za splošno preventivno uporabo

Alcohol interlocks - Test methods and performance requirements - Part 2: Instruments for general preventive use

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Alcohol interlocks - Test methods and performance requirements Part 2: Instruments for general preventive use

Alcool interlocks - Méthodes d'essais et exigences de performance
Partie 2: Appareils pour l'usage préventif général

Alkohol-Interlocks - Prüfverfahren und Anforderungen an das Betriebsverhalten
Teil 2: Geräte für den allgemein-präventiven Einsatz

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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.

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CENELEC

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

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Foreword

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

It is submitted to CENELEC enquiry.

Contents

1 Scope

This European Standard specifies test methods and performance requirements for breath alcohol controlled alcohol interlocks. It covers alcohol interlocks intended mainly for general preventive use.

This European Standard defines two different classes of alcohol interlocks:

class A: alcohol interlocks having the standard properties for general preventive use, including certain measures against manipulation and circumvention (see 8.9.5 to 8.9.7);

class B: alcohol interlocks having properties for general preventive use, however not including certain measures against manipulation and circumvention (see 8.9.5 to 8.9.7).

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 or depending on user requests to set these parameters differently for use of the alcohol interlocks.

This European Standard applies also to alcohol interlocks integrated into other systems of the vehicle.

This European Standard does not apply to

- alcohol interlocks intended to be used mainly in traffic safety programs for drink driving offenders (see EN 50436-1),
- instruments measuring the alcohol concentration in the ambient air in the vehicle.

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 50436-1:2005, *Alcohol interlocks - Test methods and performance requirements - Part 1: Instruments for drink-driving-offender programs*

EN 60068-2-6:1995, *Environmental testing - Part 2: Tests - Test Fc: Vibration (sinusoidal)* (IEC 60068-2-6:1995)

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*

Commission Directive 2004/104/EC *of 14 October 2004 adapting to technical progress Council Directive 72/245/EEC relating to the radio interference (electromagnetic compatibility) of vehicles and amending Directive 70/156/EEC on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers, Official Journal of the European Communities No. L 337 of 13.11.2004, p.13*

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 blocking state the starting of a vehicle motor, and which can be brought into the unblocking 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
blocking state
state in which the alcohol interlock is blocking the start of the vehicle motor

3.5
unblocking 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

3.13
manufacturer
person or organisation responsible for the design, construction and/or production of the alcohol interlock

3.14
aftermarket installation
any installation of an alcohol interlock in a vehicle after the original retail sale of a vehicle

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.

The alcohol interlock shall be blocking 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 Override function

An override function is permissible.

It shall be possible to enable or to disable the override function.

4.4 Influence on the vehicle motor

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

4.5 Vehicle circuitry (applicable to alcohol interlocks for aftermarket installation only)

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.

4.6 Concentration limit

The alcohol interlock shall have a nominal breath-alcohol-concentration limit of not less than 0,1 mg/l.

4.7 Mouthpiece

The alcohol interlock shall have an exchangeable mouthpiece.

4.8 Data memory, download and evaluation

If the alcohol interlock has a data memory, it shall be capable of recording events with date and time, even if the handset is disconnected.

These events are at least the following, if applicable:

- test results with a concentration value above the limit value;
- missing delivery of a breath sample during a retest;
- manipulation or circumvention attempts;
- overriding and bypassing.

The following events are optional:

- detachment and reattachment of handset;
- connections and disconnections of supply voltage.

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

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** (applicable to class A instruments only)

The alcohol interlock shall be designed and built such that, when installed aftermarket 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 connection or the part of the alcohol interlock electrically connected to the vehicle or its installation.

The access to the data memory, parameter settings and adjustment possibilities shall be designed so as to discourage unauthorised or inadvertent interference.

4.11 Electromagnetic compatibility

The alcohol interlock shall fulfil the relevant legal technical requirements with regard to electromagnetic compatibility (EMC).

NOTE For the European Union the legal requirements are given in the European Directive 2004/104/EC.

4.12 **Electrical disturbances** (not applicable to parts of the alcohol interlock integrated into other vehicle systems)

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).

4.15 Communication integrity

If the handset of the alcohol interlock is detachable or if the handset and the control unit communicate through wireless communication, the communication between the handset and the control unit shall be encoded so that it is not easily possible to compromise the communication integrity and to bring the alcohol interlock into an unblocked state.

4.16 Wireless communication

If the handset and the control unit of the alcohol interlock are transmitting signals by wireless communication, the signal to the control unit shall be transmitted within 30 s after the analysis of the breath sample.

The maximal distance for the wireless communication between the handset and the control unit under free field conditions shall be 50 m.

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;
- temperature range, affixed to be visible for the user.