EUROPEAN COMMISSION
ENTERPRISE AND INDUSTRY DIRECTORATE-GENERAL

Sustainable Growth and EU 2020
Standards for Boosting Competitiveness

Brussels, 30.9.2014

A Notification under Article 12 of Regulation (EU) No 1025/2012[1]

Subject matter related to

☐	Annual Union Work Programme for European standardisation (Art. 12, point a)
☐	Possible future standardisation requests to European standardisation organisations (Art. 12, point b)
☒	Formal objections to harmonised standards (Art. 12, point c)
☐	Identifications of ICT technical specifications (Art. 12, point d)
☐	Delegated acts to modify Annexes I or III of Regulation (EU) No 1025/2012 (Art. 12, point e)

Title of the initiative

Formal Objection against EN 60335-2-9:2003 (as amended, the latest amendment being A13:2010) Household and similar electrical appliances - Safety -- Part 2-9: Particular requirements for grills, toasters and similar portable cooking appliances

Additional information

Legislative reference(s)	Directive 2006/95/EC of the European Parliament and of the Council of 12 December 2006 on the harmonisation of the laws of Member States relating to Electrical Equipment designed for use within certain voltage limits
EN reference(s)	EN 60335-2-9:2003 (as amended by A1:2004, A2:2006, A12:2007 and A13:2010)
Status	
Other information	This is a formal objection launched by Germany on 3 June 2014 and by Norway on 10 July 2014 against EN 60335-2-9:2003 (as amended) the references of which have been published in the Official Journal of the European Union.

Commission contact point for this notification

ENTR-ENGINEERING-INDUSTRIES@ec.europa.eu

[1] OJ L 316, 14.11.2012, p. 12

Ständige Vertretung
der Bundesrepublik Deutschland
bei der Europäischen Union
Brüssel

An das
Generalsekretariat
der Europäischen Kommission
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per E-mail

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Bearbeitet von
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Betreff: **Formeller Einwand gemäß Artikel 11 der Verordnung (EU) Nr. 1025/2012 vom 25. Oktober 2012 zur europäischen Normung gegen die harmonisierte Norm DIN EN 60335-2-9 (Ausgabe 10/2011)**

Geschäftszeichen (bitte bei Antwort angeben): Wi 522.00.1

Brüssel, den 03.06.2014

Anlagen: -1-

Sehr geehrte Damen und Herren,

anliegend übersende ich eine Mitteilung der Regierung der Bundesrepublik Deutschland in oben genannter Angelegenheit mit der Bitte um Weiterleitung an die Generaldirektion Unternehmen und Industrie (Referat B 5 – Normung für die Wettbewerbsförderung, Referat F 5 – Ingenieurstechnische Industrien).

Mit freundlichen Grüßen
Im Auftrag

Mitteilung

der Regierung der Bundesrepublik Deutschland hinsichtlich eines formellen Einwands gegen eine harmonisierte Norm entsprechend Artikel 11 der Verordnung (EU) Nr. 1025/2012 vom 25. Oktober 2012 zur europäischen Normung.

Die Bundesregierung erhebt gegen die Norm **DIN EN 60335-2-9 (Ausgabe 10/2011)** einen formellen Einwand, da sie den Anforderungen der *Richtlinie 2006/95/EG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten betreffend elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen* nicht voll entspricht.

Die DIN EN 60335-2-9 trifft in ihrem Abschnitt 11 „Erwärmung" nur unzureichende Festlegungen hinsichtlich einzuhaltender Temperaturgrenzwerte von berührbaren Oberflächen, die keine Funktionsflächen sind. Die entsprechend dieser Norm hergestellten Geräte erfüllen somit nicht Anhang I Nummer 1 Buchstabe d in Verbindung mit Nummer 2 Buchstabe b der Niederspanungsrichtlinie 2006/95/EG:

Die Bundesregierung bittet die Kommission daher unverzüglich geeignete Schritte einzuleiten.

Begründung:

Anhang I Nummer 1 Buchstabe d der Niederspannungsrichtlinie besagt:
„d) Die elektrischen Betriebsmittel sind so konzipiert und beschaffen, dass bei bestimmungsgemäßer Verwendung und ordnungsgemäßer Unterhaltung der ***Schutz vor den in den Nummern 2 und 3 aufgeführten Gefahren*** *gewährleistet ist."*
Anhang I Nummer 2 Buchstabe b der Niederspannungsrichtlinie besagt:
*„****Technische Maßnahmen*** *sind gemäß Nummer 1 vorgesehen, damit:*
b) ***keine Temperaturen****, Lichtbogen oder Strahlung entsteht,* ***aus denen sich Gefahren ergeben können.****"*
Diese Anforderungen der Niederspannungsrichtlinie werden durch die DIN EN 60335-2-9 nicht abgedeckt.
Im Abschnitt 11.8, Tabelle Z 101 „Grenzen für die Temperaturerhöhung von berührbaren Oberflächen" sind Grenzwerte für die Temperaturerhöhung berührbarer Oberflächen, die keine Funktionsflächen sind, festgelegt. Diese Grenzwerte orientieren sich an den medizinisch technischen Werten, die aufgrund des Standes der Technik (CENELEC Guide 29, DIN EN ISO 13732-1) bekannt sind. Mit der Fußnote b in Tabelle Z 101 wird den Herstellern jedoch die Möglichkeit eingeräumt, diese Grenzwerte um **bis zu 100 % zu überschreiten**. In der Norm wird dazu angegeben: *„Wenn aufgrund des Aufbaus oder der begrenzten Abmessungen des Gerätes die geforderten Werte nicht eingehalten werden können, darf die höchste*

Temperaturerhöhung nicht höher sein als der zweifache festgelegte Wert. In diesen Fällen muss ein Warnhinweis auf der betreffenden Oberfläche des Gerätes angebracht werden." Bei einer deutlichen Überschreitung des erlaubten Grenzwertes besteht nachweislich die akute Gefahr einer Verbrennung, die prioritäre Forderung der Niederspannungsrichtlinie nach **technischen Maßnahmen** wird ignoriert.

