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Solceller – Del 9: Prestandafordringar på solsimulatorer

Photovoltaic devices –

Part 9: Solar simulator performance requirements

Som svensk standard gäller europastandarden EN 60904-9:2007. Den svenska standarden innehåller den officiella engelska språkversionen av EN 60904-9:2007.

Nationellt förord

Europastandarden EN 60904-9:2007

består av:

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- **IEC 60904-9, Second edition, 2007 - Photovoltaic devices - Part 9: Solar simulator performance requirements**

utarbetad inom International Electrotechnical Commission, IEC.

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**Photovoltaic devices -
Part 9: Solar simulator performance requirements
(IEC 60904-9:2007)**

Dispositifs photovoltaïques -
Partie 9: Exigences pour le
fonctionnement des simulateurs solaires
(CEI 60904-9:2007)

Photovoltaische Einrichtungen -
Teil 9: Leistungsanforderungen
an Sonnensimulatoren
(IEC 60904-9:2007)

This European Standard was approved by CENELEC on 2007-11-01. 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

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Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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Foreword

The text of document 82/488/FDIS, future edition 2 of IEC 60904-9, prepared by IEC TC 82, Solar photovoltaic energy systems, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60904-9 on 2007-11-01.

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) 2008-08-01
- latest date by which the national standards conflicting
with the EN have to be withdrawn (dow) 2010-11-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60904-9:2007 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60904-1	NOTE Harmonized as EN 60904-1:2006 (not modified).
IEC 60904-2	NOTE Harmonized as EN 60904-2:2007 (not modified).
IEC 60904-7	NOTE Harmonized as EN 60904-7:1998 (not modified).
IEC 60904-8	NOTE Harmonized as EN 60904-8:1998 (not modified).
IEC 60904-10	NOTE Harmonized as EN 60904-10:1998 (not modified).
IEC 61215	NOTE Harmonized as EN 61215:2005 (not modified).
IEC 61646	NOTE Harmonized as EN 61646:1997 (not modified).

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.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60904-3	- ¹⁾	Photovoltaic devices - Part 3: Measurement principles for terrestrial photovoltaic (PV) solar devices with reference spectral irradiance data	EN 60904-3	1993 ²⁾

¹⁾ Undated reference.

²⁾ Valid edition at date of issue.

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PHOTOVOLTAIC DEVICES –

Part 9: Solar simulator performance requirements

1 Scope and object

IEC standards for photovoltaic devices require the use of specific classes of solar simulators deemed appropriate for specific tests. Solar simulators can be either used for performance measurements of PV devices or endurance irradiation tests. This part of IEC 60904 provides the definitions of and means for determining simulator classifications. In the case of PV performance measurements, using a solar simulator of high class does not eliminate the need to quantify the influence of the simulator on the measurement by making spectral mismatch corrections and analyzing the influences of uniformity of irradiance of the test plane and temporal stability on that measurement. Test reports for devices tested with the simulator shall list the class of simulator used for the measurement and the method used to quantify the simulator's effect on the results.

The purpose of this standard is to define classifications of solar simulators for use in indoor measurements of terrestrial photovoltaic devices, solar simulators are classified as A, B or C for each of the three categories based on criteria of spectral distribution match, irradiance non-uniformity on the test plane and temporal instability. This standard provides the required methodologies for determining the rating achieved by a solar simulator in each of the categories.

This standard is referred to by other IEC standards in which class requirements are laid down for the use of solar simulators. Solar simulators for irradiance exposure should at least fulfil class CCC requirements where the third letter is related to long term instability. In the case of use for PV performance measurements, classification CBA is demanded where the third letter is related to the short term instability.

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 60904-3: *Photovoltaic devices – Part 3: Measurement principles for terrestrial photovoltaic (PV) solar devices with reference spectral irradiance data*

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