



**SLOVENSKI STANDARD**  
**SIST EN 17190:2018**

**01-december-2018**

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**Hidroizolacijski trakovi - Indeks odbojnosti**

Flexible sheets for waterproofing - Solar Reflectance Index

Abdichtungsbahnen - Index des Reflexionsvermögens

Feuilles souples d'étanchéité - Indice de Réflectance Solaire

**Ta slovenski standard je istoveten z: EN 17190:2018**

[SIST EN 17190:2018](https://standards.iteh.ai/catalog/standards/sist/a64c73e0-2805-4842-84c7-dad6baced2be/sist-en-17190-2018)

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**ICS:**

91.100.50      Veziva. Tesnilni materiali      Binders. Sealing materials

**SIST EN 17190:2018**

**en,fr,de**

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EUROPEAN STANDARD

EN 17190

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2018

ICS 91.100.50

English Version

## Flexible sheets for waterproofing - Solar Reflectance Index

Feuilles souples d'étanchéité - Indice de Réflectance  
Solaire

Abdichtungsbahnen - Index des Reflexionsvermögens

This European Standard was approved by CEN on 20 May 2018.

CEN 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 CEN-CENELEC Management Centre or to any CEN 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 CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

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

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

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## European foreword

This document (EN 17190:2018) has been prepared by Technical Committee CEN/TC 254 "Flexible sheets for waterproofing", the secretariat of which is held by NEN.

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 April 2019, and conflicting national standards shall be withdrawn at the latest by April 2019

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.

According to the CEN-CENELEC Internal Regulations, the national standards organisations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

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**EN 17190:2018 (E)****1 Scope**

This European Standard gives a calculation method of the Solar Reflectance Index (SRI) and the determination of solar reflectivity and thermal emissivity for waterproofing flexible sheets for roofs with a slope smaller than 10°.

**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.

EN 15976, *Flexible sheets for waterproofing - Determination of emissivity*

ASTM C1549-16, *Standard test method for determination of solar reflectance near ambient temperature using a portable solar reflectometer*

ASTM E1980-11, *Standard practice for calculating Solar Reflectance Index of horizontal and low-sloped opaque surfaces*

ASTM E903-12, *Standard Test Method for Solar Absorptance, Reflectance, and Transmittance of Materials Using Integrating Spheres*

**3 Terms and definitions**

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For the purposes of this document, the following terms and definitions apply.

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

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

**3.1****Solar Reflectance Index**

relative temperature of a surface with respect to the standard white (SRI = 100) and standard black (SRI = 0) under the standard solar and ambient conditions

[SOURCE: ASTM E1980-11, definition 3.1.9]

**3.2****solar reflectivity**

ratio of the reflected irradiation to the solar irradiation from a surface of the sheet

**3.3****thermal emissivity**

emissivity of a material (usually written  $\varepsilon$ ) is the ratio (proportion) of the energy radiated by a surface relative to the energy radiated by a blackbody at the same temperature; it is a measure of a material's ability to radiate heat

[SOURCE: EN 15976:2011, definition 3.1]

## 4 Sampling

For initial values, take a (new) roll directly from the storage of the manufacture. Unroll the roll over at least 0,5 m and take 5 samples over the width of the sheet.

The surface should be clean to keep the radiative properties of the sheet.

## 5 Solar reflectivity

Solar reflectivity is measured according to:

- ASTM C1549-16; or
- ASTM E903-12.

Both shall be measured with the solar spectrum according to ASTM E1980-11.

NOTE 1 In the European interlaboratory test it was found within the scattering of the test methods the same results, see [1].

NOTE 2 For the variation of the solar reflectivity, see [1].

## 6 Thermal emissivity

Thermal emissivity is measured according to EN 15976.

NOTE 1 Thermal emissivity measured according to ASTM C1371 gives within the scattering of the test methods the same results, see [1].

NOTE 2 For the variation of the thermal emissivity, see [1].

## 7 Solar Reflectance Index

Solar Reflectance Index shall be calculated according to approach I of ASTM E1980-11 for medium wind speed with solar reflectivity measured according to 5 and thermal emissivity measured according to 6.

NOTE 1 The influence of the solar reflectivity is more than 5 times higher than the influence of thermal emissivity on the Solar Reflectance Index.

NOTE 2 Due to the manufacturing process of the sheet, the variation of the SRI can be up to +/-4..

NOTE 3 Due to contamination during the installation of roofs, the SRI value of installed membranes may change typically more than 10 %.

## 8 Expression of the results

Solar reflectivity and thermal emissivity are indicated as a 2 decimal number. Solar Reflectance Index is indicated as a 0 decimal number.

Average of solar reflectivity and thermal emissivity are used to calculate the SRI.

**EN 17190:2018 (E)****9 Test report**

The test report shall include at least the following information:

- a) reference to this document (EN 17190:2018) and any deviation from it;
- b) all details necessary to identify the product tested;
- c) information on sampling;
- d) test methods used;
- e) test results on solar reflectivity and thermal emissivity;
- f) calculated Solar Reflectance Index value;
- g) any peculiarities in the method employed or encountered during the test;
- h) date of the test(s).

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