

Solar Industries Association of New Zealand

Process and Criteria for Listing as a Complying Solar Water Heating System

Solar water heating system suppliers must be able to demonstrate to potential customers and Consent Authorities that an installed system meets the requirements of the New Zealand Building Code. To assist the public identify those system that comply with the Building Code the Solar Industries Association and EECA have established a scheme where systems that have been demonstrated as complying can be listed on a public access website. The Solar Industries Association (SIA) administers the scheme and lists packaged Complying Systems on the website www.accreditedsolar.org.nz .

Applications for listing will normally be submitted by the distributor¹ of the system although in many instances the distributor and the supplier may be the same person.

The verification of applications for listing is undertaken by an independent party so as to provide members of the public wishing to invest in solar water heating with a level of assurance that the system should perform as expected if installed correctly.

Listing on the website also makes it easy for potential customers and consent authorities to check if a system fully complies or not.

Listing as a Complying SWH System does not provide any warranty to SWH purchasers but is a guide to which systems and suppliers should meet the appropriate standards and be properly installed if these criteria are met. Purchasers are advised that they need to assure themselves of the suitability of the system and the competence of the supplier when making their purchase as the system and individuals involved with supply and installation may be different from those considered at the time of listing.

Listed systems may be used in residential, commercial, or industrial applications.

1. What is a complying solar water heating system

The scheme covers solar water heating (SWH) systems manufactured locally or imported into New Zealand. Complying Systems must comply with the relevant New Zealand manufacturing standards and the supplier must support the product with appropriate installation manuals appropriate for NZ applications, installer training, backup technical support for installers, and the product must be covered by an appropriate warranty.

Listed systems are referred to as a 'Complying Solar Water Heating System'. (For more information on the standards that complying systems have to meet, please see the separate fact sheet 'Guide to meeting solar water heating system standards').

¹ Distributor – manufacturer or importer of the system
 Supplier – the party who sells the system to the customer. A supplier will usually also arrange to install the system as part of the supply contract.
 Installer – the party who installs the system. The installer may be contracted to the supplier or an independent party. The installer may also be the supplier if part of a distributors network of agents.

A Complying System must be a fully 'packaged system'. Packaged systems are where the entire system (collector, tank, piping, supplementary heating controller, pump, and pump controller) is designed as an integrated whole made up of the various components.

The Building Code and associated standards allow for components from a packaged system to be used in a custom built application. Custom built systems might use various components connected to an existing hot water storage tank, or have a collector inset into a roof.

Only packaged complying systems are listed as by its nature a custom built system is defined only once it is built and may be different in a number of aspects from other systems.

In terms of the Building Code the standard AS/NZS 2712:2007 determines that if a custom built system is made up of components from a complying packaged system, and the ratio of collector area to tank volume is greater than 50 litres/m², then the custom built system is deemed to comply with the standard.

A listed system may be publicised with the following relevant label:



2. Who provides listing

Listing is independently administered by an SWH Accreditation Administrator (who may be the SIA Executive Officer, or any other person appointed by the SIA Full Members at an AGM), to criteria approved by the industry represented by Full Members of the SIA. Oversight of the actions of the SWH Accreditation Administrator is provided through the establishment of an external and independent Accreditation Complaints Committee.

This paper sets out the process followed by the SWH Accreditation Administrator for handling applications and the criteria that must be achieved for listing. An application form is in Appendix A.

Contact details:

The SWH Accreditation Administrator
 P O Box 11 595
 Wellington 6142
 or
brian.cox@solarindustries.org.nz
 04 385 3359
 0274 771 048

3. Why do I need my system to be listed?

Purchasers of solar water heating systems want to be assured that the system they purchase meets the technical standards and should work as expected. Having an independent party review the supplier's documentation provides a level of assurance that any statements made by the supplier as to the compliance of the system is true.

If Consent Authorities can also have an easy means of verifying a supplier's statements as to a system's compliance to the relevant manufacturing standard then this should reduce the amount of effort needed when assessing a Building Consent application. Some Consent Authorities advise consent applicants that if the product is not listed on the www.accreditedsolar.org.nz website as evidence of manufacturing compliance then the applicant will have to provide full documentation that the system complies with the Building Code.

4. Complying SWH System

SWH Distributors, who may be importers or New Zealand based manufacturers of SWH equipment, are required to demonstrate that the equipment supplied meets the manufacturing and operating standards in the New Zealand Building Code. Compliance with these criteria also requires the provision of evidence that all of the following will be achieved: All variations of the system that are to be covered by this application are to be listed, along with their uniquely named or identified components.

