SVENSK STANDARD SS-EN 62660-2

Fastställd	Utgåva	Sida	Ansvarig kommitté
2011-12-07	1	1 (1+22)	SEK TK 21

Laddningsbara batterier – Litium-jonceller för elfordon – Del 2: Provning av funktionssäkerhet och tålighet mot felaktig hantering

Secondary lithium-ion cells for the propulsion of electric road vehicles – Part 2: Reliability and abuse testing

Som svensk standard gäller europastandarden EN 62660-2:2011. Den svenska standarden innehåller den officiella engelska språkversionen av EN 62660-2:2011.

Nationellt förord

Europastandarden EN 62660-2:2011

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC

– **IEC 62660-2, First edition, 2010 - Secondary lithium-ion cells for the propulsion of electric road vehicles - Part 2: Reliability and abuse testing**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 29.220.20, 43.120

Denna standard är fastställd av SEK Svensk Elstandard,
som också kan lämna upplysningar om **sakinnehållet** i standarden.
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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.

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

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62660-2

July 2011

ICS 29.220.20; 43.120

English version

Secondary lithium-ion cells for the propulsion of electric road vehicles - Part 2: Reliability and abuse testing

(IEC 62660-2:2010)

Eléments d'accumulateurs lithium-ion pour la propulsion des véhicules routiers - Partie 2: Essais de fiabilité et de traitement abusif
(CEI 62660-2:2010)

Lithium-Ionen-Sekundärzellen für den Antrieb von Elektrostraßenfahrzeugen - Teil 2: Zuverlässigkeits- und Missbrauchsprüfung
(IEC 62660-2:2010)

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Ref. No. EN 62660-2:2011 E

SEK Svensk Elstandard

Foreword

The text of document 21/727/FDIS, future edition 1 of IEC 62660-2, prepared by IEC TC 21, Secondary cells and batteries, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 62660-2 on 2011-01-20.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN and CENELEC shall not be held responsible for identifying any or all such patent rights.

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)	2011-10-20
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2014-01-20

Annex ZA has been added by CENELEC.

ANM – (sv anm) Uppgifter om andra, felaktiga datum har tidigare cirkulerat i CENELEC.

Endorsement notice

The text of the International Standard IEC 62660-2:2010 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated:

IEC 62660-1	NOTE	Harmonized as EN 62660-1.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Publication	Year	Title	EN/HD	Year
IEC 60050-482	-	International Electrotechnical Vocabulary - Part 482: Primary and secondary cells and batteries	-	-
IEC 60068-2-64	-	Environmental testing - Part 2-64: Tests - Test Fh: Vibration, broadband random and guidance	EN 60068-2-64	-
IEC 61434	-	Secondary cells and batteries containing alkaline or other non-acid electrolytes - Guide to the designation of current in alkaline secondary cell and battery standards	EN 61434	-
ISO 16750-3	-	Road vehicles - Environmental conditions and testing for electrical and electronic equipment - Part 3: Mechanical loads	-	-
ISO 16750-4	-	Road vehicles - Environmental conditions and testing for electrical and electronic equipment - Part 4: Climatic loads	-	-

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INTRODUCTION

The commercialisation of electric road vehicles including battery, hybrid and plug-in hybrid electric vehicles has been accelerated in the global market, responding to the global concerns on CO_2 reduction and energy security. This, in turn, has led to rapidly increasing demand for high-power and high-energy density traction batteries. Lithium-ion batteries are estimated to be one of the most promising secondary batteries for the propulsion of electric vehicles. In the light of rapidly diffusing hybrid electric vehicles and emerging battery and plug-in hybrid electric vehicles, a standard method for testing reliability and abuse requirements of lithium-ion batteries is indispensable for securing a basic level of safety and obtaining essential data for the design of vehicle systems and battery packs.

This standard is to specify reliability and abuse testing for automobile traction lithium-ion cells that basically differ from the other cells including those for portable and stationary applications specified by the other IEC standards. For automobile application, it is important to note the usage specificity; i.e. the designing diversity of automobile battery packs and systems, and specific requirements for cells and batteries corresponding to each of such designs. Based on these facts, the purpose of this standard is to provide a basic test methodology with general versatility, which serves a function in common primary testing of lithium ion cells to be used in a variety of battery systems. For the requirements for cells differ depending on the system designs of battery pack or vehicle, and should be evaluated by the users, this standard does not provide any pass-fail criteria for the tests, but specifies a standard classification of descriptions for test results.

This standard is associated with ISO 12405-1-and ISO 12405-2[1].

IEC 62660-1 specifies the performance testing of lithium-ion cells for electric vehicle application.

1 Under consideration.

SECONDARY LITHIUM-ION CELLS FOR THE PROPULSION OF ELECTRIC ROAD VEHICLES –

Part 2: Reliability and abuse testing

1 Scope

This part of IEC 62660 specifies test procedures to observe the reliability and abuse behaviour of secondary lithium-ion cells used for propulsion of electric vehicles including battery electric vehicles (BEV) and hybrid electric vehicles (HEV).

The objective of this standard is to specify the standard test procedures and conditions for basic characteristics of lithium-ion cells for use in propulsion of battery and hybrid electric vehicles. The tests are indispensable for obtaining essential data on reliability and abuse behaviour of lithium-ion cells for use in various designs of battery systems and battery packs.

This standard provides standard classification of description of test results to be used for the design of battery systems or battery packs.

NOTE 1 The reliability and abuse tests for the electrically connected lithium-ion cells may be performed with reference to this standard.

NOTE 2 The test specification for lithium-ion battery packs and systems is defined in ISO 12405-1 and ISO 12405-2 (under consideration).

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.

IEC 60050-482, *International Electrotechnical Vocabulary – Part 482: Primary and secondary cells and batteries*

IEC 60068-2-64, *Environmental testing – Part 2-64: Tests – Test Fh: Vibration, broadband random and guidance*

IEC 61434, *Secondary cells and batteries containing alkaline or other non-acid electrolytes – Guide to the designation of current in alkaline secondary cell and battery standards*

ISO 16750-3, *Road vehicles – Environmental conditions and testing for electrical and electronic equipment – Part 3: Mechanical loads*

ISO 16750-4, *Road vehicles – Environmental conditions and testing for electrical and electronic equipment – Part 4: Climatic loads*