TEST REPORT

SABS

WE GEYSERS
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1743

Your ref	:	Order no.
Our ref	:	12S134 a
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Date	:	2012-11-21

TESTING TO SANS 1307:2009

SUMMARY

A full specification test was performed on the WE Solar systems (see samples description below) submitted. The WE geysers passed these tests. Refer to clause 4 for the detail of the test performed and to clause 11 for a summary of the results.

1 DESCRIPTION OF SAMPLE

The following WE Solar systems (see samples description below) were submitted by Mr. E. Holder on behalf of the WE GEYSERS.

Sample No.	Quantity	Sample Description
12S134	1	Direct freeze resistant WE Geyser 150 liters thermosiphon close-couple system, the (1.7m²) panel contains a fully insulated heat exchanger that acts as a freeze resistant mechanism, in conjunction with the pipework connecting to the solar geyser that has Insulflex 28 x 25mm insulation (lagging).
12S134	1	Direct freeze resistant 200 liters WE Geyser thermosiphon close-couple system, the (2m²) panel contains a fully insulated heat exchanger that acts as a freeze resistant mechanism in conjunction with the pipework connecting to the solar geyser that has Insulflex 28 x 25mm insulation (lagging).

2 REPORT CONDITIONS

The contents of this test report refers to the sample/s detailed above and does not infer that the above samples (or any other similar samples) are SABS approved for quality and/or performance.

In the instance where this report is used to verify compliance with the ESKOM Rebate Scheme or JASWIC Acceptance Scheme, the validity of the test reports shall not exceed a period of one (1) year.

3 SAMPLE SUBMITTED

The WE Solar systems were received in good condition and were suitable for testing.

Date sample received	: 2012-09-10
Test start date	: 2012-09-26
Test completion date	: 2012-11-20

4 TEST REQUESTED

To test the WE close-couple submitted for full compliance with the requirements of SANS 1307:2009.

5 METHODS OF TESTING

Used specification SANS 1307:2009 and test methods used according to SABS method 6210-2009.

6 CONDITIONING AND TEST ENVIRONMENT

NOT APPLICABLE.

7 LABORATORIES

When applicable all tests will be performed by the solar technology laboratory of the SABS.

8 MARKING AND METHOD OF MARKING (Clause 6 of SANS 1307:2009)

6.1 Marking

Each hot water storage tank shall be marked according to SANS 151:2009 and all collectors shall be legibly and indelibly marked with the following information:

a) the manufacturer's name, trade name or trade mark;
Result: Complied. Novasun.

b) the working pressure (see 4.10);
Result: Complied. 400kPa

c) a model number;
Result: Complied. Novasun 1.7

d) the aperture area;
Result: Complied. 1.7m² and 2m².

e) whether fitted with hail cover or not;
Result: Complied. No hail cover.

f) whether resistant to freezing or not;
Result: Complied. The panel contains a fully insulated heat exchanger that acts as a freeze resistant mechanism. The pipework connecting to the solar geyser had Insulflex 28 x 25mm insulation (lagging)

g) the material of the fluid channels;
Result: Complied. Copper pipes.

h) the material of the collector cover;
Result: Complied. Tempered glass / Anti hail.

i) the type, mixing ratio and grade of transfer fluid (for indirect systems);
Result: Not applicable.

j) the total and useful energy rating, in kilo Watt hours per square metre per day; and
Result: Complied. 4.39kW/m²/day.

k) date of manufacture and or serial number.
Result: Complied. Test Sample.

6.2 Method of marking

The information required in 6.1(a) to 6.1(k) (inclusive) shall be stamped or embossed on the collector or on a nameplate securely attached to the collector. In addition, the information required in 6.1(f) shall be given (in letters of height at least 30 mm) on a removable sticker fixed to the glazing of the collector. (Instead of the removable sticker consider a tag for evacuated tubes.)
Result: Complied. Nameplate securely attached to the collector.

6.3 Instruction booklet

A booklet or leaflet in English shall be attached to each solar water heater and shall set out the following:

a) information regarding the thermal properties of the solar water heater (see SANS 6211-1and SANS 6211-2);
Result: Complied. 4.39 kWh/m²/day for 200lt.

b) instructions for the safe and correct installation of the complete solar water heater, with a description of all operating components and instructions for regular maintenance, including, when relevant, the maintenance of any sacrificial anode;
Result: Complied. Covered on installation booklet.

c) clear and unambiguous advice regarding resistance to freezing and hail (see 6.1(f));
Result: Complied. Covered on installation booklet.

d) safety precautions; and
Result: Complied. Covered on installation booklet.

e) precautions regarding corrosion prevention and warning details are given in annex B.
Result: Complied. Covered on installation booklet.

The information contained on the marking label shall be included in the booklet (see 6.1 and SANS 15 1:2009).

9 **REQUIREMENTS** (Clause 4 of SANS 1307:2009)

4.1 Types

A solar water heating system shall be one of the following, as required (see annex A).
Result: Complied. Thermosiphon system.

Table 1 — SWH system options

1	2	3	4	5	6	7	8	9
Collector/Storage Combinations								
integral	close-coupled **X**				split			
Heat transfer method								
direct	Direct **X**		indirect		direct		indirect	
Circulation method								
Thermo-siphon	Thermo-siphon **X**	pumped	Thermo-siphon	pumped	Thermo-siphon	pumped	Thermo-siphon	pumped
NOTE 1 Any of the above may be with or without auxiliary (back-up) power supply i.e. electric or gas. NOTE 2 Pumped (forced) circulation can be achieved with electrical mains or photovoltaic powered pumps.								

4.2 Heating system

The heating system shall be direct or indirect, and with or without supplementary energy sources as required (see annex A).
Result: Complied. With supplementary energy.

4.3 Operating system

The operating system shall be as required (see annex A), and shall consist of:

a) an integral system, in which the hot water storage tank is incorporated integrally with the collector and is stored in the body of the collector;
Result: Not applicable.

b) a close-coupled system, in which hot water is stored in a separate but close-coupled water storage tank (see 4.4);
Result: Complied.

c) a separate storage system (split system), in which hot water is stored in a water storage tank (see 4.4) that is separate from the collector; or
Result: Not applicable.

d) a pre-heater system, in which a solar water heater does not contain a means of supplementary heating and is installed to preheat the cold potable water supply prior to its entry into any other type of household water heater.
Result: Not applicable.