Außerdem ist die Norm in sich widersprüchlich hinsichtlich des **Anbringens des Warnhinweises**. In der Fußnote b der Tabelle Z 101 heißt es: *„In diesen Fällen muss ein Warnhinweis **auf der betreffenden Oberfläche** des Gerätes angebracht werden."* Im Abschnitt 7.1 der Norm heißt es jedoch: *„Wenn die Bestimmungen der Fußnote b zu Tabelle Z101 zutreffen, muss das Gerät gekennzeichnet sein mit: dem Bildzeichen IEC 60417-5041; oder sinngemäß „VORSICHT: heiße Oberfläche". Dieser Warnhinweis muss **auf der Oberfläche, die die höchste Temperatur hat**, angebracht sein und während des Normalbetriebs sichtbar sein. Anmerkung Z101 Bildzeichen 5041 der IEC 60417-1 ist ein Warnzeichen, und es gelten die Regeln der ISO 3864. Um die Lesbarkeit sicher zu stellen dürfen jedoch die Farben abweichen."*
Nach Fußnote b der Tabelle Z 101 ist jede Fläche, bei der der Grenzwert überschritten wird, mit einem Warnhinweis zu versehen. Nach Abschnitt 7.1 reicht es hingegen aus, nur die Fläche mit der höchsten Temperatur mit einem Warnhinweis zu versehen. Weitere Flächen, die ebenfalls den erlaubten Grenzwert deutlich überschreiten, blieben hingegen ohne Warnhinweis. Dies birgt erhebliche Risiken für den Verwender und steht klar im Widerspruch zur Niederspannungsrichtlinie.
Ferner wird zwischen Bildzeichen und Schriftzug unterschieden. Da es sich um Warnhinweise handelt, sollten diese, egal ob Schriftzug oder Piktogramm, in den internationalen Warnfarben erfolgen, da dies die Aufmerksamkeit der Verwender schärft und die Gefahr nicht abwertet. Es ist hier eindeutig und unmissverständlich die Umsetzung der Warnfarben bei Warnhinweisen und Warnpiktogrammen einzuführen.

Temperaturerhöhungen an speziellen Stellen wie z. B. Lüftungsgitter oder Geräterückwände werden von der Norm schlicht ignoriert. Die Norm weist z. B. in dem **Abschnitt 11.Z101** darauf hin:
*„Die Temperaturerhöhungen werden an folgenden Oberflächen **nicht gemessen**:*
- Oberflächen im Abstand von 25 mm um Lüftungsöffnungen
- der Rückseite bei Geräten, die gemäß den Anweisungen gegen eine Wand gestellt werden müssen und mit der Prüfsonde 41 der EN 61032 nicht berührbar sind."
Im Fall der Lüftungsöffnungen wird nicht zwischen funktionalen oder Design-bedingten Lüftungsöffnungen unterschieden, so dass Geräte großflächig mit nicht-funktionalen Lüftungsöffnungen versehen werden können. Damit eröffnet die Norm DIN EN 60335-2-9 eine Möglichkeit, die Einhaltung von Temperaturgrenzwerten an Oberflächen zu umgehen.
Hinsichtlich der Rückseite ignoriert die Norm die Tatsache, dass die Geräte ortsveränderlich sind und mittlerweile viele moderne Küchen heute so aufgebaut sind, dass die Arbeitsfläche als Block in der Mitte der Küche angeordnet ist. Es ist somit leicht vorhersehbar, dass diese Geräte nicht gegen eine Wand gestellt werden

(können). Durch die Nichtbeachtung der Rückseite besteht ein erhebliches Verbrennungsrisiko.
Des Weiteren wird im **Abschnitt 11.Z102** darauf hingewiesen:
*„Die Temperaturerhöhungen werden **nicht gemessen** an:*
- äußeren Oberflächen in einem Abstand von 25 mm in allen Richtungen um die heiße Funktionsoberfläche."
Die Möglichkeit, Temperaturerhöhungen im Abstand von 25 mm um die Funktionsoberfläche nicht zu messen, lässt die Konstruktion von z. B. Sandwich-Makern zu, bei denen die Bauhöhe der unteren und oberen Gehäuseschale unter 25 mm liegt. Nach DIN EN 60335-2-9 wäre dann kein Grenzwert mehr einzuhalten. Entsprechende konstruktive Überlegungen wurden bereits an die deutschen Marktüberwachungsbehörden herangetragen.

