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Transformatorer, strömförsörjningsdon och liknande – Säkerhet –

Del 2-7: Särskilda fordringar på transformatorer och strömförsörjningsenheter för leksaker

*Safety of power transformers, power supplies, reactors and similar products –
Part 2-7: Particular requirements for transformers and power supplies for toys*

Som svensk standard gäller europastandarden EN 61558-2-7:2007. Den svenska standarden innehåller den officiella engelska språkversionen av EN 61558-2-7:2007.

Nationellt förord

Europastandarden EN 61558-2-7:2007

består av:

- **europastandardens ikraftsättningsdokument**, utarbetat inom CENELEC
- **IEC 61558-2-7, Second edition, 2007 - Safety of power transformers, power supplies, reactors and similar products - Part 2-7: Particular requirements for transformers and power supplies for toys**

utarbetad inom International Electrotechnical Commission, IEC.

Standarden skall användas tillsammans med SS-EN 61558-1, utgåva 2, 2006.

Tidigare fastställd svensk standard SS-EN 61558-2-7, utgåva 1, 1998 och SS-EN 61558-2-7/A11, utgåva 1, 2002, gäller ej fr o m 2010-09-01.

Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a säkerhet, prestanda, dokumentation, utförande och skötsel av elprodukter, elanläggningar och metoder. Genom att utforma sådana standarder blir säkerhetskraven tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

Många standarder inom elområdet beskriver tekniska lösningar och metoder som åstadkommer den elsäkerhet som föreskrivs av svenska myndigheter och av EU.

SEK är Sveriges röst i standardiseringsarbetet inom elområdet

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SEK samordnar svenska intressenters medverkan i SEKs tekniska kommittéer och stödjer svenska experters medverkan i internationella och europeiska projekt.

Stora delar av arbetet sker internationellt

Utformningen av standarder sker i allt väsentligt i internationellt och europeiskt samarbete. SEK är svensk nationalkommitté av International Electrotechnical Commission (IEC) och Comité Européen de Normalisation Electrotechnique (CENELEC).

Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

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English version

**Safety of power transformers, power supplies,
reactors and similar products -
Part 2-7: Particular requirements and tests
for transformers and power supplies for toys
(IEC 61558-2-7:2007, modified)**

Sécurité des transformateurs,
alimentations, bobines d'inductance
et produits analogues -
Partie 2-7: Règles particulières
et essais pour transformateurs
et alimentations pour jouets
(CEI 61558-2-7:2007, modifiée)

Sicherheit von Transformatoren,
Netzgeräten, Drosseln und dergleichen -
Teil 2-7: Besondere Anforderungen
und Prüfungen an Transformatoren
für Spielzeuge
(IEC 61558-2-7:2007, modifiziert)

This European Standard was approved by CENELEC on 2007-09-01. 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 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.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

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

The text of document 96/254/FDIS, future edition 2 of IEC 61558-2-7, prepared by IEC TC 96, Transformers, reactors, power supply units and similar products for low voltage up to 1 100 V, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 61558-2-7 on 2007-09-01 with inclusion of a common modification intended to align this European Standard with EN 62115:2005.

This European Standard supersedes EN 61558-2-7:1997 + A11:2002.

The main changes consist of updating EN 61558-2-7:1997, in accordance with EN 61558-1:2005, and adding power supplies to the scope.

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) | 2008-06-01 |
| – latest date by which the national standards conflicting with the EN have to be withdrawn | (dow) | 2010-09-01 |

This Part 2-7 is intended to be used in conjunction with EN 61558-1:2005.

This Part 2-7 supplements or modifies the corresponding clauses in EN 61558-1, so as to convert that publication into the European Standard: *Particular requirements and tests for transformers and power supplies for toys*.

When a particular subclause of Part 1 is not mentioned in this Part 2-7, that subclause applies as far as is reasonable. Where this standard states "addition", "modification" or "replacement", the relevant text of Part 1 is to be adapted accordingly.

