

Transition to ISO 9806:2017

Ultrashort presentation for the Cyprus Meeting

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SPF Testing



HSR

HOCHSCHULE FÜR TECHNIK
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Introduction

- **ISO 9806:2017 is published**
- **ISO 9806:2017 was developed with the aim of minimum contradictions, maximum forwardcompatibility and backwardcompatibility, and broadest scope possible.**
- **Almost all results of tests based on previous ISO 9806 versions can be recalculated to the new 2017 version. If we have a new datasheet, also older results can be recalculated to fit to the new format.**
- **Some small transitional definitions must be made.**
Example: Last Version the exposure was 30h, now 32h.
-> SKN has to decide that 30h is ok until accreditation is updated
- **How long will it take to prepare a new version of the data sheet?**

Introduction

- **How long will it take for laboratories to update their accreditation to the new standard?**
 - >>> Depending on accreditation body.
 - >>> **RECOMMENDATION: Remove year in your accreditation!**
- **How long will it take to prepare a new version of the data sheet?**
 - >>> Should be almost no-time (except for design reasons)
 - >>> Calculations are the same as now. Very small modifications in the calculation required. (for example a_g , u' , SRC)
 - >>> Same calculation for SS and QD ← Things are simplified

- **New datasheet shall be elaborated and established asap.
Then: No transition period “visible” in the datasheets.
*The “administrational” act of adjusting the accreditation has to be done of course as required, but no need to make it visible to anybody and no need to delay anything.***
- **Someone has to suggest some transitional rules. (Small WG)**
 - Exposure times & climate classes
 - Else ?

- **All new certificates shall be issued using the new datasheet asap.**

Datasheet: What needs to be changed?

Page 1/2

Annex to Solar Keymark Certificate - Summary of EN ISO 9806:2013 Test Results

Licence Number: CERTNO-01C
 Date issued: 2017-09-23
 Issued by: CB
 Licence holder: Acompany
 Count: Acountry
 Brand (optional): Abrand
 Web: http://www.company.domain
 Street, Number: Astreet, 1
 E-mail: info@info.info
 Postcode, City: A11111-1Acity
 Tel: +99 123 456 789

Collector Type: Flat plate collector, glazed

Power output per collector
 Gb = 850 W/m², Gd = 150 W/m², u = 3 m/s
 dm - dpa

Collector name	Gross area /A _g / m ²	Gross length /mm	Gross width /mm	Gross height /mm	W ₀ /K
Acol size A	1.00	1500	900	50	789
Acol size B	2.00	2*100	1050	50	1578

Power output per m² gross area: 789 757 683 597 499 104

Performance parameters test method: Quasi dynamic

Performance parameters (related to Units)	η _{0,b}	c1	c2	c3	c4	c6	Kd
Test results	0.800	2.560	0.015	0.180	0.000	0.000	0.910

Incidence angle modifier test method: Quasi dynamic - outdoor

Bi-directional incidence angle: No

Incidence angle modifier	Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
Transversal	K _{tr,trans}					0.93				0.00
Longitudinal	K _{tr,long}					0.93				0.00

Heat transfer medium for testing: Water-Glycole

Flow rate for testing (per gross area, A_g): dm/dt = 0.020 kg/(sm²)

Maximum temperature difference for thermal performance calculation: ΔT_{max} = 134 K

Standard stagnation temperature (G = 1000 W/m²; θ_a = 30 °C): θ_{st} = 176 °C

Effective thermal capacity, incl. fluid (per gross area, A_g): C/m² = 34 kJ/(K m²)

Maximum operating temperature: θ_{max,op} = 100 °C

Maximum operating pressure: p_{max,op} = 100 kPa

Testing: Atestlab
 Test report(s): Report 1, Report 2, Report 3
 Dated: 01.01.2016, 01.01.2016, 01.01.2016

Comments of testing laboratory: Datasheet version: 5.01.2016-03-01

Example comment: Thermal performance parameters are given for the PV-module working with max. electrical power output (MPP mode)

Stamp & signature of test lab

CERTIFICATION BODY FOOTER
address etc.