Schlussfolgerung:

Die angeführten Beispiele zeigen, dass sich mit der Norm DIN EN 60335-2-9 die Schutzziele der Niederspannungsrichtlinie auf einfache Art und Weise umgehen lassen, was im Ergebnis zu unsicheren Produkten im Markt führt.
DIN EN 60335-2-9 (Ausgabe 10/2011) berücksichtigt die Anforderungen der Richtlinie 2006/95/EG zur Angleichung der Rechtsvorschriften der Mitgliedstaaten betreffend elektrische Betriebsmittel zur Verwendung innerhalb bestimmter Spannungsgrenzen nicht vollständig. Sie kann hinsichtlich des Aspekts einzuhaltender Temperaturgrenzwerte von berührbaren Oberflächen, die keine Funktionsflächen sind, **nicht die Vermutungswirkung nach der Niederspannungsrichtlinie auslösen.**

Der Veröffentlichung im Amtsblatt der Europäischen Union sollte demzufolge ein Warnvermerk hinzugefügt werden. Gleichzeitig sollte CENELEC beauftragt werden, die Norm zu überarbeiten mit dem Ziel, diesen Mangel zu beheben.

Letter dated: Brussels, 3 June 2014

From: Ina Hofmann, Permanent Representation of Germany to the European Union

To: Secretariat General of the European Commission

Subject: Formal objection in accordance with Article 11 of Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation against harmonised standard DIN EN 60335-2-9 (edition 10/2011)

Ref.: Wi 522.00.1

Annex: 1

I attach a communication from the German government on the above subject and would ask you to forward it to the Directorate-General for Enterprise and Industry (Unit B 5 - Standards for Boosting Competitiveness, Unit F 5 - Engineering Industries).

Communication

from the German government concerning a formal objection in relation to a harmonised standard in accordance with Article 11 of Regulation (EU) No 1025/2012 of the European Parliament and of the Council of 25 October 2012 on European standardisation

The German government is lodging a formal objection to standard DIN EN 60335-2-9 (edition 10/2011), as it does not fully meet the requirements of Directive 2006/95/EC on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits.

Section 11 of DIN EN 60335-2-9 ('Heating') contains only insufficient specifications with regard to the temperature limits to be observed for accessible surfaces which are non-functional. Appliances manufactured in accordance with this standard therefore do not comply with Annex I(1)(d) in conjunction with (2)(b) of the Low Voltage Directive 2006/95/EC.

The German government would therefore ask the Commission to take appropriate steps immediately.

Justification:

Annex I(1)(d) to the Low Voltage Directive lays down that:
'*d) The electrical equipment should be so designed and manufactured as to ensure that* ***protection against the hazards set out in points 2 and 3 of this Annex*** *is assured, providing that the equipment is used in applications for which it was made and is adequately maintained.*'
Annex I(2)(b) to the Low Voltage Directive lays down that: '***Measures of a technical nature*** *should be prescribed in accordance with point 1, in order to ensure: b)* ***temperatures****, arcs or radiation* ***which would cause a danger****, are not produced; ...*'
DIN EN 60335-2-9 does not meet these requirements of the Low Voltage Directive.
Section 11.8, table Z 101 ('Limits for temperature rises for accessible surfaces') lays down limit values for temperature rises for accessible non-functional surfaces. These limit values are based on the medical technical values taking account of the state of the art (CENELEC Guide 29, DIN EN ISO 13732-1). However, footnote b in table Z 101 allows for the possibility of **exceeding** this limit value by **up to 100 %**. The standard also lays down that: '*If, owing to the construction or restricted dimensions of the appliance, the required values cannot be met, the highest temperature rise may not be higher than twice the value laid down. In such cases, a warning notice must be attached to the relevant surface of the appliance.*' With the permitted limit value significantly exceeded, there is clearly an acute risk of burns; the priority requirement in the Low Voltage Directive for **measures of a technical nature** is ignored.

In addition, the standard is contradictory with regard to **attaching the warning notice**. Footnote b to table Z 101 states that: '*In such cases, a warning notice must be attached* ***to the relevant surface*** *of the appliance.*' However, section 7.1 of the standard states that: '*If the provisions of footnote b to table Z 101 apply, the appliance must be labelled with: the graphical symbol IEC 60417-5041; or, where appropriate, 'WARNING: hot surface'. This warning notice must be attached* ***to the surface with the highest temperature*** *and be visible during normal operation. Note Z 101: graphical symbol 5041 of IEC 60417-1 is a warning notice, and the rules laid down in ISO 3864 apply. However, colours may differ in order to ensure legibility.*' According to footnote b to table Z 101, every surface for which the limit value is exceeded must be labelled with a warning notice. However, according to Section 7.1 it is sufficient to label only the surface with the highest temperature; yet other surfaces which also significantly exceed the permitted

limit value remain without a warning notice. This poses considerable risks to the user and is in clear contradiction to the Low Voltage Directive.
Moreover, there is a distinction between graphical symbol and writing. As these are warning notices, they should be in the international warning colours regardless of whether they are in writing or pictograms, as this attracts the user's attention and does not devalue the risk. The warning colours in warning notices and pictograms must be used here to avoid misunderstanding.

Temperature rises at particular places such as ventilation grilles or the rear surfaces of appliances are simply ignored by the standard. For example, in **Section 11.Z101** the standard indicates that:
'*Temperature rises on the following surfaces are **not measured**:*
- surfaces at a distance of 25 mm around ventilation apertures;
- the rear surface of appliances which must be placed against a wall in accordance with the instructions and cannot be reached with EN 61032 probe 41.'
In the case of ventilation apertures, no distinction is made between functional or design-related apertures, so that appliances could be provided with large areas of non-functional ventilation apertures. DIN EN 60335-2-9 thus provides the possibility of circumventing compliance with temperature limit values on surfaces.
With regard to the rear surface, the standard ignores the fact that appliances can be in different places, and many modern kitchens are designed with the work surface as an island in the middle of the kitchen. It is therefore easily foreseeable that these appliances may not be (able to be) placed against a wall. There is a considerable risk of burns from not taking the rear surface into consideration.
Furthermore, **Section 11.Z102** points out that:
'*Temperature rises are **not measured** on:*
– external surfaces at a distance of 25 mm in all directions around the hot functional surface'.
The possibility of not measuring temperature rises at a distance of 25 mm around the functional surface permits the design of, for example, sandwich makers where the structural height of the lower and upper body shell is less than 25 mm. In accordance with DIN EN 60335-2-9 there would then be no limit value to comply with. Such design considerations have already been put before the German market surveillance authorities.