To be designated as a Complying SWH System the system Distributor must demonstrate the following:

Category	Evidence	Check
The Applicant	The applicant who is referred to as the SWH Distributor but may be an importer or NZ manufacturer of the systems for which listing is being applied for must provide full New Zealand address and contact details.	
System description	<p>Application and promotion documentation must clearly specify what components constitute the complying system eg packaged systems can only be listed and the description must clearly list the complete system components including tanks, collectors and ancillary equipment as set out in CP2 of Appendix A.</p> <p>Where the model of system is specifically designed for connection to an existing hot water storage tank the range of tanks for which it has been designed are to be noted as if they were a new component.</p> <p>Where the model of system is specifically designed for in-roof installation this should be noted in the system description as some components of the installation are built onsite.</p> <p>Each model of system must include reference to the form of legionella protection for which the system is to be installed as the means of protection can have a significant bearing on energy performance.</p>	
Technical standard	<p>Complying systems are packaged systems that have been tested and proven to meet the requirements of the New Zealand Building Code². Specific requirements are set out in G12/AS2 and AS/NZS 2712: 2007. (AS/NZS 2712:2002 will be deemed to comply with AS/NZS 2712:2007 until 1 July 2009).</p> <p>Certification of compliance must be by either;</p> <ul style="list-style-type: none"> • production of an SAI-Global certificate, or • production of a BRANZ Appraisal, or • production of a satisfactory 2712 test report³ <p>Tanks supplied as part of a pumped solar system where the tank is separately mounted from the collector must comply with AS/NZS 4692.2 tank minimum</p>	

² All packaged system models to be listed must be noted on the application form..

³ Test reports are currently accepted from:

- Applied Research Services, Nelson, www.appliedresearch.co.nz
- University of Stuttgart

Note that the applicant must be able to demonstrate that they have authorised use of any documentation that they have not obtained in their name.

Category	Evidence	Check
	<p>insulation requirements. Note that this modifies the exemption provided to solar tanks in clause 1.4 of AS/NZS 4692.2. Tanks listed on www.energyrating.gov.au will be deemed to comply with this requirement.</p> <p>If a tank is not listed on www.energyrating.gov.au then the applicant must demonstrate that the tank complies with AS/NZS 4692.1 along with information of the of the tank manufacture.</p> <p>Review the factsheet 'complying systems and compliance' for more information.</p>	
Other standards	Where components or the system have been certified to meet other international standards these should be listed, along with the components covered by each standard. Note that these do not replace the need to demonstrate compliance to AS/NZS 2712:2007	
Manufacturing compliance	Suppliers must provide information on the manufacturing processes, delivery and source of supply of all components showing ISO 90002 compliance. Where ISO 9002 compliance is not achieved evidence ⁴ must be provided that demonstrates that the relevant system or components supplied to the customer will meet the standards.	
Business information	<p>The Distributor of the SWH system needs to show that they have a proven track record in business and are likely to remain in business for a number of years so as to be able to fulfil warranty conditions. This can be by way of declarations from the applicant's accountant / auditors that the company is solvent and likely to be continuing to operate as a minimum at the same levels for a period of at least two years all things being equal.</p> <p>Demonstration that the SWH Distributor has adequate parts and on-going support processes to meet installer requirements, both in terms of access to trained personnel and procedures.</p> <p>The manufacturer or importer has appropriate cover under a public liability insurance scheme.</p> <p>The SWH Distributor has appropriate warranties</p>	

⁴ Evidence must be provided that demonstrates that the system tested is manufactured in a factory with demonstrated quality control systems that ensure that the sample tested is representative of all system of that type to be manufactured and supplied by the applicant.

Supporting evidence should include;

- Information on the manufacturing factory including location, size, history of manufacturing this system,
- Certificates ISO 9002 etc that demonstrate that the manufacturing plant has appropriate quality control procedures
- Information showing that the manufacturing plant has a proven track record of quality manufacturing
- Information showing that the system manufactured are supplied to other international markets albeit under different brands names
- Information on linkages that the factory may have with other solar industry parties
- Information on the applicant's quality control procedures that will ensure that the system sold is represented by the system tested.
- Information on certification to other international standards

Category	Evidence	Check
Manuals	<p>Provision of manuals that allow successful installation as packaged and possibly custom built installations. A check list of topics to be covered in the manual are shown in Appendix B.</p> <p>The SWH Distributor can provide documentation and procedures to assist suppliers and installers obtain Building Consents.</p> <p>That documentation that is provided to the SWH purchaser sets out what energy performance the purchaser can expect from their system⁵.</p> <p>Appropriate maintenance and operating instructions are provided in a manual to be provided to system purchasers. A checklist of topics to be covered in the manual is set out in Appendix C.</p>	
Technical support	<p>The SWH Distributor provides appropriate technical support to specifiers/designers, suppliers and installers.</p> <p>Demonstration of installer training procedures.</p> <p>The system SWH Distributor provides evidence of how they provide technical support to suppliers and installers and ensure that the installers are fully trained to install systems properly.</p> <p>System information has contact details for a New Zealand based person to be available to deal with customers technical queries⁶.</p> <p>System information has New Zealand contact information</p>	

5. Process of obtaining listing

SWH Distributors who have a SWH system which they wish to get listed on www.accreditedsolar.org.nz should submit the application form C1 in Appendix A to the SWH Accreditation Administrator. If you require more information on how to fill out the application form contact the SWH Accreditation Administrator.

