SLOVENSKI STANDARD
oSIST prEN ISO 9806:2012

01-junij-2012

Toplotni sončni sistemi - Sprejemniki sončne energije - Preskusne metode (ISO/DIS 9806:2012)

Solar energy - Solar thermal collectors - Test methods (ISO/DIS 9806:2012)

Solarenergie - Thermische Sonnenkollektoren - Prüfverfahren (ISO/DIS 9806:2012)

Énergie solaire - Capteurs thermiques solaires - Méthodes d'essai (ISO/DIS 9806:2012)

Ta slovenski standard je istoveten z: prEN ISO 9806

ICS:

27.160	Sončna energija	Solar energy engineering

oSIST prEN ISO 9806:2012 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

DRAFT
prEN ISO 9806

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ICS 27.160

Will supersede EN 12975-2:2006

English Version

Solar energy - Solar thermal collectors - Test methods (ISO/DIS 9806:2012)

Énergie solaire - Capteurs thermiques solaires - Méthodes d'essai (ISO/DIS 9806:2012)

Solarenergie - Thermische Sonnenkollektoren - Prüfverfahren (ISO/DIS 9806:2012)

This draft European Standard is submitted to CEN members for parallel enquiry. It has been drawn up by the Technical Committee CEN/TC 312.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Warning : This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.

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

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Foreword

This document (prEN ISO 9806:2012) has been prepared by Technical Committee CEN/TC 312 “Thermal solar systems and components” the secretariat of which is held by ELOT, in collaboration with ISO/TC 180 “Solar energy".

This document is currently submitted to the parallel Enquiry.

This document will supersede EN 12975-2:2006.

DRAFT INTERNATIONAL STANDARD ISO/DIS 9806

ISO/TC **180** Secretariat: **SA**

Voting begins on **2012-04-19** Voting terminates on **2012-09-19**

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Solar energy — Solar thermal collectors — Test methods

Énergie solaire — Capteurs thermiques solaires — Méthodes d'essai

(Revision of ISO 9806-1:1994, ISO 9806-2:1995 and ISO 9806-3:1995)

ICS 27.160

ISO/CEN PARALLEL PROCESSING

This draft has been developed within the European Committee for Standardization (CEN), and processed under the **CEN-lead** mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five-month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

Pour accélérer la distribution, le présent document est distribué tel qu'il est parvenu du secrétariat du comité. Le travail de rédaction et de composition de texte sera effectué au Secrétariat central de l'ISO au stade de publication.

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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 electro technical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

ISO 9806 was prepared by Technical Committee ISO/TC 180, *Solar energy*, Subcommittee SC , and by Technical Committee CEN/TC 312, *Thermal solar systems and components* in collaboration.

Introduction

This International Standard defines procedures for testing fluid heating solar collectors for performance, reliability, durability and safety under well-defined and repeatable conditions. It contains performance test methods for conducting tests outdoors under natural solar irradiance and natural and simulated wind and for conducting tests indoors under simulated solar irradiance and wind. Outdoor tests can be performed either steady-state or as all-day measurements, under changing weather conditions. For the latter stationary inlet temperature conditions and natural solar irradiance and natural and/or simulated wind conditions are applied. Important effects for the all-day performance of the collector, as the dependence on incident angle, wind speed, diffuse fraction of solar irradiance, thermal sky radiation and thermal capacity are taken into account.

Some of the advantages of all-day testing as compared to steady-state test methods are:

- shorter and less expensive outdoor test, suitable for European climate conditions.
- much wider range of collectors can be tested with the same method.
- at the same time, a much more complete characterization of the collector is achieved.
- collector model is still directly compatible with that of the present basic test standards, and only correction terms are applied in this extended approach.
- all additions are based on long agreed collector theory.
- at any time, full backwards comparability to steady-state can be established by evaluating only periods of the test days that correspond to steady-state test requirements.
- same test equipment can be used as for stationary testing with only minor changes, which will also improve the accuracy of steady-state testing.
- commonly available standard PC software can be used for the parameter identification, such as spreadsheets or more advanced statistical packages that have Multiple Linear Regression (MLR) as an option.

Collectors tested according to this International Standard represent a wide range of applications. From tracking concentrating collectors for thermal power generation and process heat to glazed flat plate collectors for domestic water heating. Unglazed collectors are in most cases used for heating swimming pools or other low temperature applications. Air heating collectors have recently been included in the scope of this International Standard.