Conclusion:

The examples given show that standard DIN EN 60335-2-9 allows the protective aims of the Low Voltage Directive to be easily circumvented, leading to unsafe products on the market. DIN EN 60335-2-9 (edition 10/2011) does not fully meet the requirements of Directive 2006/95/EC on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits. With regard to complying with temperature limit values for accessible non-functional surfaces, it **cannot give rise to a presumption of conformity under the Low Voltage Directive.**

A warning should therefore be inserted when it is published in the Official Journal. At the same time, CENELEC should be tasked with reviewing the standard with the aim of rectifying these shortcomings.

MISSION OF NORWAY
TO THE EUROPEAN UNION

The Ambassador

Brussels, 10 July 2014

Dear Ms Piedrafita,

Please find attached a letter from the Norwegian Directorate of Civil Protection concerning formal objection to the standard EN 60335-2-9.

Yours sincerely,

Ambassador

Victoria Piedrafita
DG Enterprise and Industry
European Commission
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Enclosure: 1

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Our reference
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Your reference

File key
562

Victoria Piedrafita
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Notice - formal objection to the standard EN 60335-2-9

Please except this notice from The Directorate for Civil Protection in Norway regarding a formal objection against a harmonised standard according to article 11 in the Regulation (EU) No 1025/2012 of 25th October 2012 on European standardisation.

The Directorate has an objection to the standard EN 60335-2-9:2003 and its relevant amendments A12:2007 and A13:2010 because it does not entirely meet the safety requirements of Directive 2006/95/EC on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (LVD).

The standard gives in its section 11 "Heating" insufficient provisions regarding temperature limits of accessible non-functional surfaces. A product in accordance with this standard thus not meet the safety requirements in Annex I, point 1 letter d in conjunction with point 2, letter b of the LVD.

The Directorate kindly asks the Commission to take immediate appropriate action.

Justification for the formal objection

The EC Standardisation Mandate M 346 to the European Standards body CENELEC commits CENELEC to take action with respect to surface temperatures of accessible non-functional surfaces of electrical equipment included in the scope of LVD. The mandate gives two opportunities; either to provide a European harmonised standard or provide a guidance document defining basic requirements. CENELEC chose to provide a guidance document.

CENELEC Guide 29 for Technical Committees and manufacturers was developed in response to the EC Standardisation Mandate and should therefore be applied.

The Directorate approve that CENELEC TC 61 has acknowledged the danger regarding the surface temperature of the non-functional surface and that it has been done an effort to limit the danger.

However, an adjustment to the direction this work has taken regarding the temperature limits and the exclusions of measured areas is needed. The risk of getting burned is still present and this has to be addressed by the standard.

CENELEC TC 61 has produced two amendments to the standard to handle hot surfaces in particular; A12:2007 and A13:2010. There is a general agreement in LVD AdCo, which also was the conclusion in the LVD AdCo Joint Action 2012 report, that neither A12 nor A13 provide consumption of conformity with the safety requirements of the LVD.

The Low Voltage Directive Annex I point 1 letter d states: "The electrical equipment should be so designed and manufactured as to ensure that protection against the hazards set out in points 2 and 3 of

this Annex is assured, providing that the equipment is used in applications for which it was made and is adequately maintained". Annex I, point 2 letter b states: "Measures of a technical nature should be prescribed in accordance with point 1, in order to ensure that temperatures, arcs or radiation which would cause a danger, are not produced".

1. Exceeding temperature

The calculation and the resulting temperature limits in the standard deviate from the one described in CENELEC Guide 29. Shorter contact time and adjusting of the result up to nearest 0 or 5 K, give a temperature that is higher than the one you get from following CENELEC Guide 29.

E.g. for waffle irons with bare metal, Table Z101 in EN 60335-2-9 A12 gives 85 K + min 20 K room temperature equals a temperature limit of min 105 ° C for touchable non-functional surfaces.

Table Z101 in A13 gives 45 K + min 20 K room temperature equals a temperature limit of min 65 ° C for touchable non-functional surfaces. CENELEC Guide 29 with 4 seconds contact time (Children from 2 years to less than 6 years) gives a temperature limit of 58-59 ° C.

Table Z101 — Temperature rise limits for touchable surfaces

Surface [a]	*Temperature rise* K *Surfaces of appliances likely to be touched* [b]
Bare metal	45
Coated metal [d]	55
Glass and ceramic	60
Plastic and plastic coating > 0,3 mm [c]	65

[a] In addition to surfaces described in 11.Z101 to 11.Z105 the following surfaces or elements shall not be taken into consideration:

- hot functional surface: surface which is intentionally heated by an internal heat source and which has to be hot to carry out the function for which the equipment is intended to be used;
- handles or control knobs including keypads, keyboards and the like are covered by 11.6 of Part 1;
- surfaces of heated cavities or surfaces adjacent to the functional areas and which have the same thermal properties.