Applicants for listing must provide in writing the information demonstrating that they meet the criteria set out in this document. The information is to be provided on the Application Form C1 in Appendix A.

Information provided in the application form and any supplementary attachments must be sent to the Accreditation Administrator who will treat the information in confidence. Information will not be made available to any member of SIA or to any other party unless authorised to by the applicant. An acknowledgement of receipt of your application will be sent to you within 5 working days of receipt of your application by the Accreditation Administrator.

The Accreditation Administrator will within one calendar month undertake appropriate investigations and discuss the application with the applicant. The Administrator may seek additional information or require changes to any documentation provided in order to be satisfied that the application meets the accreditation criteria. If necessary the Administrator will guide the applicant in the process of obtaining accreditation.

The applicant may offer variations to the evidence required by this document as a means of demonstrating that the criteria is met. The Administrator will check the information

⁵ To ensure that there is not a degree of over sell by sales agents, SWH Distributors need to have information and procedures that ensure that oversell is not being done with their systems.

⁶ The named contact person does not need to be part of the company but they need to be contactable in NZ.

required against Form CP4 in Appendix D. Once the Administrator is satisfied that the applicant meets the criteria and all of the items listed in CP4 have been provided, and within one calendar month he/she shall complete Form CP5 as a record confirming that each of the criteria have been met. The administrator will then proceed to confer the accreditation by listing the complying systems on the website www.accreditedsolar.org.nz within five working days.

If an application is declined the Administrator will provide reasons to the applicant why the application is being declined and outline specific requirements that the applicant has to meet before the application would be successful. If these requirements can be met within three months of the applicant being advised of the requirements these will be considered within the original application otherwise a new application and fee will need to be filed.

If successful, the applicant will receive a letter confirming the decision to list the nominated systems. The list of complying systems will be included in the letter of accreditation and listed on the website against the applicants contact details. After a period of two years listing will lapse unless a renewal form has been lodged and accepted with listing granted for another two years.

6. Revoking of listing

If the Accreditation Administrator receives a complaint at any time that indicates that a listed system may no longer meet the criteria for listing the Accreditation Administrator will undertake an investigation and take up any concerns with the relevant party so that concerns are addressed. If the Accreditation Administrator is still not satisfied that the listing criteria is being met the Administrator may commence action to revoke the appropriate system's listing. The Accreditation Administrator will prepare a full report setting out why listing should be revoked and which will be provided to the affected party. The Administrator will advise EECA and the SIA Executive of the proposed action.

A specific area where consideration of revocation will be considered by the Accreditation Administrator is where there is a clear series of failures of specific named models of systems and the SWH Distributor has not taken appropriate action to recall the product or other appropriate actions to address the problem.

The SWH Distributor will have one month to respond to the Accreditation Administrator's report and demonstrate why the listing should not be revoked. The Accreditation Administrator may seek assistance from any other party to undertake the investigation.

If an unsatisfactory response from the SWH Distributor is received the Administrator may revoke the listing by formally advising the SWH Distributor with a copy to the members of the Accreditation Complaints Committee.

7. Disputes and complaints

Any applicant for Complying product listing who considers the listing process, or their application, has not been fairly followed or considered, may lay a complaint with the Accreditation Complaints Committee who will investigate into the complaint and determine the action that should be taken. The decision of the Complaints Committee will be binding until a fresh application is received from the applicant, or any conditions set by the Committee have been met. Similarly disputes over revoking of listing may be

referred to the Complaints Committee if the complainant considers that the Accreditation Administrator has not fairly considered their response. The Complaints Committee are bound to consider the criteria set out in this document and natural justice when considering a complaint.

EECA or the SIA Executive may also lay a complaint with the Complaints Committee if they are not satisfied with any decision of the Administrator.

The Complaints Committee is constituted of;
A representative of consumers, plumbing or building industries
A representative of EECA
Two representatives of the SWH industry

The Committee is chaired by the Representative of Consumers, Plumbing or Building Industries who has a casting vote if necessary.

The Committee shall be supported by the SIA Executive Officer.

The Complaints Committee will consider only complaints received in writing and will refer any complaint to both the complainant and the SWH Accreditation Administrator with a request for further written information and response. The additional information and response is to be received within one month. The Committee will then consider the information received and produce a finding within one month of the additional information being received. The Committee may consider the complaint and additional information in any way it considers fit including teleconference, personal meeting, and email correspondence.

