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Solenergi – Termiske solfangere – Prøvningsmetoder

Solar energy – Solar thermal collectors –
Test methods (ISO 9806:2017)

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Solar energy - Solar thermal collectors - Test methods (ISO 9806:2017)

Énergie solaire - Capteurs thermiques solaires
- Méthodes d'essai (ISO 9806:2017)

Solarenergie - Thermische Sonnenkollektoren
- Prüfverfahren (ISO 9806:2017)

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Contents

Page

European foreword	3
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European foreword

This document ([EN ISO 9806:2017](#)) has been prepared by Technical Committee ISO/TC 180 "Solar energy" in collaboration with 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of an identical text or by endorsement, at the latest by May 2018, and conflicting national standards shall be withdrawn at the latest by May 2018.

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Énergie solaire — Capteurs thermiques solaires — Méthodes d'essai



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Contents

Page

Foreword	viii
Introduction	ix
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Symbols	2
5 General	5
5.1 Test overview — Sequence of the tests.....	5
5.2 Testing of collectors with specific attributes.....	6
5.2.1 General.....	6
5.2.2 Collectors using external power sources and collectors with active or passive measures for normal operation and self-protection.....	6
5.2.3 Collectors co-generating thermal and electrical power.....	7
5.2.4 Wind and/or infrared sensitive collectors (WISC).....	7
5.2.5 Façade collectors.....	7
5.2.6 Air and liquid heating collectors.....	7
6 Internal pressure tests for fluid channels	8
6.1 Objective.....	8
6.2 Fluid channels made of non-polymeric materials.....	8
6.2.1 Apparatus and procedure.....	8
6.2.2 Test conditions.....	8
6.3 Fluid channels made of polymeric materials.....	8
6.3.1 Apparatus and procedure.....	8
6.3.2 Test conditions.....	9
6.4 Results and reporting.....	9
7 Air leakage rate test (air heating collectors only)	9
7.1 Objective.....	9
7.2 Apparatus and procedure.....	9
7.3 Test conditions.....	10
7.4 Results and reporting.....	10
8 Rupture or collapse test (air heating collectors only)	10
8.1 Objective.....	10
8.2 Apparatus and procedure.....	10
8.2.1 General.....	10
8.2.2 Closed-loop collectors.....	11
8.2.3 Open to ambient collectors.....	11
8.3 Results and reporting.....	11
9 Standard stagnation temperature	11
9.1 Objective.....	11
9.2 Testing under stagnation conditions.....	12
9.3 Measurement and extrapolation of standard stagnation temperature.....	12
9.4 Determining standard stagnation temperature using efficiency parameters.....	12
9.5 Results and reporting.....	13
10 Exposure and half-exposure test	13
10.1 Objective.....	13
10.2 Initial outdoor exposure.....	13
10.3 Method 1.....	14
10.4 Method 2.....	14
10.5 Method 3.....	14
10.6 Test conditions.....	14

This is a preview of "DS/EN ISO 9806:2017". Click here to purchase the full version from the ANSI store.

10.7	Results and reporting.....	15
11	External thermal shock.....	15
11.1	Objective.....	15
11.2	Apparatus and procedure.....	15
11.3	Test conditions.....	15
11.4	Results and reporting.....	16
12	Internal thermal shock test (Liquid heating collectors only).....	16
12.1	Objective.....	16
12.2	Apparatus and procedure.....	16
12.3	Test conditions.....	16
12.4	Results and reporting.....	16
13	Rain penetration test.....	16
13.1	Objective.....	16
13.2	Apparatus and procedure.....	16
13.3	Test conditions.....	17
13.4	Results and reporting.....	19
14	Freeze resistance test.....	19
14.1	Objective.....	19
14.2	Freeze resistant collectors.....	19
	14.2.1 General.....	19
	14.2.2 Test conditions.....	19
14.3	Heatpipe collectors.....	19
	14.3.1 General.....	19
	14.3.2 Test conditions.....	20
	14.3.3 Results and reporting.....	20
15	Mechanical load test with positive or negative pressure.....	20
15.1	Objective.....	20
15.2	Apparatus and procedure.....	20
	15.2.1 Mounting.....	20
	15.2.2 Methods for the application of the loads.....	21
	15.2.3 Particular specifications for tracking collectors or other specific collector types.....	22
15.3	Test conditions.....	22
15.4	Results and reporting.....	22
16	Impact resistance test.....	22
16.1	Objective.....	22
16.2	Test procedure.....	22
16.3	Impact location.....	22
16.4	Method 1: Impact resistance test using ice balls.....	23
	16.4.1 Apparatus.....	23
	16.4.2 Ice balls.....	23
	16.4.3 Specific aspects of the test procedure using ice balls.....	23
16.5	Method 2: Impact resistance test using steel balls.....	23
16.6	Results and reporting.....	24
17	Final inspection.....	24
17.1	Objective.....	24
17.2	Test procedure.....	24
17.3	Results and reporting.....	25
18	Test report.....	25
19	Thermal performance testing.....	25
19.1	General.....	25
19.2	Performance test using a solar irradiance simulator.....	25
	19.2.1 General.....	25
	19.2.2 Solar irradiance simulator for performance testing.....	25