[b] When, due to the construction or dimensional limitations of the appliance, the required values cannot be met, the maximum temperature rise shall not be higher than twice the values indicated. In such cases, a warning shall be marked on the relevant surface of the appliance.

[c] The temperature rise limit applies also for plastic material having a metal finish of thickness less than 0,1 mm.

[d] When the thickness of the plastic coating does not exceed 0,3 mm, the temperature rise limits of the coated metal or of glass and ceramic material apply.

[e] Metal is considered coated when a coating having a minimum thickness of 80 µm made by enamel or non substantially plastic coating is used.

Table Z101 in A13

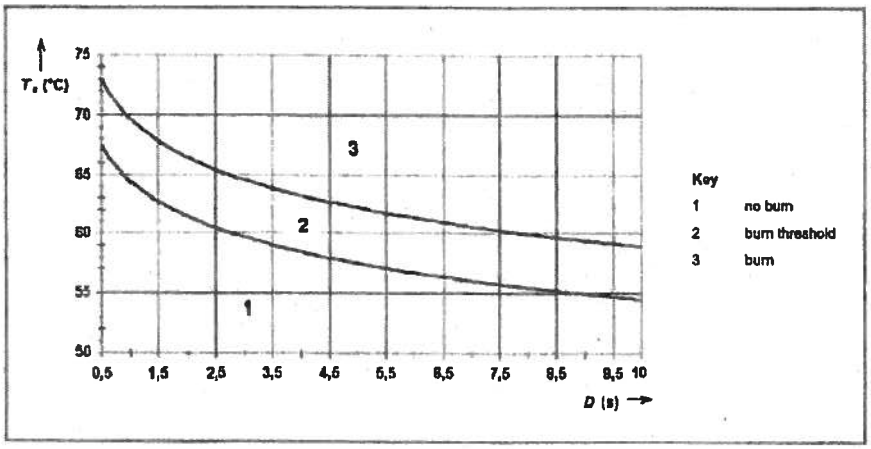


Figure A.2 – Burn threshold spread when the skin is in contact with a hot smooth surface made of bare (uncoated) metal

The standard predicts that the appliance is not used by children under 8 year without supervision. Supervision does not prevent all accidental contacts with non-functional surfaces and therefore the table Z101 should follow the limits in CENELEC Guide 29 and take the same premises for calculating the limits.

2. Doubling of accepted temperature limit

From the conclusion in the LVD AdCo Joint Action 2012 report:

> *A13 also allows doubling the temperature rise on surfaces which due to size and design cannot meet the temperature limits if the product is equipped with a warning label.*

This formulation in note b) to table Z101 is interpreted by some manufacturers that if you put a warning label on a product then they are allowed to double the temperature limits of the entire product. See figure 11 and figure 12 from the JA 2012 report.

/A13 Temperature	
Temperature OK or not measured	
Temperature exceeded	<10K
Temperature exceeded	<20K
Temperature exceeded	<30K
Temperature exceeded	<50K
Temperature exceeded	>=50K
Max. temperature exceeded	193K

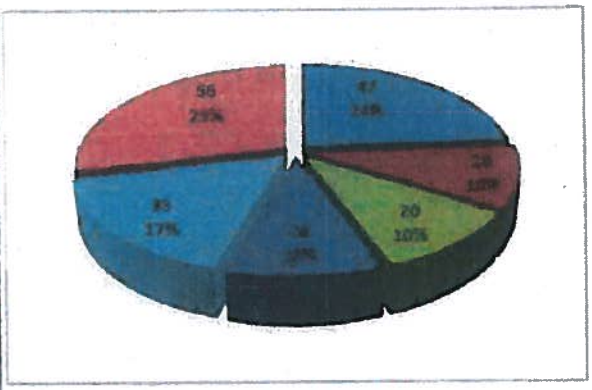


Figure 11 /A13 - all products

/A13 Double temperature allowed Temperature rise	
Temperature OK or not measured	
Temperature exceeded	<10K
Temperature exceeded	<20K
Temperature exceeded	<30K
Temperature exceeded	<50K
Temperature exceeded	>=50K
Max. temperature exceeded	138K

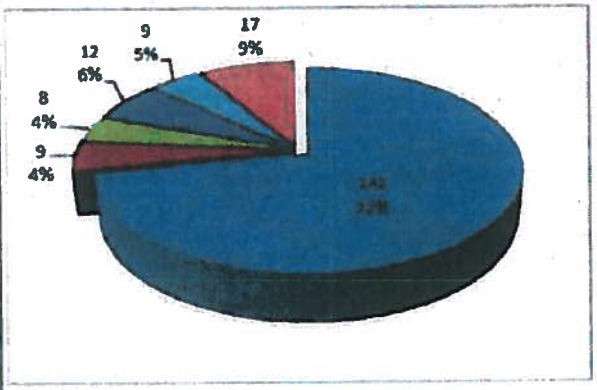


Figure 12 /A13 (Double temperature allowed) - all products

The Directorate considers this not to be in accordance with the safety requirements in LVD since the consideration for the consumer is more important than easy solutions for the manufacturers.