Committee members will be paid \$100/hour plus GST for attending any complaints hearings. If a complaint is not upheld the complainant will pay a fee of \$150 which will be used to assist with committee members expenses.

The process to be followed is for the complainant to provide a written summary of the points supporting the complaint. This will be provided to the SWH Accreditation Administrator who will provide a written response and justification for the actions being taken by the Administrator. This will be provided to the complainant for any additional comment. All information provided by the complainant and the Administrator will be collated and circulated to the Committee members for formal consideration. The Committee members may seek further information from either the complainant or the Administrator. Committee decisions will be based on the written information put before it and the committee's deliberations.

Committee decisions will be by majority vote however it is expected that consensus will be aimed for wherever achievable.

The Committee will provide a brief summary of the facts and its decisions within 10 working days of the complaint being heard.

8. Listing and renewal of listing

SIA publishes the official list of Complying SWH Systems on its website www.accreditedsolar.org.nz.

Listing as a Complying SWH System lasts for two years unless the system is materially changed. The information for listing is to be provided on form CP2 in Appendix A.

Approximately two months before listing expires, the Accreditation Administrator will send the SWH distributor a renewal form for completion. This should be returned to the Accreditation Administrator

If people fail to renew their accreditation by the due date, they will be sent a reminder that their accreditation will lapse after one month.

Where additional models of the system are to be included for listing this may be added at any time by application to the Accreditation Administrator who may accept the models within the then current system listing where they are essentially variations of existing listed systems using already accepted components. Inclusion of all models within the relevant listing will lapse at the end of the relevant listing period.

To renew a listing the applicant must demonstrate:

- that the current system has not changed materially, and
- show that the distributor continues to import or manufacture the systems for which listing renewal is sought, and
- certify that the named systems continue to meet the relevant standards, and
- demonstrate to the Accreditation Administrator that named systems meet all the criteria for listing current at the time of application for renewal. To achieve this the Administrator may request any information as if the application for renewal is a new application, and
- satisfy the Administrator that any complaints about the system received by the SIA over the preceding year have been dealt with adequately and that any remedial action relating to the system complies with the relevant standards.

9. How much does it cost?

There is a set fee of \$360 plus GST unless the SWH Accreditation Administrator is required to provide greater than normal assistance. If there is any additional fee the Administrator will advise the applicant prior to proceeding.

Schedule of Fees (New or Renewal Application for all Categories)

Activity	Fee
Application for listing as a Complying SWH System	\$360 plus GST
Application for renewal of listing as a Complying SWH System	\$250 plus GST

Note:

1. The above fees are not refundable in the event that a person's application is unsuccessful
2. The cost of proving that systems meet technical standards are not covered by these fees
3. An application may cover any number of systems by the same distributor.

10. How long will it take?

An application for accreditation takes around a month on average as experience shows that manuals and other supporting information from applicant is generally not up to best practice. The SWH Accreditation Administrator often has to work with applicants to assist them get documentation and processes up to best practice.

11. Listing Management

The SWH Accreditation Administrator will be responsible for maintaining records and listing the names of systems on the SIA website. Distributors are responsible for providing the information for listing with information set out in Form CP2. Alterations to the information provided on CP2 may be forwarded to the Administrator at any time.

The Administrator will be responsible for monitoring the operation of the listing register and the integrity of the process.

Application Form for Listing as a Complying Solar Water Heating System

**The SWH Accreditation Administrator
P O Box 11 595
Wellington**

Note: The SWH Accreditation Administrator is an independent party appointed by the Solar Industries Association (SIA) to administer the accreditation process on behalf of the Energy Efficiency and Conservation Authority (EECA) and the solar water heating industry.

**APPLICANT COMPANY
NAME:** _____

**REPRESENTATIVE'S
NAME:** _____

TITLE/POSITION: _____

POSTAL ADDRESS: _____

STREET ADDRESS: _____

PHONE: _____

FAX: _____

EMAIL: _____

WEB SITE: _____

DATE OF APPLICATION: _____

Information provided as part of this application is confidential to the SWH Accreditation Administrator and will not be shown or discussed with any other party.

Please provide answers to questions by deleting answers not applicable or providing information as appropriate. All documentation and supporting evidence requested is to be submitted along with this application form. Where information is not provided or is deficient in any way the SWH Accreditation Administrator will seek the necessary information from the applicant.