This is a preview of "DS/EN ISO 9806:2017". Click here to purchase the full version from the ANSI store.

19.2.3	Solar irradiance simulator for the measurement of incidence angle modifiers.....	26
20	Collector mounting and location	27
20.1	General.....	27
20.2	Collector orientation outdoors.....	27
20.3	Shading from direct solar irradiance.....	27
20.4	Diffuse and reflected solar irradiance.....	27
20.5	Thermal irradiance.....	28
20.6	Surrounding air speed.....	28
21	Instrumentation.....	28
21.1	Solar radiation measurement.....	28
21.1.1	Pyranometer.....	28
21.2	Thermal radiation measurement.....	29
21.2.1	General.....	29
21.2.2	Measurement of thermal irradiance outdoors.....	29
21.2.3	Measurement of thermal irradiance indoors.....	29
21.3	Temperature measurements.....	29
21.3.1	General.....	29
21.3.2	Heat transfer fluid temperatures (Liquid heating collectors).....	29
21.3.3	Volume flow weighted mean temperature $\vartheta_{m,th}$ (Air heating collectors).....	30
21.3.4	Measurement of ambient air temperature.....	30
21.4	Flow rate measurement.....	31
21.4.1	Measurement of mass flow rate (liquid).....	31
21.4.2	Measurement of collector fluid flow rate (Air heating collectors).....	31
21.5	Measurement of air speed over the collector.....	31
21.5.1	General.....	31
21.5.2	Required accuracy.....	32
21.6	Elapsed time measurement.....	32
21.7	Humidity measurement (Air collectors).....	32
21.8	Collector dimensions.....	32
22	Test installation.....	32
22.1	Liquid heating collectors.....	32
22.1.1	General.....	32
22.1.2	Heat transfer fluid.....	33
22.1.3	Pipe work and fittings.....	33
22.1.4	Pump and flow control devices.....	34
22.2	Air heating collectors.....	34
22.2.1	General.....	34
22.2.2	Closed loop test circuit.....	34
22.2.3	Open to ambient test circuit.....	35
22.2.4	Heat transfer fluid.....	35
22.2.5	Test ducts.....	35
22.2.6	Fan and flow control devices.....	36
22.2.7	Air preconditioning apparatus.....	36
22.2.8	Humidity ratio.....	36
23	Thermal performance test procedures.....	36
23.1	General.....	36
23.2	Preconditioning of the collector.....	37
23.3	Test conditions.....	37
23.3.1	General.....	37
23.3.2	Flow rates.....	37
23.3.3	Steady-state method.....	37
23.3.4	Quasi dynamic test.....	38
23.4	Test procedure.....	38
23.4.1	General.....	38
23.4.2	Steady-state testing of liquid heating collector.....	38

This is a preview of "DS/EN ISO 9806:2017". Click here to purchase the full version from the ANSI store.

