

Nederlandse norm

# NEN-EN 12976-1

(en)

Thermische zonne-energiesystemen en componenten - Fabrieksmatig geproduceerde systemen - Deel 1: Algemene eisen

Thermal solar systems and components - Factory made systems - Part 1: General requirements

Vervangt NEN-EN 12976-1:2001;  
NEN-EN 12976-1:2004 Ontw.

ICS 27.160  
september 2006

Als Nederlandse norm is aanvaard:  
- EN 12976-1:2006, IDT

VOORBEELD  
Preview

Normcommissie 349 010 "Zonne-energie"

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## Nederlands voorwoord

Voor de in deze norm vermelde normatieve verwijzingen bestaan in Nederland de volgende equivalenten:

<u>vermelde norm</u>	<u>Nederlandse norm</u>	<u>titel</u>
EN 806-1	NEN-EN 806-1	Eisen voor drinkwaterinstallaties in gebouwen - Deel 1: Algemeen (en)
EN 809	NEN-EN 809	Pompen en pompeenheden voor vloeistoffen - Algemene veiligheidseisen (en)
EN 1151	-	-
EN 1489	NEN-EN 1489	Appendages in gebouwen - Drukontlastkleppen voor water en stoom - Beproevingen en eisen (en)
EN 1490	NEN-EN 1490	Appendages in gebouwen - Gecombineerde temperatuur- en drukbeveiliging met ontlastvoorziening - Beproevingen en eisen (en)
EN 1991-1-3	NEN-EN 1991-1-3	Eurocode 1: Ontwerpgrondslagen en belastingen op constructies - Deel 1-3: Algemene belastingen - Sneeuwbelasting (en)
EN 1991-1-4	NEN-EN 1991-1-4	Eurocode 1: Belastingen op constructies - Deel 1-4: Algemene belastingen - Windbelasting (en)
EN 1993-1-1	NEN-EN 1993-1-1	Eurocode 3: Ontwerp en berekening van staalconstructies - Deel 1-1: Algemene regels en regels voor gebouwen (en)
prEN 12975-1:2004	-	-
prEN 12975-2:2004	-	-
EN 12976-2:2006	NEN-EN 12976-2	Thermische zonne-energiesystemen en componenten - Fabrieksmatig geproduceerde systemen - Deel 2: Beproevingmethoden (en)
EN ISO 9488:1999	NEN-EN-ISO 9488:1999	Zonne-energie - Woordenlijst (en,fr,de)
ISO/TR 10217	-	-

Voorbeeld  
Preview

English Version

Thermal solar systems and components - Factory made systems - Part 1: General requirements

Installation solaires thermiques et leur composants - Installations préfabriquées en usine - Partie 1 : Exigence générales

Thermische Solaranlagen und ihre Bauteile - Vorgefertigte Anlagen - Teil 1: Allgemeine Anforderungen

This European Standard was approved by CEN on 9 December 2005.

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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.

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## Foreword

This European Standard (EN 12976-1:2006) 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 July 2006, and conflicting national standards shall be withdrawn at the latest by July 2006.

This European Standard supersedes EN 12976-1:2000.

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.

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## Introduction

### Drinking water quality

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

- 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.

### Factory Made and Custom Built solar heating systems

The standards EN 12976-1 as well as EN 12976-2 and the prestandards ENV 12977-1 to ENV 12977-3 distinguish two categories of solar heating systems: **Factory Made** solar heating systems and **Custom Built** solar heating systems. The classification of a system as Factory Made or Custom Built is a choice of the final supplier, in accordance with the following definitions.

**Factory Made solar heating systems** are batch products with one trade name, sold as complete and ready to install kits, with fixed configurations. Systems of this category are considered as a single product and assessed as a whole.

If a Factory Made Solar Heating System is modified by changing its configuration or by changing one or more of its components, the modified system is considered as a new system for which a new test report is necessary. Requirements and test methods for Factory Made solar heating systems are given in EN 12976-1 and EN 12976-2.

**Custom Built solar heating systems** are either uniquely built, or assembled by choosing from an assortment of components. Systems of this category are regarded as a set of components. The components are separately tested and test results are integrated to an assessment of the whole system. Requirements for Custom Built solar heating systems are given in ENV 12977-1; test methods are specified in ENV 12977-2 and ENV 12977-3. Custom Built solar heating systems are subdivided into two categories:

- **Large Custom Built systems** are uniquely designed for a specific situation. In general HVAC engineers, manufacturers or other experts design them.
- **Small Custom Built systems** offered by a company are described in a so-called assortment file, in which all components and possible system configurations, marketed by the company, are specified. Each possible combination of a system configuration with components from the assortment is considered as **one** Custom Built system.



Table 1 shows the division for different system types:

**Table 1 - Division for factory made and custom built solar heating systems**

Factory Made Solar Heating Systems (EN 12976-1, -2)	Custom Built Solar Heating Systems (ENV 12977-1, -2, -3)
Integral collector-storage systems for domestic hot water preparation	Forced-circulation systems for hot water preparation and/or space heating, assembled using components and configurations described in a documentation file (mostly small systems)
Thermosiphon systems for domestic hot water preparation	
Forced-circulation systems as batch product with fixed configuration for domestic hot water preparation	Uniquely designed and assembled systems for hot water preparation and/or space heating (mostly large systems)

NOTE 1 Forced circulation systems can be classified either as Factory Made or as Custom Built, depending on the market approach chosen by the final supplier.

NOTE 2 Both Factory Made and Custom Built systems are performance tested under the same set of reference conditions as specified in Annex B of EN 12976-2:2006 and Annex A of ENV 12977-2:2001. In practice, the installation conditions may differ from these reference conditions.

NOTE 3 A Factory Made system for domestic hot water preparation may have an option for space heating, however this option should not be used or considered during testing as a Factory Made system.

Preview

# ALTIJD DE ACTUELE NORM IN UW BEZIT HEBBEN?

Nooit meer zoeken in de systemen en uzelf de vraag stellen:  
'Is NEN-EN 12976-1:2006 en de laatste versie?'

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