All applicants are to provide the following information:

Brand of systems covered by this application	
List model numbers or names of all the packaged SWH systems ¹ covered by this application on Form CP2. Include components, characteristics specific to each model, and AS/NZS 2712 Certification ² (with reference to certifying body and certification numbers) applying to each model of system.	
Provide information on the manufacturer of each equipment component and evidence of their manufacturing experience. Provide evidence on the length of time they have been manufacturing the systems to be covered by this application, and the markets the system is sold in ³ .	
Does the hot water storage tanks used with your SWH systems in a customised application comply with the NZ Minimum Energy Performance Standard for Hot Water Storage Cylinders. Provide information on compliance. Listing of the model on www.energyrating.gov.au will be accepted as demonstration of compliance.	

Provide evidence that the systems you supply are reliable and trouble free through

¹ The description of a packaged system must identify all the individual components and settings relating to each model of system eg for legionella, location in tank of supplementary heating, etc. The components making up the packaged system are to be individually identified and AS/NZS 2712 test certificates provided for each component.

^{2,2} A supplier must have certification that the principal model variations of the system listed as complying complies with AS/NZS 2712. For accreditation purposes a supplier is not expected to show certificates for every model variation sold but only those which represent a family of models. Where a model of system is supplied for customised installations (in-roof or retrofit applications) the parameters of the application eg type and size of existing tank to which the components are to be connected to are to be noted on the application form.

² Demonstration of compliance with 2712 may be by one of three alternative methods:

- presentation of an SAI-Global certificate, or
- Presentation of a BRANZ Appraisal, or
- Presentation of a satisfactory 2712 test report supported by evidence that demonstrates that the system tested is manufactured in a factory with demonstrated quality control systems that ensure that the sample tested is representative of all system of that type to be manufactured and supplied by the applicant.

Supporting evidence should include;

- Information on the manufacturing factory including location, size, history of manufacturing this system,
- Certificates etc that demonstrate that the manufacturing plant has appropriate quality control procedures
- Information showing that the manufacturing plant has a proven track record of quality manufacturing
- Information showing that the system manufactured are supplied to other international markets albeit under different brands names
- Information on linkages that the factory may have with other solar industry parties
- Information on the applicant's quality control procedures that will ensure that the system sold is represented by the system tested..
- Information on certification to other international standards

Note that the applicant must be able to demonstrate that they have authorised use of any documentation that they have not obtained in their name.

³ Suppliers must provide information on the manufacturing processes, delivery and source of supply of all components showing ISO 90002 compliance. Where ISO 9002 compliance is not achieved evidence³ must be provided that demonstrates that the relevant system or components supplied to the customer will meet the standards.

time eg reference to at least twenty SWH systems that have been installed and operated for more than two years.
Provide evidence that the component manufacture procedures are comprehensive and that quality control systems ensure that all systems manufactured meet the Standard AS/NZS 2712:2007.
Provide information on any other standards that the system complies with.
Provide evidence (report, drawings or explanations) that demonstrate that the design of the SWH systems supplied by you are well thought through and will deal satisfactorily with the following; <ul style="list-style-type: none"> • Freezing • Overheating • Loss of water supply • Loss of electricity supply • Pressure ratings – describe relief valves used and their locations
Provide evidence that you provide purchasers of your system, system warranties of at least 5 years
Provide a copy of your warranty certificate. ⁴
Provide a copy of the installation manual which must include the information set out in Appendix B. ⁵
Provide evidence that you have the capability to provide parts and on-going support to suppliers and customers.
Name a certified SWH installer who is available to oversee quality control of installation and deal with customers.
Provide a copy of the owner's maintenance and operating instructions ⁶ which must include the information set out in Appendix C.

⁴ Warranties must include the following information

1. Address and contact details of the NZ supplier
2. Reference that the system complies with the Code of Practice and standard AS/NZS 2712
3. Reference that the system has been installed to the standard AS/NZS 3500.4
4. Provision for the installer contact details to be included

⁵ Installation instructions must meet the following criteria;

- Be in simple and easy to read English
- Be appropriate for an inexperienced installer to follow
- Have suitable drawings or photos showing each step of the installation process
- Include a diagram showing the relationship with all system parts.
- Refer installers to the Code of Practice
- Separately show installation as a packaged system, and if recommended for use in custom built residential applications using an existing hot water storage container, the methods for installation to the existing container.
- Contain the information in the checklist in Appendix 2.

⁶ The owner's maintenance and operating instructions must include the NZ based system supplier contact details and reference to the Code of Practice.

