

Paints and varnishes - Determination of solar reflectance (ISO 22969:2019)

EESTI STANDARDI EESSÕNA

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EUROPEAN STANDARD

EN ISO 22969

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English Version

Paints and varnishes - Determination of solar reflectance (ISO 22969:2019)

Peintures et vernis - Détermination de réflexion solaire
(ISO 22969:2019)

Beschichtungsstoffe - Bestimmung des solaren
Reflexionsgrades (ISO 22969:2019)

This European Standard was approved by CEN on 11 December 2020.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

The text of ISO 22969:2019 has been prepared by Technical Committee ISO/TC 35 "Paints and varnishes" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 22969:2020 by Technical Committee CEN/TC 139 "Paints and varnishes" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2021, and conflicting national standards shall be withdrawn at the latest by June 2021.

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

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Endorsement notice

The text of ISO 22969:2019 has been approved by CEN as EN ISO 22969:2020 without any modification.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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This document was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 9, *General test methods for paints and varnishes*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The solar reflectance property of a coating system is determined by the absorbed solar energy (especially heat) of a building or an object.

This property can be expressed by a numerical value determined by calculation, thanks to which the impact of solar energy (especially heat) on the environment can be easily understood.

Reduction of greenhouse gases and carbon dioxide (CO₂) is achieved by reflecting the solar energy back into the atmosphere, which, reduces global warming. The effect of energy saving by coating system can be determined using solar reflectance.

Paints and varnishes — Determination of solar reflectance

1 Scope

This document specifies a method to determine the solar reflectance of coating systems using a spectrophotometer with a wide spectral range (300 nm to 2 500 nm) and global solar radiation.

This document is applicable to coating systems.

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.

ISO 3270, *Paints and varnishes and their raw materials — Temperatures and humidities for conditioning and testing*

ISO 4618, *Paints and varnishes — Terms and definitions*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 4618 and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1

global solar radiation

total of the direct solar radiation incident on a horizontal surface plus all sky and horizontal ground reflected radiation within the 2π steradian field of view of the surface

Note 1 to entry: It is expressed in watts per square metre ($\text{W}\cdot\text{m}^{-2}$).

3.2

radiant flux

radiant power

power emitted, transmitted or received in the form of radiation

Note 1 to entry: It is expressed in watts (W).

[SOURCE: IEC 60050-845:1987, 845-01-24]

3.3

reflectance

ρ

ratio of the reflected radiant or luminous flux to the incident flux in the given spectral composition, polarization and geometrical distribution

[SOURCE: IEC 60050-845:1987, 845-04-58]