SLOVENSKI PREDSTANDARD

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januar 2006

Gospodinjski in podobni električni aparati – Varnost – Posebne zahteve za grelnike kabine v vozilih

(istoveten prEN 50408:2005)

Household and similar electrical appliances - Safety - Particular requirements for cab heaters for vehicles

ICS 43.040.01

Referenčna številka
oSIST prEN 50408:2006(en)

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

November 2005

ICS

English version

Household and similar electrical appliances - Safety - Particular requirements for cab heaters for vehicles

Appareils électriques et analogues - Sécurité - Règles particulières pour les installations de chauffage d'habitacles de véhicules

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke - Besondere Anforderungen für Fahrzeugkabinenheizungen

This draft European Standard is submitted to CENELEC members for CENELEC enquiry.
Deadline for CENELEC: 2006-05-12

It has been drawn up by CENELEC BTWG 100-1.

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 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

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Project: 13204

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Foreword

This draft European Standard was prepared by CENELEC BTWG 100-1, Cab heaters for vehicles. Following BT decision D124/139 it is submitted to CENELEC enquiry, starting in English only.

This draft European Standard is to be used together with EN 60335-2-30, Household and similar electrical appliances - Safety - Part 2-30: Particular requirements for room heaters, and supplements or modifies the corresponding clauses of that standard. It was established on basis of EN 60335-2-30:2003, which is to be used together with EN 60335-1.

Subclauses and figures which are additional to those in EN 60335-1 are numbered starting from 101.

Subclauses, figures and tables which are additional to those in EN 60335-2-30 are numbered starting from 201.

Additional annexes to those in EN 60335-2-30 are lettered AAA, BBB, etc.

1 Scope

Addition:

This standard is intended to be used together with EN 60335-2-30:2003 and supplements or modifies the corresponding clauses of that standard.

***Replace** the second paragraph and NOTE 101 of this clause by:*

This standard deals with the safety of electric heaters for vehicles, intended for the heating of driver and passenger compartments of motor vehicles, their rated voltage being not more than 250 V for single-phase appliances. Heaters intended especially for the heating of caravans are not covered by this standard.

NOTE 101 Void

***Delete** the first indent of NOTE 102.*

2 Normative references

Addition:

Publication	Year	Title
EN 60335-2-30	2003	Household and similar electrical appliances – Safety – Part 2-30: Particular requirements for room heaters (IEC 60335-2-30:2002, modified)

3 Definitions

Addition:

3.201
cab heater
appliance for the heating of driver and passenger compartments of motor vehicles

Cab heaters may be portable and/or intended to be permanently mounted.

NOTE If not otherwise stated, cab heater shall be tested as portable combined appliance and/or combined appliance for permanent mounting.

4 General requirements

This clause of EN 60335-2-30 is applicable.

5 General conditions for the test

This clause of EN 60335-2-30 is applicable.

6 Classification

This clause of EN 60335-2-30 is applicable.

7 Marking and instructions

7.1

Addition:

Cab heater shall on a clearly visible place have an additional marking in the official language(s) of the country where the heater is sold, stating:

"Cab heater"

If the rated power is related to another ambient temperature than 20 °C ± 5 °C, this temperature shall be clearly stated together with the rated power.

7.12

Addition:

The instructions for use shall include information on intended mounting.

The instructions for use shall state the shortest permissible distance between the heater outlet and combustible material and include a text with the following meaning: Any instructions for mounting, installation and use of cab heaters provided by the manufacturer of the car shall also be followed.

For cab heaters not delivered with cord and plug shall be stated that for the connection between the cab heater and the outlet in the compartment shall be at least a rubber cable (H05Rn-F or H05RR-F or equivalent).

Any installation in the vehicle shall be properly made, comprising products and material intended for installation in vehicles.

8 Protection against access to live parts

This clause of EN 60335-2-30 is applicable.

9 Starting of motor-operated appliances

Addition:

Cab heaters incorporating motor shall be able to start at low temperatures.

Connect the appliance to rated voltage at –25 °C after the appliance has been stored at this temperature for 24 h.

Self-resetting thermal cut-out is allowed to perform two attempts before the fan starts.

10 Power input and current

10.1

Addition:

The test can be carried out at an ambient temperature other than 20 °C ± 5 °C.

11 Heating

11.2

Replace *the replacement to this clause by:*

For this test is used a special test corner according to Figure 201. The wall A can be positioned at different distances from the far end of the special test corner. For the tests the special test corner is placed in a test corner, as described in part 1 of the standard, with wall B and the far end facing the walls of the test corner..

NOTE Wall B of the special test corner, as well as its bottom, can be open to facilitate access before and after test. During test the special test corner is placed in the test corner in such a way, that it becomes closed by the walls and floor of the test corner, leaving only the opening towards wall A open.

The cab heater is placed in the special test corner in the most unfavourable position according to the manufacturer's instructions, if it will fit into the special test corner, and with the distance L = 0 mm. The shortest distance to combustible material shall however not be less than stated in the manufacturer's instructions and the wall A can be moved to increase L to a maximum distance L = 220 mm.

If the manufacturer has not supplied any instructions for the placing of the cab heater or if the heater cannot fit in the special test corner, the cab heater is placed on the floor of the special test corner at equal distance to each side, with the outlet fireguard facing outwards and at a distance from the wall A corresponding to the minimum distance as stated by the manufacturer.

Heaters containing PTC heating elements are placed away from the walls if this will lead to higher temperatures.