In this Part 2-7, the following print types are used:

- requirements proper: in roman type;
- *test specifications: in italic type;*
- explanatory matter: in smaller roman type.

In the text of this standard, the words in **bold** are defined in Clause 3.

Subclauses additional to those in Part 1 are numbered starting from 101; supplementary annexes are entitled AA, BB, etc.

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 61558-2-7:2007 was approved by CENELEC as a European Standard with agreed common modifications as given below.

COMMON MODIFICATIONS

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

Addition to Annex ZA of EN 61558-1:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60227-1	– ¹⁾	Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V - Part 1: General requirements	–	–
IEC 60245-1	– ²⁾	Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 1: General requirements	–	–

¹⁾ Undated reference. HD 21.1 S4:2002, *Cables of rated voltages up to and including 450/750 V and having thermoplastic insulation - Part 1: General requirements*, which is related to, but not directly equivalent with, IEC 60227-1, applies instead.

²⁾ Undated reference. HD 22.1 S4:2002, *Cables of rated voltages up to and including 450/750 V and having cross-linked insulation - Part 1: General requirements*, which is related to, but not directly equivalent with, IEC 60245-1, applies instead.

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SAFETY OF POWER TRANSFORMERS, POWER SUPPLIES REACTORS AND SIMILAR PRODUCTS –

Part 2-7: Particular requirements and tests for transformers and power supplies for toys

1 Scope

Replacement:

This part of IEC 61558 deals with safety aspects of **transformers for toys** and **power supplies** incorporating **transformers for toys** such as electrical, thermal and mechanical safety.

This Part 2-7 is applicable to **transformers for toys** and **power supplies** incorporating both **transformers for toys** and **electronic circuits**. This Part 2-7 is not applicable to external circuits and their components intended to be connected to the input terminals, output terminals or socket-outlets of the **transformers** and **power supplies**.

This Part 2-7 applies to **stationary** and **portable**, single-phase, air-cooled (natural or forced), **transformers for toys** and **power supplies** incorporating **transformers for toys**, having a **rated supply voltage** not exceeding 250 V a.c., a **rated supply and internal operating frequency** not exceeding 500 Hz, a **rated output** not exceeding 200 VA and a **rated output current** not exceeding 10 A.

This Part 2-7 is applicable to **independent transformers** and **transformers for specific use**.

This Part 2-7 is applicable to **dry-type transformers for toys**. The windings may be encapsulated or non-encapsulated.

The **no-load output voltage** does not exceed 33 V a.c. for **transformers for toys** and **power supplies** incorporating **transformers for toys**, or 46 V ripple-free d.c. for **power supplies** incorporating **transformers for toys**, and the **rated output voltage** does not exceed 24 V a.c. for **transformers** and **power supplies**, or 33 V ripple-free d.c. for **power supplies**.

In general, this Part 2-7 does not take into consideration children playing with the **transformers for toys** and **power supplies** incorporating **transformers for toys**.

NOTE 1 Attention is drawn to the following:

- for **transformers for toys** and **power supplies** incorporating **transformers for toys** intended to be used in vehicles, on board ships, and aircraft, additional requirements (from other applicable standards, national rules, etc.) may be necessary;
- measures to protect the **enclosure** and the components inside the enclosure against external influences such as fungus, vermin, termites, solar-radiation, and icing should also be considered;
- the different conditions for transportation, storage, and operation of the **transformers for toys** and **power supplies** incorporating **transformers for toys** should also be considered;

- additional requirements in accordance with other appropriate standards and national rules may be applicable to **transformers for toys** and **power supplies** incorporating **transformers for toys** intended for use in special environments, such as tropical environments.

NOTE 2 Future technological development of **transformers** and **power supplies** may necessitate a need to increase the upper limit of the frequencies; until then, this Part 2-7 may be used as a guidance document.

2 Normative references

This clause of Part 1 is applicable except as follows:

Addition:

IEC 60227-1, *Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 1: General requirements*

IEC 60245-1, *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 1: General requirements*