23.4.3	Steady-state testing of air heating collectors	38
23.4.4	Steady-state testing of WISC collectors.....	39
23.4.5	Quasi dynamic testing.....	39
23.5	Measurements.....	39
23.5.1	General.....	39
23.5.2	Additional measurements during tests in solar irradiance simulators.....	40
23.5.3	Data acquisition requirements.....	40
23.6	Test period.....	40
23.6.1	Steady-state testing.....	40
23.6.2	Quasi dynamic testing.....	41
24	Computation of the collector parameters.....	44
24.1	Liquid heating collectors.....	44
24.1.1	General.....	44
24.1.2	Steady-state test method for liquid heating collectors.....	45
24.1.3	Quasi dynamic test method for liquid heating collectors.....	45
24.1.4	Data analysis.....	45
24.2	Air heating collectors.....	46
24.2.1	General.....	46
24.2.2	Steady-state test method for closed loop air heating collectors.....	46
24.2.3	Steady-state test method for open to ambient air heating collectors.....	46
24.2.4	Steady-state test method for open to ambient air heating WISC collectors.....	46
24.3	Standard reporting conditions (SRC).....	46
24.4	Standard uncertainties.....	47
24.5	Reference area conversion.....	47
25	Determination of the effective thermal capacity and the time constant.....	47
25.1	General.....	47
25.2	Measurement of the effective thermal capacity with irradiance.....	47
25.3	Measurement of the effective thermal capacity using the quasi dynamic method.....	48
25.4	Calculation method for the determination of the effective thermal capacity.....	48
25.5	Determination of collector time constant.....	48
26	Determination of the incident angle modifier (IAM).....	49
26.1	General.....	49
26.2	Modelling.....	50
26.2.1	Steady-state.....	51
26.2.2	Quasi dynamic.....	52
26.3	Test procedures.....	52
26.3.1	Steady-state liquid heating collectors.....	52
26.3.2	Air collectors.....	52
26.4	Calculation of the collector incidence angle modifier.....	53
26.5	Reporting.....	53
27	Determination of the pressure drop.....	53
27.1	General.....	53
27.2	Liquid heating collectors.....	53
27.2.1	Apparatus and procedure.....	53
27.2.2	Pressure drop caused by fittings.....	54
27.2.3	Test conditions.....	54
27.3	Air heating collectors.....	54
27.3.1	Apparatus and procedure.....	54
27.4	Calculation and presentation of results.....	55
	Annex A (normative) Test reports.....	56
	Annex B (normative) Steady-state and quasi dynamic model.....	79
	Annex C (normative) Density and heat capacity of water.....	80
	Annex D (informative) Assessment of the standard uncertainty in solar collector testing.....	81
	Annex E (informative) Measurement of the velocity weighted mean temperature.....	85

This is a preview of "DS/EN ISO 9806:2017". [Click here to purchase the full version from the ANSI store.](#)

Annex F (informative) Material efficiency aspects	87
Annex G (informative) Area conversion of thermal performance parameters	88
Bibliography	89

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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 the European Committee for Standardization (CEN) Technical Committee CEN/TC 312, *Thermal solar systems and components*, in collaboration with ISO Technical Committee TC 180, *Solar energy*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition [ISO 9806:2013](http://www.iso.org/iso/9806:2013), which has been technically revised.

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Introduction

This document defines procedures for testing fluid heating solar collectors for thermal 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.

Collectors tested according to this document represent a wide range of applications, e.g. glazed flat plate collectors and evacuated tube collectors for domestic water and space heating, collectors for heating swimming pools or for other low temperature systems or tracking concentrating collectors for thermal power generation and process heat applications. This document is applicable to collectors using liquids, as well as air as heat transfer fluid. Similarly, collectors using external power sources for normal operation and/or safety purposes (overheating protection, environmental hazards, etc.), as well as hybrid devices generating thermal power and electrical power are also considered.

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Solar energy — Solar thermal collectors —

Test methods

1 Scope

This document specifies test methods for assessing the durability, reliability, safety and thermal performance of fluid heating solar collectors. The test methods are applicable for laboratory testing and for *in situ* testing.

This document is applicable to all types of fluid heating solar collectors, air heating solar collectors, hybrid solar collectors co-generating heat and electric power, as well as to solar collectors using external power sources for normal operation and/or safety purposes. It does not cover electrical safety aspects or other specific properties directly related to electric power generation.

This document is not applicable to those devices in which a thermal storage unit is an integral part to such an extent that the collection process cannot be separated from the storage process for making the collector thermal performance measurements.

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 9060](#), *Solar energy — Specification and classification of instruments for measuring hemispherical solar and direct solar radiation*

[ISO 9488](#), *Solar energy — Vocabulary*