Annex to Solar Keymark Certificate - Summary of EN ISO 9806:2013 Test Results

Datasheet: What needs to be changed? **PROPOSAL**

Annex to Solar Keymark Certificate - Summary of EN ISO 9806:2013 Test Results		Licence Number									
Licence holder: Acompany		CERTNO-01C									
Brand (optional): Abrand		Date issued: 2017-09-23									
Street, Number: Astreet, 1		Issued by: CB									
Postcode, City: A11111-1Acity		Count: Acountry									
		Web: http://www.company.domain									
		E-mail: info@info.info									
		Tel: +93 123 456 789									
Collector Type: Flat plate collector, glazed											
		Power output per collector G _b = 850 W/m ² , G _d = 150 W/m ² , u = 3 m/s G _m = 0.020									
Collector name	Gross area /A _g /, m ²	Gross length, mm	Gross width, mm	Gross height, mm	W, W/m ²						
Acol size A	1.00	1500	300	50	789						
Acol size B	2.00	2100	1050	50	1578						
Power output per m ² gross area					789	757	683	597	499	104	
Performance parameters test method		Quasi dynamic									
Performance parameters (related to units)		c1	c2	c3	c4	c6	Kd				
Test results		0.800	2.560	0.015	0.180	0.000	0.000	0.910			
Incidence angle modifier test method		Quasi dynamic - outdoor									
Bi-directional incidence angle		No									
Incidence angle modifier		Angle	10°	20°	30°	40°	50°	60°	70°	80°	90°
Transversal		K _{tr,ref}					0.93				0.00
Longitudinal		K _{tr,ref}					0.93				0.00
Heat transfer medium for testing		Water-Glycole									
Flow rate for testing (per gross area, A _g)		dm/dt	0.020	kg/(sm ²)							
Maximum temperature difference for thermal performance calculation		ΔT _{max}	134	K							
Standard stagnation temperature (G = 1000 W/m ² ; ΔT _{amb} = 30 °C)		ΔT _{st}	176	°C							
Effective thermal capacity, incl. fluid (per gross area, A _g)		C/m ²	34	kJ/(K m ²)							
Maximum operating temperature		ΔT _{max,op}	100	°C							
Maximum operating pressure		P _{max,op}	100	kPa							
Testing		Atestlab		http://www.testlab.domain							
Test report(s)		Report 1	Dated		01.01.2016						
		Report 2			01.01.2016						
		Report 3			01.01.2016						
Comments of testing laboratory		Datasheet version: 5.01.2016-03-01									
Example comment Thermal performance parameters are given for the PV-module working with max. electrical power output (MPP mode)		Stamp & signature of test lab									
CERTIFICATION BODY FOOTER address etc.											

~~Annex to Solar Keymark Certificate - Summary of EN ISO 9806:2013 Test Results~~

REPLACE BY

Annex to Solar Keymark Certificate Scheme Rules Version 30 (04/2017)

Standard and version is not mentioned anymore !

It was wrong anyway not to mention EN12975. Better to delete them all. The basis for the datasheet are the SK-Rules

Datasheet: What needs to be changed?

Licence Number		CERTNO-01C	
Date issued		2017-09-23	
Issued by		CB	
Licence holder		Acompany	
Brand (optional)		Abrand	
Street, Number		Astreet, 1	
Postcode, City		A1111-1Acity	
Licence holder		Acompany	
Count		Acountry	
Web		http://www.company.domain	
E-mail		info@info.info	
Tel		+99 123 456 789	
Collector Type		Flat plate collector, glazed	
Power output per collector Gb = 850 W/m ² , Gd = 150 W/m ² , u = 3 m/s			
Collector name			
Acol size A		1.00 1500	
Acol size B		2.00 2100	
Quasi dynamic			
$\eta_{0,b}$	a1	a2	a3
-	W/(m ² K)	W/(m ² K ²)	J/(m ³ K)
0.800	2.560	0.015	0.180
a4	a6	a7	a8
-	s/m	-	-
0.000	0.000	0.910	0.910
Quasi dynamic outdoor			
Power output per m² gross area			
789	757	683	597
499	104		
Performance parameters test method			
Quasi dynamic			
Performance parameters (related to)			
$\eta_{0,b}$	c1	c2	c3
-	W/(m ² K)	W/(m ² K ²)	J/(m ³ K)
0.800	2.560	0.015	0.180
c4	c6	Kd	
0.000	0.000	0.910	
Test results			
Quasi dynamic - outdoor			
Incidence angle modifier test method			
No			
Bi-directional incidence angle			
No			
Incidence angle modifier			
Angle	10°	20°	30°
	40°	50°	60°
	70°	80°	90°
Transversal			
$K_{tr,ref}$			
$K_{tr,ref}$			
Longitudinal			
$K_{l,ref}$			
$K_{l,ref}$			
Heat transfer medium for testing			
Water			
Flow rate for testing (per gross area, A_g)			
dm/s			
Maximum temperature difference for thermal performance calculation			
θ _{max}			
Standard stagnation temperature (G = 1000 W/m ² ; θ _a = 30 °C)			
θ _{st}			
Effective thermal capacity, incl. fluid (per gross area, A_g)			
C/m ²			
Maximum operating temperature			
θ _{max}			
Maximum operating pressure			
P _{max}			
Testing			
Atestlab			
Test report(s)			
Report 1			
Report 2			
Report 3			
Comments of testing laboratory			
Datasheet version: 5.01.2016-03-01			
<i>Example comment</i>			
Thermal performance parameters are given for the PV-module working with max. electrical power output (MPP mode)			
Stamp & signature of test lab			
CERTIFICATION BODY FOOTER			
address etc.			