Provide evidence that shows that you have comprehensive installation training, support and monitoring/auditing procedures ⁷ to ensure that the SWH systems you supply are installed appropriately ⁸ .	
Provide a copy of your documentation to customers (prior to or at sale) confirming the system parts supplied; performance expectations related to AS/NZS 4234; maintenance requirements, names of supplier, designer/ installer; compliance to the Code of Practice; and guarantees or warranty including that of peripheral equipment.	
Provide a copy of a short version of the maintenance and operating instructions that can be attached in an appropriate location (eg hot water cylinder) so as to ensure that maintenance including anode replacement and heat fluid level checking is undertaken appropriately.	
What level of public liability insurance do you hold ⁹	
What company provides your public liability insurance	
When does your public liability insurance expire	
Confirm that you have read the 'Process and Criteria for Listing as a Complying Solar Water Heating Systems, version dated 12 September 2008' and meet its requirements.	
Confirm that you have read the 'Code of Practice for Manufacture and Installation of SWH Systems in NZ' and you meet all appropriate requirements.	
Provide a brief outline of your experience in the SWH industry that demonstrates your competence to supply a Complying SWH System.	

Provide evidence that you have a proven track record in business and that you have

⁷ Acceptable installer training procedures will include some or all of the following;

- Sales only to appropriately trained distributors, agents, or named installers
- Procedures for ringing new installers to ensure that they have read the installation instructions
- Visits to new installers to assist them with the first 2 installations
- Installation demonstration video
- New installer training visits
- Inspection of the first installations undertaken alone
- Random audits of installations
- Installation updates to inform installers of changes in recommended practices

⁸ The level of system supplier support is higher than for many other plumbing systems as there are still few plumbers with comprehensive experience in SWH installation. SWH systems operate at much higher temperature and pressures than for general domestic plumbing. As their experience level increases the level of necessary system installation support will reduce to that of other plumbing systems.

⁹ Distributors of Complying SWH Systems, must hold a level of public liability insurance commensurate with the value of the systems being distributed.

the knowledge and experience to supply, design or install SWH systems.		
Provide a declaration from your accountant / auditor that you are solvent and likely to continue to operate as a business all things being equal.		
Are you a member of the Solar Industries Association	Full Member	
	Associate Member	
	Not a member	
Provide evidence of your participation in industry activities, eg involvement in SIA activities, membership of other appropriate associations, publication of magazine articles on SWH, SWH promotion activities, attendance at seminars conferences etc.		

Declaration

On behalf of the applicant I hereby declare that the applicant desires to obtain listing of the solar hot water systems described in this application and that the information provided is truthful.

Representatives Name _____

Signature of Applicant's Representative _____

Complying SWH System Installation Manual: Content Requirements

For the purpose of listing as a Complying SWH System the system distributor must provide and keep up-to-date SWH Installation Manuals for all product to be listed that cover the following: Applicants for listing must confirm by ticking the third column that the information is included in the manual and this form must be included in the application.

Note:

1. Only packaged systems can be listed as a Complying Product. Where components of the packaged system are used for custom build applications the manual must cover for such installation.
2. Information should be identifiably provided for installation of distinctly different model variations of the system.

Item	Requirement	Included
Description of systems covered by the manual	<ul style="list-style-type: none"> • Unique identifier for each system covered by the manual • Identifier of the individual components (collector, tank, controller, pump) of each nominated system. • Tank configuration (position of supplementary heating, probe and thermostat, inlet and outlet) Description of controller(s)	•
Layout description for each system covered	Diagram's showing layout of each model of system to be listed	
Pump controller setup	Description of set up of pump and supplementary heating controller(s).	
Supplementary heating	<ul style="list-style-type: none"> • Information on how to optimise energy performance by appropriate supplementary heating control, including instructions on how to set up the controllers for optimal energy performance. 	•
System location on building	<ul style="list-style-type: none"> • Guidance on how to optimise location of installation on roof (orientation, shading, inclination, expected energy performance). • Guidance on layout of pipework. 	•
System application design	<ul style="list-style-type: none"> • Guidance on design of system so as to achieve optimal energy performance. • Methods of calculating expected energy performance of system when installed with specific applications. • Guidance on custom built design (eg in-roof applications) 	•

	<ul style="list-style-type: none"> •Guidance on installation in conjunction with wetback. •Guidance for installing system as a heater to applications (underfloor heating, pool heating, primary heat source, ring main) 	
Water quality	Guidance on limitations of system when water quality is poor	
Legionella protection	Description of how system or controller is set up to provide protection from legionella.	
Component installation	<ul style="list-style-type: none"> •Detailed instructions that would allow an unfamiliar installer to put the components together so that the system worked adequately. •Methods for protection of components from heating during installation. •Methods for lifting of components onto the roof •Location of non return valves •Instruction for pipe diameter and material to be used at different parts of the system. •Closed loop fluid commissioning. •Installation of tempering valves 	•
Installation to an existing tank	Method of converting an existing tank to take solar heated water while ensuring stratification of water within the tank.	
Durability	Statement on compliance of each component to durability requirements of the NZ Building Code	
Structural	<ul style="list-style-type: none"> •Nominated load of components •Guidance on capabilities of a range of roofs to take nominated loads with and without strengthening. •Guidance on methods of strengthening various roof frame configurations •Guidance on elevated frame capabilities. 	•
Fixing of collector and tanks to roof	Detailed description of methods of connecting collector and tank components to the roof for different cladding types and profiles (corrugated metal, profiled metal, metal tile, masonry tile)	
Weathertightness of penetrations to roof	Detailed description of methods of ensuring weathertightness of pipe and wiring penetration of roof cladding	
Pump settings	Description of how to install and setup the pump including nominated flow rate for the specific system.	
Pipe insulation protection	<ul style="list-style-type: none"> •Description of pipe insulation material •Method of protecting insulation from weather 	•

