

## Quality Charter for the Supply of solar water heaters

1. Goal
2. Definitions
3. Normative references
4. Conditions based on European standards
5. Additional Conditions

### 1 Goal

The goal of this charter is to provide uniform guidelines for Solar Domestic Hot Water system, product and position of the supplier, to safeguard quality installation of it's product.

### 2 Definitions

Supplier: the legal or physical entity selling the hardware and responsible for conformity of this hardware on the market with respect to the regulations included in this Charter. It can be a manufacturer, an importer or a distributor. It concerns thus of the entity which is responsible for the setting of the hardware on the market.

The conditions of this quality charter deal with complete solar systems, that is: systems with one trade name, sold as complete and ready to install kits, with fixed configuration, or complete systems assembled from an assortment of components.

### 3 Normative references

The quality charter is based on the European (CEN) standards, of which some are still in preparation, relating to thermal solar installations and their components. These European standards specify the requirements with regard to durability, reliability and security of the thermal solar systems.

This document refers to the CEN standards, in their following version:

- EN 12975-1:2000
- EN 12975-2:2001
- EN 12976-1:2000
- EN 12976-2:2000
- ENV 12977-1:2001
- ENV 12977-2:2001
- ENV 12977-3:2001

### 4 Requirements based on European standards

The systems meet the requirements mentioned in chapter 4 of the European standard EN 12976-1, version ..... (indicated in column 3), or equivalent (labelled in column 4), on the points mentioned below. The titles, the specifications and classification below are literally taken from the standard unless otherwise specified.

<b>Paragraph number EN12976-1:2000</b>	<b>SUBJECT</b>	<b>Acc. EN standard</b>	<b>Own declaration</b>
<b>4.1</b>	<b>General</b>  The systems shall fulfil general safety requirements, e.g. care shall be taken to avoid protruding sharp edges on the outside of the system.		
4.1.1	Suitability for drinking water		
4.1.2	Water contamination		
4.1.3	Freeze resistance		
4.1.4	Overtemperature protection		
4.1.5	Reverse flow protection		
4.1.6	Pressure resistance		
4.1.7	Electrical safety		
<b>4.2</b>	<b>Materials</b>		

<b>4.3</b>	<b>Components and pipework</b>	Acc. EN standard	Own declaration
4.3.1	<p>Collector</p> <p>Tested for (see EN 12975-1:2000):</p> <ul style="list-style-type: none"> <li>a. Internal pressure for absorber</li> <li>b. High temperature resistance</li> <li>c. Exposure</li> <li>d. External thermal shock</li> <li>e. Internal thermal shock</li> <li>f. Rain penetration</li> <li>g. Mechanical load</li> <li>h. Thermal performance</li> <li>i. Freeze resistance</li> <li>j. Final inspection</li> </ul> <p>For systems of which the collector cannot be tested separately (for instance integrated collector-store systems) the freeze resistance test is carried out as described in annex C.1 of the standard for factory made systems: EN 12976-2:2000</p>		
4.3.2	Supporting frame		
4.3.3	Piping		
4.3.4	Circulation pump		
4.3.5	Heat exchangers		
4.3.6	store		
4.3.7	Control system		
<b>4.4</b>	<b>Safety equipment</b>		
4.4.1	Safety valves		
4.4.2	Safety lines and expansion lines (if applicable)		
4.4.3	Blow-off lines (if applicable)		
<b>4.5</b>	<b>Resistance to external influences</b>		
<b>4.6</b>	<b>Documentation</b>		

4.6.1	General		
4.6.2	Documents for the installer		
4.6.3	Documents for the user		
<b>4.7</b>	<b>Marking</b>		

<p><b>4.8</b></p>	<p><b>System performance</b></p> <p>The requirements regarding system performance deal with the production of domestic hot water.</p> <p>The thermal performance of the system is tested according</p> <p>ISO/DIS 9459-5:1997 (DST)</p> <p>ISO 9459-2 (CSTG)</p> <p>The performance of the system is reported to the user in the format as specified in Annex A of EN 12976-2:2000</p> <p><i>If the above mentioned performance tests are not performed an indication of the annual performances of the systems is achieved by simulation using the program TRNSYS, on the basis of parameters which describe the performance of the components of the systems. The reference conditions will be those described in Annex B of EN12976-2:2000.</i></p> <p><i>In that case the parameters describing the performance of the components of the systems are taken from test reports described in the following standards or equivalent:</i></p> <ul style="list-style-type: none"> <li>▪ <i>The collector: EN 12975-1:2000</i></li> <li>▪ <i>The storage: ENV 12977-3:2001</i></li> <li>▪ <i>The control system: Annex B of ENV 12977-2:2001</i></li> </ul> <p><i>The results of simulations are presented in a report in accordance with clause 8 of ENV 12977-2:2001, except for the presentation of the thermal performances which are described in accordance with item 5.9.3 of EN 12976-2:2000.</i></p>	<p><b>Acc. EN standard</b></p>	<p><b>Own declaration</b></p>
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## 5 Additional conditions

	Accepted	Other, namely
<p><b>Guarantees</b></p>		
<p>The minimal guarantees given by the supplier on the system are:</p>		
<p>5 years on the functioning of the collector</p>		
<p>2 years on the boiler vessel</p>		
<p>1 year on the functioning of the other components</p>		
<p>The guarantee is limited to the replacement and/or free repair of the part for which the defect is the responsibility of the supplier (in particular a manufacturing defect, or delivery of a defective part). However, the first two years, the guarantee will also cover the installation costs induced by the</p>		

<p>necessary replacement of a part covered by a guarantee on manufacturing defects.</p> <p>Excluded from guarantee is the damage caused by the freezing of the collectors, unless this damage results from an indisputable manufacturing error. The guarantee also does not cover broken collector glazing.</p> <p>Any work undertaken without the intervention of an approved installer and/or any use of not approved parts, makes immediately fall the complete guarantee.</p> <p>No guarantee will be assumed for the defects caused by negligence of the user or of the buyer, such as the lack of maintenance, defects resulting from improper, abnormal use and use without understanding of the parts delivered by the supplier, or defects resulting from installation not conform the directives of the supplier.</p> <p>The terms of guarantee offered are clearly described to the customers.</p>		
<b>Assistance to installers</b>		
A specific training for each product and type of system is provided to the installers who engage themselves to sell and install the products of a supplier.		
A supplementary assistance will be provided to each SWHS installer, at least with the installation of the first two systems.		
<b>Inspections of installed systems</b>		
The supplier organises on a regular basis inspections of installed systems. These inspections can be carried out by the supplier himself or a third duly elected by the aforementioned supplier. The inspection will be carried out in such way that the guarantees given are not modified or affected in any way		
As each type of SWH has its own characteristics and considering the fact that new innovations appear regularly, the supplier will draw up and distribute a list determining the principal elements to check in order to control the good installation and the operation of each one of his systems.		
<b>monitoring</b>		
The supplier accepts that monitoring of the performance of his systems can be carried out.		
<b>promotion</b>		
The supplier will participate in promotion campaigns for solar water heaters		