NEW

NOW

Datasheet: What needs to be changed?

Annex to Solar Keymark Certificate - Summary of EN ISO 9806:2013 Test Results					Licence Number		CERTNO-01C																	
Licence holder					Acompany		Date issued		2017-09-23															
Brand (optional)					Abrand		Issued by		CB															
Street, Number					Astreet, 1		Count		Acountry															
Postcode, City					A1111-1Acity		Web		http://www.company.domain															
Collector Type					Flat plate collector, glazed																			
					Power output per collector $G_b = 850 \text{ W/m}^2; G_d = 150 \text{ W/m}^2; u = 3 \text{ m/s}$ $\vartheta_m - \vartheta_a$																			
					0K		10K		30K		50K		70K		134K									
Collector name					W		W		W		W		W		W									
Accl size A					789		757		683		597		499		104									
Accl size B					1578		1513		1365		1193		997		209									
Gross area /A _g /					m ²		mm		mm		mm		mm		mm									
Gross length					1000		1500		300		900		50		789									
Gross width					1050		50		1578		1513		1365		1193									
Gross height					50		1578		1513		1365		1193		997									
Power output per m ² gross area					789		757		683		597		499		104									
Performance parameters test method					Quasi dynamic																			
Performance parameters (related to)					η _{0,b}		c1		c2		c3		c4		c6		Kd							
Units					-		W/(m ² K)		W/(m ² K)		J/(m ² K)		-		s/m		-							
Test results					0.800		2.560		0.015		0.180		0.000		0.000		0.910							
Incidence angle modifier test method					Quasi dynamic - outdoor																			
Bi-directional incidence angle					No																			
Incidence angle modifier					Angle		10°		20°		30°		40°		50°		60°		70°		80°		90°	
Transversal					K _{tr,eff}								0.93								0.00			
Longitudinal					K _{l,eff}								0.93								0.00			
Heat transfer medium for testing					Water-Glycole																			
Flow rate for testing (per gross area, A _g)					dm/dt		0.020		kg/(sm ²)															
Maximum temperature difference for thermal performance calculation					ΔT _{max}		134		K															
Standard stagnation temperature (G = 1000 W/m ² ; ϑ _a = 30 °C)					ϑ _{st}		176		°C															
Effective thermal capacity, incl. fluid (per gross area, A _g)					C/m ²		34		kJ/(K m ²)															
Maximum operating temperature					ϑ _{max,op}		100		°C															
Maximum operating pressure					p _{max,op}		100		kPa															
Testing					Atestlab		http://www.testlab.domain																	
Test report(s)					Report 1		Report 2		Report 3		Dated		01.01.2016		01.01.2016		01.01.2016							
Comments of testing laboratory					Datasheet version: 5.01.2016-03-01																			
Example comment					Thermal performance parameters are given for the PV-module working with max. electrical power output (MPP mode)																			
CERTIFICATION BODY FOOTER					address etc.																			
					Stamp & signature of test lab																			

NOW

Flat plate collector, glazed					
Power output per collector $G_b = 850 \text{ W/m}^2; G_d = 150 \text{ W/m}^2; u = 3 \text{ m/s}$ $\vartheta_m - \vartheta_a$					
0K	10K	30K	50K	70K	134K

NEW

Power output per collector Standard Reporting Conditions (SRC) $\vartheta_m - \vartheta_a$					
0K	10K	30K	50K	70K	134K

Datasheet: What needs to be changed?

The rest is the same

☺ READY in 24h ? ☺