Freeze protection	<ul style="list-style-type: none"> •Description of level of protection from freezing (Level 1 or 2). •Instructions for set up of freeze protection devises or methods 	•
High temperature and pressure protection	<ul style="list-style-type: none"> •Description of PTR valves including pressure and temperature specifications. •Location and settings of PTR valves. •Methods of piping overflow fluids off the roof 	•
Electrical connection	<ul style="list-style-type: none"> •Instructions to electrician for connecting electricity for supplementary heating, controller operation, pumping, performance monitoring. •Single line diagram for electrical works •Specific instructions for ripple control, controlled rate, freeze protection 	•
System commissioning	Instructions and check list of actions to be included within commissioning of the system	
Energy performance monitoring	Instructions on how to monitor energy performance	
Trouble shooting	Descriptions of common problems that result in poor energy performance and instructions on how to diagnose and rectify them.	
Installer safety	Methods of installer working at heights and other locations in a safe manner.	
References	Reference to standards and other relevant installation training material	
Contact details	New Zealand contact details of product supplier	

Complying SWH System Operating and Maintenance Manual: Content Requirements

For the purpose of listing as a Complying SWH System the system distributor must provide and keep up-to-date an SWH Operating and maintenance Manual for all product to be listed that cover the following: Applicants for listing must confirm by ticking the third column that the information is included in the manual and this form must be included in the application.

Item	Requirement	Included
How the SWH system works	<ul style="list-style-type: none"> •General introduction to how SWH systems work with particular reference to the type of systems supplied. 	•
Description of systems covered by the manual	<ul style="list-style-type: none"> •Unique identifier for each system covered by the manual •Description of the individual components (collector, tank, controller, pump) of each nominated system. •Tank configuration (position of supplementary heating, probe and thermostat, inlet and outlet) <p>Description of pump and supplementary heating controllers. Diagram's showing layout of each model of system to be listed</p>	•
Supplementary heating	<ul style="list-style-type: none"> •Information on how the supplementary heating has been configured so as to optimise energy performance. •Instructions on reading energy performance from read-outs on the controller •What the owner should and shouldn't do to adjust supplementary heating to optimise energy performance at different times of the year. 	•
Freeze protection	<ul style="list-style-type: none"> •Description of the method of protection from freezing applying to the system •Any instructions for the owner on ensuring that the freeze protection is maintained. 	•
Energy performance monitoring	<ul style="list-style-type: none"> •Information on expected energy performance •Instructions on how to monitor energy performance 	
Legionella protection	Description of how the system supplementary heating controller has been set up to provide protection from legionella.	
Owner maintenance	<p>Instructions for maintaining the life of the system:</p> <ul style="list-style-type: none"> • Regular washing in specific environments • Clearance of debris • Monitoring excess discharge of water from relief valves • Clearance of shading 	

Servicing requirements	<p>Instructions for maintaining the life of the system:</p> <ul style="list-style-type: none"> • The value of regular service checks • For closed loop systems regular checking of heat transfer fluid levels • Anode replacement • Annual checking of relief valves • Checking for weather damage 	
Contact details	New Zealand contact details of product supplier	

Complying SWH System Listing Administrator's Check Sheet

Distributor:

Brand of Complying System:

Date of Assessment:

Assessor:

For the purpose of listing as a Complying Product the system supplier must provide and keep up-to-date SWH Installation Manuals for all product to be listed that cover the following:

Note:

1. Only packaged systems can be listed as a Complying Product. Where components of the packaged system are used for custom build applications the manual must cover for such installation.
2. Information should be identifiably provided for installation of each variation of the system.

Manufacturing Compliance

Item	Requirement	Are requirements met?
AS/NZS 2712 compliance	<ul style="list-style-type: none"> • System has been tested to AS/NZS 2712: 2007 	
List of complying systems	<ul style="list-style-type: none"> • Provide list on form CP2 	
Manufacturing production	<ul style="list-style-type: none"> • Manufacturer of components have quality manufacturing processes <ul style="list-style-type: none"> ○ Collector ○ Tanks ○ Contollers ○ Ancillary parts 	
Tank Insulation	Tank complies with MEPS and is listed on www.energyrating.govt.au	

Technical Support and training

Item	Requirement	Are requirements met?
Have technical support	Has a suitably experienced and trained technical support person who can answer installer questions and trouble shoot problem installations	
Have experience in the SWH industry	Has experience in the SWH industry or similar	
Declaration of business solvency	Provide declaration from an accountant /auditor that business is solvent and likely to be around to fulfil warranties.	
Have installer training processes	Have a suitable installer training process	
Have operating and maintenance manual	Provide information to system owners on how to operate and maintain their system	
Insurance	Has an adequate level of insurance	
Warranty certificate	Has an appropriate warranty certificate.	

