

	Namáhanie striech vonkajším ohňom v kombinácii s fotovoltaickými (PV) poľami. Skúšobné metódy.	TNI CLC/TR 50670 36 4699
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External fire exposure to roofs in combination with photovoltaic (PV) arrays - Test method(s)

Táto technická normalizačná informácia obsahuje anglickú verziu CLC/TR 50670:2016.
This Technical standard information includes the English version of CLC/TR 50670:2016.

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TECHNICAL REPORT

CLC/TR 50670

RAPPORT TECHNIQUE

TECHNISCHER BERICHT

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English Version

External fire exposure to roofs in combination with photovoltaic (PV) arrays - Test method(s)

Exposition des toitures équipées de modules
photovoltaïques (PV) à un feu extérieur - Méthode(s)
d'essai

Externe Feuereinwirkung auf Dächer in Kombination mit
Photovoltaik (PV)-Arrays - Testmethode (n)

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

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European foreword

This document (CLC/TR 50670:2016) has been prepared by CLC/TC 82 "Solar Photovoltaic Energy Systems".

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

Framing components of the PV modules that are made of polymeric materials are not covered within this document and will have to be addressed in a future revision.

Introduction

This CENELEC Technical Report (TR) defines test methods for the assessment of external fire exposure to photovoltaic (PV) arrays. The determination of such fire behaviour is important when photovoltaic systems are installed on roofs to evaluate if an intensification of a fire threat can be expected. With this regard, explicitly roof-integrated PV is not part of this TR.

The scenario of burning brands that are released from a neighbouring building is well defined for plain roofing assemblies through the classification standard of EN 13501-5 and the relevant test methods of CEN/TS 1187. Accordingly, the methods described herewith focus on PV modules and the influence to roof substructures in general and address tilted and flat-roof installations from burning droplets and radiant heat after ignited through a gas burner.

Roofing assemblies and substructures are exemplary replaced by calcium carbonate plates to allow free monitoring and characterization of the potential burning behaviour of PV modules.

This Technical Report also encounters potential burning brands that may reach spaces between the PV array and roof in a realistic installation.

This Technical Report does not contain information on the level of acceptable performance, but on observations and measurements.

This Technical Report enters new fields of expertise and displays accordingly the current state of best knowledge basing on available data in the industry. More technical data and test results will be generated to further develop the TR.

CAUTION — The attention of all persons concerned with managing and carrying out these tests is drawn to the fact that fire testing can be hazardous and that there is a possibility that toxic and/or harmful smoke and gases can be evolved during the test. An assessment of all potential hazards and risks to health should be made and safety precautions should be identified and provided. Written safety instructions should be issued. Appropriate training should be given to all relevant personnel. Laboratory personnel should ensure that they follow written safety instructions at all times.

1 Scope

This Technical Report provides test methods for the assessment of external fire exposure to roofs in combination with photovoltaic (PV) arrays which characterize potential impacts of PV arrays to an existing fire rating of roofs from an external fire exposure. The performance of roofs without PV to external fire exposure is defined in CEN/TS 1187.

The test methods of CLC/TR 50670 are only applicable to roof added installations. Building integrated PV is not covered by this standard.

The test method refers to PV modules as test specimens without a specific mounting system as well as combinations of PV modules with particular mounting systems on tilted roofs and flat roofs.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN ISO 13943:2010, *Fire safety — Vocabulary (ISO 13943:2008)*

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