3. Exclusions of measured surface

From the conclusion in the LVD AdCo Joint Action 2012 report:

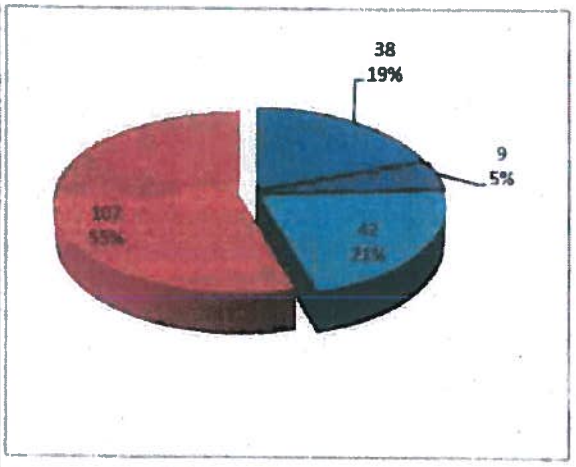
> *The measurements also show that the areas of the products, which according to the standard are exempted from measuring, have very high temperatures, and if these areas were not exempted from measuring it would mean that some of the products could not meet the standards.*

The exclusions given in the standard, 11.Z101 – 11.Z105, e.g.

> *Temperature rises are not measured on*
> - *surfaces within 25 mm in all direction of the hot functional surface,*
> - *surfaces within 25 mm from the ventilation openings,*

will in worst case exclude the whole of the accessible surface of the appliance from measuring the surface temperature. See figure 14 from the JA 2012 report.

Areas where the standard has required exclusion of measurement (NM)	
Temperature OK or not measured	
Temperature exceeded	<30K
Temperature exceeded	<50K
Temperature exceeded	<70K
Temperature exceeded	<100K
Temperature exceeded	>=100K
Max. measured temperature rise NM	400K



Figur 14 "No Measurement" - all products

The Directorate considers this not to be in accordance with the safety requirements in LVD since the consideration for the consumer is more important than easy solutions for the manufacturers.

4. Exclusion of adjacent surface

Note a) to table Z101

> *In addition to surfaces described in 11.Z101 to 11.Z105 the following surfaces or elements shall not be taken into consideration:*
> - *surfaces of heated cavities or surfaces adjacent to the functional areas and which have the same thermal properties*

give the possibility to make the complete surface of the appliance as an adjacent part and again it can in its whole be excluded from measuring the surface temperature.

The Directorate considers this not to be in accordance with the safety requirements in LVD since the consideration for the consumer is more important than easy solutions for the manufacturers.

Conclusion

The above mentioned examples show that the risk of burning is still present. The standard does not fully take into account the safety requirements of the LVD. The temperature limits regarding temperatures of accessible non-functional surfaces do not give the presumption of conformity to the LVD.

The Directorate suggests that the former note, *"EN 60335-2-9:2003 covers the safety objectives of directive 2006/95/EC only if, in conjunction, Commission Opinion 2000/C 104/07 is taken into account"*, stated in the earlier editions of the Official Journal is reinstated, in a way so that it include all of the amendments for EN 60335-2-9 and that the Commission Opinion 2000/C 104/07 of 30th March 2000 is reconfirmed.

At the same time CENELEC should be instructed to revise the standard, with the aim of correcting this situation.

Yours faithfully
Norwegian Directorate for Civil Protection
Electrical [illegible]

[illegible]
Director of Department

Bjørn Nyrud
Head of unit

Copy:
Justis- og beredskapsdepartementet Postboks 8005 Dep 0030 Oslo

Notice – formal objection to the standard EN 60335-2-9

Please except this notice from The Directorate for Civil Protection in Norway regarding a formal objection against a harmonised standard according to article 11 in the Regulation (EU) No 1025/2012 of 25th October 2012 on European standardisation.

The Directorate has an objection to the standard EN 60335-2-9:2003 and its relevant amendments A12:2007 and A13:2010 because it does not entirely meet the safety requirements of Directive 2006/95/EC on the harmonisation of the laws of Member States relating to electrical equipment designed for use within certain voltage limits (LVD).

The standard gives in its section 11 "Heating" insufficient provisions regarding temperature limits of accessible non-functional surfaces. A product in accordance with this standard thus not meet the safety requirements in Annex I, point 1 letter d in conjunction with point 2, letter b of the LVD.

The Directorate kindly asks the Commission to take immediate appropriate action.

Justification for the formal objection

The EC Standardisation Mandate M 346 to the European Standards body CENELEC commits CENELEC to take action with respect to surface temperatures of accessible non-functional surfaces of electrical equipment included in the scope of LVD. The mandate gives two opportunities; either to provide a European harmonised standard or provide a guidance document defining basic requirements. CENELEC chose to provide a guidance document.

CENELEC Guide 29 for Technical Committees and manufacturers was developed in response to the EC Standardisation Mandate and should therefore be applied.

The Directorate approve that CENELEC TC 61 has acknowledged the danger regarding the surface temperature of the non-functional surface and that it has been done an effort to limit the danger.

However, an adjustment to the direction this work has taken regarding the temperature limits and the exclusions of measured areas is needed. The risk of getting burned is still present and this has to be addressed by the standard.

CENELEC TC 61 has produced two amendments to the standard to handle hot surfaces in particular; A12:2007 and A13:2010. There is a general agreement in LVD AdCo, which also was the conclusion in the LVD AdCo Joint Action 2012 report, that neither A12 nor A13 provide consumption of conformity with the safety requirements of the LVD.

The Low Voltage Directive Annex I point 1 letter d states: "The electrical equipment should be so designed and manufactured as to ensure that protection against the hazards set out in points 2 and 3 of this Annex is assured, providing that the equipment is used in applications for which it was made and is adequately maintained". Annex I, point 2 letter b states: "Measures of a technical nature should be prescribed in accordance with point 1, in order to ensure that temperatures, arcs or radiation which would cause a danger, are not produced".

