SLOVENSKI STANDARD
SIST EN IEC 62938:2020

01-oktober-2020

Obremenilni preskus fotonapetostnih (PV) modulov pri neenakomerni snežni odeji

Non-uniform snow load testing for photovoltaic (PV) modules

Ta slovenski standard je istoveten z: **EN IEC 62938:2020**

ICS:

27.160 Sončna energija Solar energy engineering

SIST EN IEC 62938:2020 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

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EN IEC 62938

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ICS 27.160

English Version

Photovoltaic (PV) modules - Non-uniform snow load testing (IEC 62938:2020)

Modules photovoltaïques (PV) - Essais de charges de neige non uniformes (IEC 62938:2020)

Ungleichmäßige Schneelastprüfung von Photovoltaikmodulen (IEC 62938:2020)

This European Standard was approved by CENELEC on 2020-06-18. 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.

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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

Ref. No. EN IEC 62938:2020 E

European foreword

The text of document 82/1670/FDIS, future edition 1 of IEC 62938, prepared by IEC/TC 82 "Solar photovoltaic energy systems" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 62938:2020.

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) 2021-03-18
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-06-18

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.

Endorsement notice

The text of the International Standard IEC 62938:2020 was approved by CENELEC as a European Standard without any modification.

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/TS 60904-13	2018	Photovoltaic devices - Part 13: Electroluminescence of photovoltaic modules	-	-
IEC 61215-1	2016	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 1: Test requirements	EN 61215-1	2016
IEC 61215-2	2016	Terrestrial photovoltaic (PV) modules - Design qualification and type approval - Part 2: Test procedures	EN 61215-2	2017
			EN 61215-2:2017/AC	2017-07
IEC/TS 61836	-	Solar photovoltaic energy systems - Terms, definitions and symbols	-	-
IEC/TS 62915	-	Photovoltaic (PV) modules - Type approval, design and safety qualification - Retesting	-	-

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NORME INTERNATIONALE

Photovoltaic (PV) modules – Non-uniform snow load testing

Modules photovoltaïques (PV) – Essais de charges de neige non uniformes

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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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International Standard IEC 62938 has been prepared by IEC technical committee 82: Solar photovoltaic energy systems.

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

FDIS	Report on voting
82/1670/FDIS	82/1705/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under "http://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 – NON-UNIFORM SNOW LOAD TESTING

1 Scope

This document provides a method for determining how well a framed PV module performs mechanically under the influence of inclined non-uniform snow loads. This document is applicable for framed modules with frames protruding beyond the front glass surface on the lower edge after intended installation and as such creates an additional barrier to snow sliding down from modules. For modules with other frame constructions, such as backrails formed in frames, on the side edges, on the top edge and on the lower edge not creating an additional snow slide barrier, this document is not applicable.

The test method determines the mechanical non-uniform-load limit of a framed PV module.

The loads specified in this document apply exclusively to natural snow load distributions. Any expected artificial accumulations (e.g. from snow removal or redistribution) are considered separately.

Methods to eliminate or counteract the occurence of inhomogeneous snow accumulation, such as a steep installation angle (more than 60°), are not included in this document. This document assumes a relationship between ground snow-cover and module snow-cover which may not be applicable in locations where the snow does not completely melt between snow falls. This document does not consider the effect of snow cover on power generation.

While the test method includes a wait time between load steps, the document does not provide a complete assessment of the fatigue behaviour of the materials of the module, such as front glass.

Because typical field failures of PV modules caused by snow load show glass breakage and frame bending, the test method aims at reproducing the load under which such failures occur.

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 TS 60904-13 :2018, *Photovoltaic devices – Part 13: Electroluminescence of photovoltaic modules*

IEC 61215-1:2016, *Terrestrial photovoltaic (PV) modules – Design qualification and type approval – Part 1: Test requirements*

IEC 61215-2:2016, *Terrestrial photovoltaic (PV) modules – Design qualification and type approval – Part 2: Test procedures*

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

IEC TS 62915, *Photovoltaic (PV) modules – Type approval, design and safety qualification – Retesting*