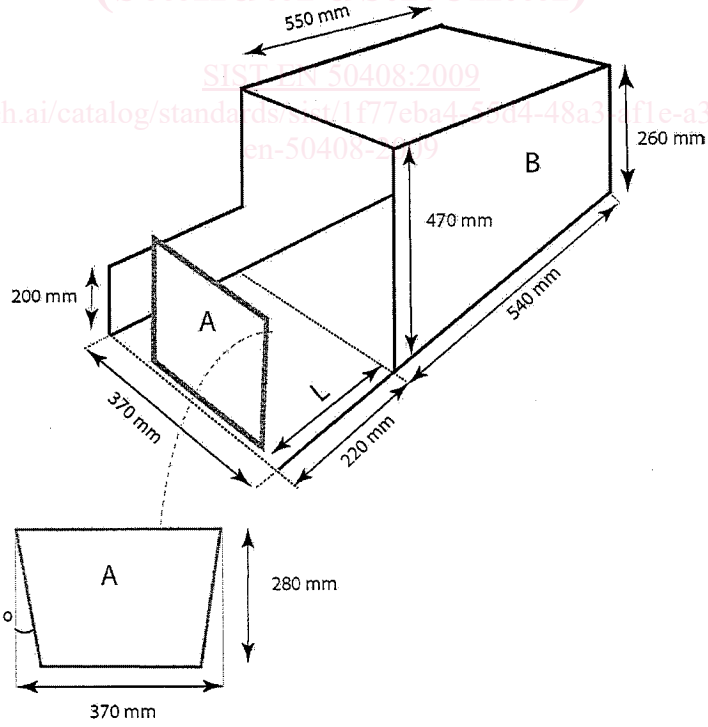

Figure 201 - Special test corner

11.8

Addition:

For this purpose the cab heater is considered as an "other appliance".

Addition:

Replace Table 101 with Table 201.

Table 201 - Maximum temperature rises for surfaces

Surface	Temperature rise K
Parts of the heater accessible to ambient air and which are accessible to test probe B of EN 61032	90
All surfaces that are curved with a radius not exceeding 10 mm or that are inclined at greater than 60° to the horizontal and that, in addition, are not accessible to test probe B of EN 61032	no limit
Other parts of the cab heater accessible to ambient air	275

12 Void

13 Leakage current and electric strength at operating temperature

This clause of EN 60335-2-30 is applicable.

14 Transient voltages

This clause of EN 60335-2-30 is applicable.

15 Moisture resistance

15.3

Modification:

Cab heater shall be kept in the humidity cabinet for 7 days (168 h).

16 Leakage current and electric strength

This clause of EN 60335-2-30 is applicable.

17 Overload protection of transformers and associated equipment

This clause of EN 60335-2-30 is applicable.

18 Endurance

This clause of EN 60335-2-30 is applicable.

19 Abnormal operation

19.1

Addition:

Compliance is checked also by the following tests:

The cab heater is positioned with the outlet air directed at a dull black-painted plywood wall placed at a distance of 10 cm and is connected to the voltage specified in 11.6 and is left operating until steady state has been reached or a non self-resetting thermal cut-out has operated.

Any thermostats are shunted during the test.

During the test the temperature rise at the test wall shall not exceed 65 K.

The distance to the test wall is measured as the shortest distance between the wall and the outlet fireguard.

The heater is covered, totally or partially, with a piece of cloth and is tested as specified in 19.1.

The piece of cloth used shall have a thickness of 25 mm and a mass of (4,0 ± 0,4) kg/m². It shall be placed on the front and top of the heater, reaching down at the back of the heater to a distance of about a fifth of the height of the heater, as measured from its top. If the design of the heater, however, allows fabrics to make contact with the back of the heater, the piece of cloth shall cover the entire back of the heater.

19.107

***Add** at the end of the note:*

As an alternative, the motor speed can be reduced by applying a mechanical force at the shaft, increased in suitable steps.

19.109

Addition:

The test is repeated but with the cab heater positioned near to a dull black-painted plywood wall and with the outlet air directed at the wall and left operating until steady state has been reached or a non self-resetting thermal cut-out has operated.

During the test the temperature rise at the test wall shall not exceed 150 K.

20 Stability and mechanical hazards

This clause of EN 60335-2-30 is applicable.

21 Mechanical strength

Addition:

21.201

Cab heaters and any accessories shall withstand vibrations liable to occur during normal use. If the mounting instructions for the cab heater give several mounting options, the test shall be carried out in the least favourable mounting position.

Compliance is checked by the following test:

The appliance is mounted in its normal operating position and is subjected to a vertical sinusoidal vibration of 25 Hz and with a deflection of ± 2 mm, for a period of 24 h.

After the test, the test item shall show no damage and screws and fasteners shall not have changed position. If the test item comes off it's mounting it shall be subject to the test according to 11.2 in all positions which the appliance can take when it comes off.

During this test the temperature rise at the supporting surface shall not exceed 150 K.

The hammer spring test is performed at -25 °C.

21.202

Tests for fireguards shall be performed also for air inlet and air outlet for all types of cab heaters.

22 Construction

Modification:

Heating elements shall be fully enclosed and have an even surface. Compliance is checked by inspection.

This requirement does not exclude PTC elements or moulded-in elements with flanged surface.

23 Internal wiring

This clause of EN 60335-2-30 is applicable.

24 Components

Addition:

If so required in Clause 19, the heating element shall be equipped with a non-self-resetting thermal cut-out. Temperature limiting device with electric hold function is considered as self-resetting temperature limiting device.

Thermal cut-out is not compulsory for cab heaters equipped with heating elements of the PTC type only.

NOTE Thermal cut-out for motor can be of the self-resetting type.

25 Supply connection and external flexible cords

Addition:

The cord used for the connection between the cab heater and the outlet in the compartment shall be at least a rubber cable (H05Rn-F or H05RR-F or equivalent).