Manual

Item	Requirement	Are requirements met?
Description of systems covered by the manual	<ul style="list-style-type: none"> • Unique identifier for each system covered by the manual • Identifier of the individual components (collector, tank, controller, pump) of each nominated system. • Description of controller(s) • Discussion on closed loop/open loop configuration. 	
Layout description for each system covered	Diagram's showing layout of each system to be listed	
Guide to system energy performance optimisation	<ul style="list-style-type: none"> • Tank configuration (position of supplementary heating, probe and thermostat, inlet and outlet) • Description of set up of pump controller • Description of set up of supplementary heating controller 	
System location on building	<ul style="list-style-type: none"> • Guidance on how to optimise location of installation on roof (orientation, shading, inclination, expected energy performance). • Guidance on layout of pipework. 	•
System application design	<ul style="list-style-type: none"> • Guidance on design of system so as to achieve optimal energy performance. • Methods of calculating expected energy performance of system when installed with specific applications. • Guidance on custom built design (eg in-roof applications) • Guidance on installation in conjunction with wetback. • Guidance for installing system as a heater to applications (underfloor heating, pool heating, primary heat source, ring main) 	•
Water quality	Guidance on limitations of system when water quality is poor	
Legionella protection	Description of how system or controller is set up to provide protection from legionella.	
Component installation	<ul style="list-style-type: none"> • Detailed instructions that would allow an unfamiliar installer to put the components together so that the system worked adequately. • Methods for protection of components from heating during installation. • Methods for lifting of components onto the roof • Location of non return valves • Instruction for pipe diameter and material to be used at different parts of the system. • Closed loop fluid commissioning. • Installation of tempering valves 	•
Installation to an existing tank	Method of converting an existing tank to take solar heated water while ensuring stratification of water within the tank.	
Durability	Statement on compliance of each component to durability requirements of the NZ Building Code	
Structural	<ul style="list-style-type: none"> • Nominated load of components • Guidance on capabilities of a range of roofs to take nominated loads with and without strengthening. • Guidance on methods of strengthening various roof frame configurations • Guidance on elevated frame capabilities. 	•

Fixing of collector and tanks to roof	Detailed description of methods of connecting collector and tank components to the roof for different cladding types and profiles (corrugated metal, profiled metal, metal tile, masonry tile)	
Weather tightness of penetrations to roof	Detailed description of methods of ensuring weather tightness of pipe and wiring penetration of roof cladding	
Pump settings	Description of how to install and setup the pump including nominated flow rate for the specific system.	
Pipe insulation protection	<ul style="list-style-type: none"> • Description of pipe insulation material • Method of protecting insulation from weather 	•
Freeze protection	<ul style="list-style-type: none"> •Description of level of protection from freezing (Level 1 or 2). •Instructions for set up of freeze protection devises or methods 	•
High temperature and pressure protection	<ul style="list-style-type: none"> •Description of PTR valves including pressure and temperature specifications. •Location and settings of PTR valves. •Methods of piping overflow fluids off the roof 	•
Electrical connection	<ul style="list-style-type: none"> •Instructions to electrician for connecting electricity for supplementary heating, controller operation, pumping, performance monitoring. •Single line diagram for electrical works •Specific instructions for ripple control, controlled rate, freeze protection 	•
System commissioning	Instructions and check list of actions to be included within commissioning of the system	
Installer safety	Methods of installer working at heights and other locations in a safe manner.	
Building consent	Provide guidance on how the system can be installed to comply with the Building Code Reference to utilisation of G12/AS2	
References	Reference to standards and other relevant installation training material	
Contact details	New Zealand contact details of product supplier	

Record of Recommendation for Listing of a Complying SWH System

Date:

I have received an application from the applicant named below and they have provided me with the required documentation for me to assess listing of the attached systems as Complying SWH Systems. I consider that they meet the requirements set out in the listing criteria approved by the SIA.

Name	
Rep Name	
Address	
Brand of System	
Listed systems attached (form CP2)	
Website	
Installation manual checklist	
AS/NZS2712 certificates	
Operating and maintenance manual checklist	
Insurance	
Quality of application	
Technical support	
Warranty	
Installer training	

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 SWH Accreditation Administrator
 Solar Industry Association