1. Exceeding temperature

The calculation and the resulting temperature limits in the standard deviate from the one described in CENELEC Guide 29. Shorter contact time and adjusting of the result up to nearest 0 or 5 K, give a temperature that is higher than the one you get from following CENELEC Guide 29.

E.g. for waffle irons with bare metal, Table Z101 in EN 60335-2-9 A12 gives 85 K + min 20 K room temperature equals a temperature limit of min 105 ° C for touchable non-functional surfaces.

Table Z101 in A13 gives 45 K + min 20 K room temperature equals a temperature limit of min 65 ° C for touchable non-functional surfaces. CENELEC Guide 29 with 4 seconds contact time (Children from 2 years to less than 6 years) gives a temperature limit of 58-59 ° C.

Table Z101 — Temperature rise limits for touchable surfaces

Surface[a]	*Temperature rise* *K*
	Surfaces of appliances likely to be touched[b]
Bare metal	*45*
Coated metal[e]	*55*
Glass and ceramic	*60*
Plastic and plastic coating > 0,3 mm[c]	*65*

[a] In addition to surfaces described in 11.Z101 to 11.Z105 the following surfaces or elements shall not be taken into consideration:

- hot functional surface: surface which is intentionally heated by an internal heat source and which has to be hot to carry out the function for which the equipment is intended to be used;
- handles or control knobs including keypads, keyboards and the like are covered by 11.8 of Part 1;
- surfaces of heated cavities or surfaces adjacent to the functional areas and which have the same thermal properties.

[b] When, due to the construction or dimensional limitations of the appliance, the required values cannot be met, the maximum temperature rise shall not be higher than twice the values indicated. In such cases, a warning shall be marked on the relevant surface of the appliance.

[c] The temperature rise limit applies also for plastic material having a metal finish of thickness less than 0,1 mm.

[d] When the thickness of the plastic coating does not exceed 0,3 mm, the temperature rise limits of the coated metal or of glass and ceramic material apply.

[e] Metal is considered coated when a coating having a minimum thickness of 80 µm made by enamel or non substantially plastic coating is used.

Table Z101 in A13

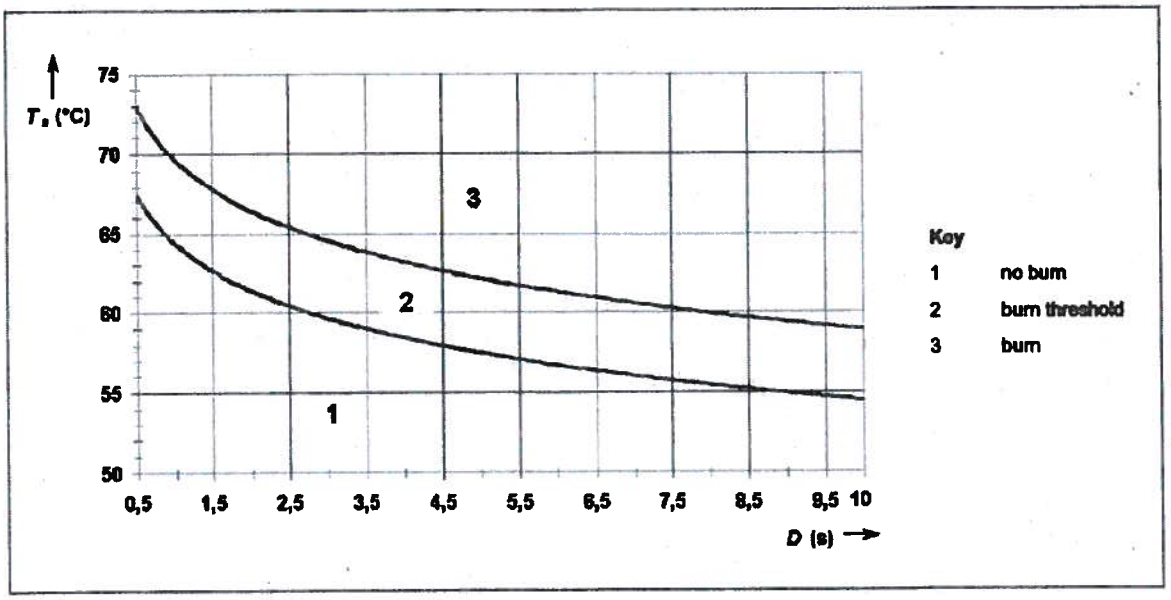


Figure A.2 – Burn threshold spread when the skin is in contact with a hot smooth surface made of bare (uncoated) metal

The standard predicts that the appliance is not used by children under 8 year without supervision. Supervision does not prevent all accidental contacts with non-functional surfaces and therefore the table Z101 should follow the limits in CENELEC Guide 29 and take the same premises for calculating the limits.

2. Doubling of accepted temperature limit

From the conclusion in the LVD AdCo Joint Action 2012 report:

> *A13 also allows doubling the temperature rise on surfaces which due to size and design cannot meet the temperature limits if the product is equipped with a warning label.*

This formulation in note b) to table Z101 is interpreted by some manufacturers that if you put a warning label on a product then they are allowed to double the temperature limits of the entire product. See figure 11 and figure 12 from the JA 2012 report.

