SLOVENSKI STANDARD
SIST EN IEC 62759-1:2022

01-november-2022

Nadomešča:
SIST EN 62759-1:2015

Fotonapetostni (PV) moduli - Preskušanje prevoza - 1. del: Prevoz in dobava pakiranih enot fotonapetostnih modulov

Photovoltaic (PV) modules - Transportation testing - Part 1: Transportation and shipping of module package units

Photovoltaik(PV)-Module - Transportprüfung - Teil 1: Transport und Versand von PV-Modulpaketen

Modules photovoltaïques (PV) - Essais de transport - Partie 1: Transport et expédition d'unités d'emballage de modules

Ta slovenski standard je istoveten z: **EN IEC 62759-1:2022**

ICS:

03.220.99	Druge oblike transporta	Other forms of transport
27.160	Sončna energija	Solar energy engineering

SIST EN IEC 62759-1:2022 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN IEC 62759-1

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English Version

Photovoltaic (PV) modules - Transportation testing - Part 1: Transportation and shipping of module package units (IEC 62759-1:2022)

Modules photovoltaïques (PV) - Essais de transport - Partie 1: Transport et expédition d'unités d'emballage de modules (IEC 62759-1:2022)

Photovoltaik (PV)-Module - Transportprüfung - Teil 1: Transport und Versand von PV-Modulpaketen (IEC 62759-1:2022)

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

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 82/2029/FDIS, future edition 2 of IEC 62759-1, prepared by IEC/TC 82 "Solar photovoltaic energy systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62759-1:2022.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2023-05-11
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2025-08-11

This document supersedes EN 62759-1:2015 and all of its amendments and corrigenda (if any).

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

Any feedback and questions on this document should be directed to the users' national committee. A complete listing of these bodies can be found on the CENELEC website.

Endorsement notice

The text of the International Standard IEC 62759-1:2022 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 60068-2-64 NOTE Harmonized as EN 60068-2-64

ISO 13355:2016 NOTE Harmonized as EN ISO 13355:2016 (not modified)

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60068-2-27	2008	Environmental testing - Part 2-27: Tests - Test Ea and guidance: Shock	EN 60068-2-27	2009
IEC/TS 60904-13	-	Photovoltaic devices - Part 13: Electroluminescence of photovoltaic modules	-	-
IEC 61215-1	2021	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1: Test requirements	EN IEC 61215-1	2021
IEC 61215-2	2021	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 2: Test procedures	EN IEC 61215-2	2021
IEC 61730-2	2022	Photovoltaic (PV) module safety qualification - Part 2: Requirements for testing	EN IEC 61730-2	—[1]
IEC/TS 61836	-	Solar photovoltaic energy systems - Terms, definitions and symbols	CLC/TS 61836	-
IEC/TS 62782	2016	Photovoltaic (PV) modules - Cyclic (dynamic) mechanical load testing	-	-
ASTM D 880-92	-	Standard Test Method for Impact Testing for Shipping Containers and Systems	-	-
ASTM D 4169-16	-	Standard Practice for Performance Testing of Shipping Containers and Systems	-	-
ASTM D 4728	2006	Standard Test Method for Random Vibration Testing of Shipping Containers	-	-
ASTM D 5277	-	Standard Test Method for Performing Programmed Horizontal Impacts Using an Inclined Impact Tester	-	-
ISTA 3E	2017	Unitized Loads of Same Product	-	-

[1] Under preparation. Stage at the time of publication: prEN IEC 61730-2:2022.

IEC 62759-1

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Photovoltaic (PV) modules – Transportation testing – Part 1: Transportation and shipping of module package units

Modules photovoltaïques (PV) – Essais de transport – Partie 1: Transport et expédition d'unités d'emballage de modules

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PHOTOVOLTAIC (PV) MODULES – TRANSPORTATION TESTING –

Part 1: Transportation and shipping of module package units

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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IEC 62759-1 has been prepared by IEC technical committee 82: Solar photovoltaic energy systems. It is an International Standard.

This second edition cancels and replaces the first edition published in 2015. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) Cancellation of tests and references to relevant standards for CPV.
b) Deletion of different classes for PV modules.
c) Deletion of requirement for minimum 10 modules per shipping unit.
d) Implementation of stabilization as intermediate measurement.
e) Addition of pass/fail criteria.
f) Change of requirements for retesting.

g) Change of number of cycles in dynamic mechanical load test. See also clause 6.4.2.1.

The text of this International Standard is based on the following documents:

Draft	Report on voting
82/2029/FDIS	82/2052/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

A list of all parts in the IEC 62759 series, published under the general title *Photovoltaic (PV) modules – Transportation testing*, can be found on the IEC website.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

PHOTOVOLTAIC (PV) MODULES – TRANSPORTATION TESTING –

Part 1: Transportation and shipping of module package units

1 Scope

Photovoltaic (PV) modules are electrical devices intended for continuous outdoor exposure during their lifetime. Existing type approval standards do not consider mechanical stresses that may occur during transportation to the PV installation destination.

This part of IEC 62759 describes methods for the simulation of transportation of complete package units of modules and combined subsequent environmental impacts.

A list of design modifications which require a retest is provided in Annex B.

This document applies to flat plate photovoltaic modules.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60068-2-27:2008, *Environmental testing – Part 2-27: Tests – Test Ea and guidance: Shock*

IEC TS 60904-13, *Photovoltaic devices – Part 13: Electroluminescence of photovoltaic modules*

IEC 61215-1:2021, *Terrestrial photovoltaic (PV) modules – Design qualification and type approval – Part 1: Test requirements*

IEC 61215-2:2021, *Terrestrial photovoltaic (PV) modules – Design qualification and type approval – Part 2: Test procedures*

IEC 61730-2:2022, *Photovoltaic (PV) module safety qualification – Part 2: Requirements for testing*

IEC TS 61836, *Solar photovoltaic (PV) energy systems – Terms, definitions and symbols*

IEC TS 62782:2016, *Photovoltaic (PV) modules – Cyclic (dynamic) mechanical load testing*

ASTM D880-92, *Standard Test Method for Impact Testing for Shipping Containers and Systems*

ASTM D4169-16, *Standard Practice for Performance Testing of Shipping Containers and Systems*

ASTM D4728:2006, *Standard Test Method for Random Vibration Testing of Shipping Containers*

ASTM D5277-92, *Test method for performing programmed horizontal impact using an inclined impact tester*