

**Thermal solar systems and components -
Solar collectors - Part 1: General
requirements**

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 12975-1:2006 sisaldab Euroopa standardi EN 12975-1:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 29.05.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 12975-1:2006 consists of the English text of the European standard EN 12975-1:2006.</p> <p>This document is endorsed on 29.05.2006 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This European Standard specifies requirements on durability (including mechanical strength), reliability and safety for liquid heating solar collectors. It also includes provisions for evaluation of conformity to these requirements.</p>	<p>Scope: This European Standard specifies requirements on durability (including mechanical strength), reliability and safety for liquid heating solar collectors. It also includes provisions for evaluation of conformity to these requirements.</p>
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Võtmesõnad: pressure tes, properties, reliability, repair, safety, safety engineering, safety requirements, solar collectors, solar energy, solar heating, solar power, solar-powered devices, specification (approval), specifications, thermal, water circulation, water heaters

English Version

Thermal solar systems and components - Solar collectors - Part 1: General Requirements

Installations solaires thermiques et leurs composants -
Capteurs solaires - Partie 1 : Exigences générales

Thermische Solaranlagen und ihre Bauteile - Kollektoren -
Teil 1: Allgemeine Anforderungen

This European Standard was approved by CEN on 6 February 2006.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

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



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Foreword

This European Standard (EN 12975-1:2006) has been prepared by Technical Committee CEN/TC 312 "Thermal solar systems and components", the secretariat of which is held by ELOT.

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 September 2006, and conflicting national standards shall be withdrawn at the latest by September 2006.

This European Standard supersedes EN 12975-1:2000.

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

Introduction

In respect of potential adverse effects on the quality of water intended for human consumption, caused by the product covered by this standard, it is pointed out that:

- a) This standard provides no information as to whether the product may be used without restriction in any of the Member States of the EU or EFTA;
- b) It should be noted that, while awaiting the adoption of verifiable European criteria, existing national regulations concerning the use and/or the characteristics of this product remain in force.

1 Scope

This European Standard specifies requirements on durability (including mechanical strength), reliability and safety for liquid heating solar collectors. It also includes provisions for evaluation of conformity to these requirements.

It is not applicable to those collectors in which the thermal storage unit is an integral part of the collector to such an extent, that the collection process cannot be separated from the storage process for the purpose of making measurements of these two processes. It is not applicable to tracking concentrating solar collectors.

Collectors that are custom-built (built in, roof integrated collectors that do not comprise factory made modules and are assembled directly on the place of installation) cannot be tested in their actual form for durability, reliability and thermal performance according to this standard. Instead, a module with the same structure as the ready collector is tested. The module gross area in the case of custom built collectors should be at least 2 m². The test is valid only for larger collectors, than the tested module.

For collectors the national and European Guidelines for Structural Planning and overhead glazing are not valid. Therefore this standard should be applied for the design of the static of the collector.

2 Normative references

The following referenced documents are indispensable for the application of this European Standard. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 12975-2:2006, *Thermal solar systems and components – Solar collectors – Part 2: Test methods*

EN ISO 9488, *Solar energy – Vocabulary (ISO 9488:1999)*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN ISO 9488 apply.

4 Symbols and units

For the purposes of this European Standard, the symbols and units given in EN ISO 9488 and EN 12975-2:2006 apply.

5 Durability and reliability

5.1 Materials and design

Information about the materials and manufacture of solar collectors, including the materials they are manufactured of and their resistance to all influences which they might meet in service, retaining their operational ability are given in Annex A.

5.2 Required tests

The collector shall be subjected to the following series of tests:

- a) Internal pressure for absorber (see 5.2 of EN 12975-2:2006);