/A13 Temperature	
Temperature OK or not measured	
Temperature exceeded	<10K
Temperature exceeded	<20K
Temperature exceeded	<30K
Temperature exceeded	<50K
Temperature exceeded	>=50K
Max. temperature exceeded	193K

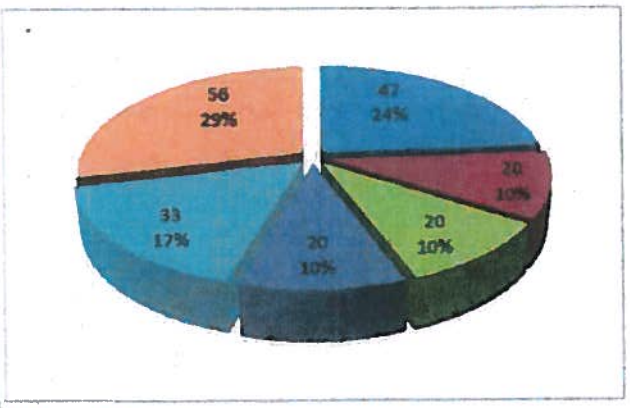


Figure 11 /A13 - all products

/A13 Double temperature allowed Temperature rise	
Temperature OK or not measured	
Temperature exceeded	<10K
Temperature exceeded	<20K
Temperature exceeded	<30K
Temperature exceeded	<50K
Temperature exceeded	>=50K
Max. temperature exceeded	138K

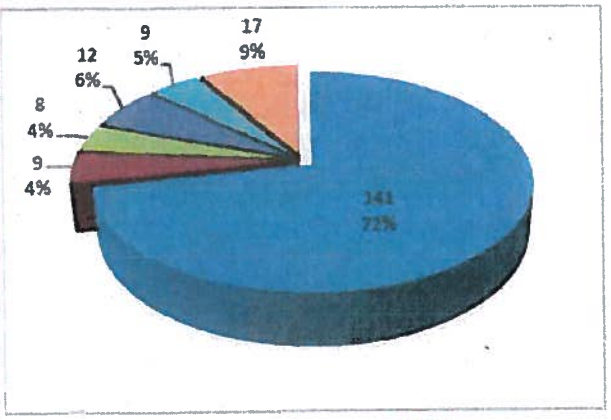


Figure 12 /A13 (Double temperature allowed) - all products

The Directorate considers this not to be in accordance with the safety requirements in LVD since the consideration for the consumer is more important than easy solutions for the manufacturers.

3. Exclusions of measured surface

From the conclusion in the LVD AdCo Joint Action 2012 report:

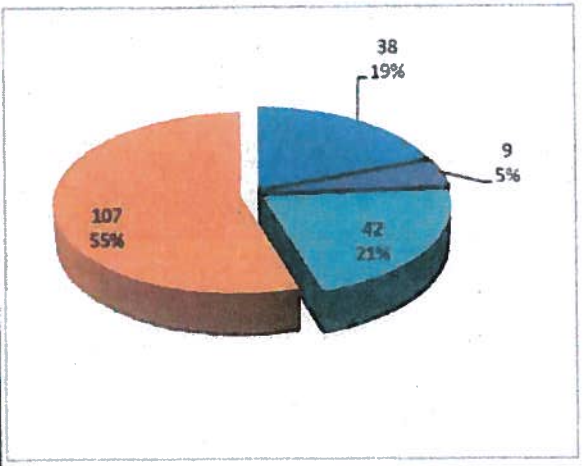
> *The measurements also show that the areas of the products, which according to the standard are exempted from measuring, have very high temperatures, and if these areas were not exempted from measuring it would mean that some of the products could not meet the standards.*

The exclusions given in the standard, 11.Z101 – 11.Z105, e.g.

> *Temperature rises are not measured on*
> • *surfaces within 25 mm in all direction of the hot functional surface,*
> • *surfaces within 25 mm from the ventilation openings,*

will in worst case exclude the whole of the accessible surface of the appliance from measuring the surface temperature. See figure 14 from the JA 2012 report.

Areas where the standard has required exclusion of measurement (NM)	
Temperature OK or not measured	
Temperature exceeded	<30K
Temperature exceeded	<50K
Temperature exceeded	<70K
Temperature exceeded	<100K
Temperature exceeded	>=100K
Max. measured temperature rise NM	400K



Figur 14 "No Measurement" - all products

The Directorate considers this not to be in accordance with the safety requirements in LVD since the consideration for the consumer is more important than easy solutions for the manufacturers.

4. Exclusion of adjacent surface
Note a) to table Z101

> *In addition to surfaces described in 11.Z101 to 11.Z105 the following surfaces or elements shall not be taken into consideration:*
> • *surfaces of heated cavities or surfaces adjacent to the functional areas and which have the same thermal properties*

give the possibility to make the complete surface of the appliance as an adjacent part and again it can in its whole be excluded from measuring the surface temperature.

The Directorate considers this not to be in accordance with the safety requirements in LVD since the consideration for the consumer is more important than easy solutions for the manufacturers.

Conclusion

The above mentioned examples show that the risk of burning is still present. The standard does not fully take into account the safety requirements of the LVD. The temperature limits regarding temperatures of accessible non-functional surfaces do not give the presumption of conformity to the LVD.

The Directorate suggests that the former note, *"EN 60335-2-9:2003 covers the safety objectives of directive 2006/95/EC only if, in conjunction, Commission Opinion 2000/C 104/07 is taken into account"*, stated in the earlier editions of the Official Journal is reinstated, in a way so that it include all of the amendments for EN 60335-2-9 and that the Commission Opinion 2000/C 104/07 of 30th March 2000 is reconfirmed.

At the same time CENELEC should be instructed to revise the standard, with the aim of correcting this situation.