

Information for Consideration of MNRE Approval for Inclusion of Name in the List of Eligible Manufacturers of ETC Based Solar Water Heating Systems

FORMAT

1. Manufacturer details

- Name
- Postal address
- Telephone (Land line and Mobile)
- Fax
- e-mail
- Web-site

2. Details of Foreign Manufacturer

- Name
- Postal address
- Telephone (Land line and Mobile)
- Fax
- e-mail
- Web-site

3. Major specifications of ETCs

- Length
- Outer diameter
- Inner diameter
- Thickness of glass tube
- Name of black coating
- Value of absorptance and emittance of the black coating
- Level of vacuum
- Recommended operating pressure
- Weight of a single tube

4. Thermal Performance of Evacuated Tube Collectors

(As per test report from the manufacturer of ETCs)

- Name and address of test laboratory in foreign country where ETCs have been tested for water heating applications
- List the results of major performance parameters for

thermal performance (like, overall heat-loss coefficient, optical efficiency, etc.)

5. Thermal Performance of the Solar Water Heating System

(As per test report from SEC or RTCs)

- Name and address of test laboratory in India where solar water heating system based on imported ETCs has been tested
 - Date of test report
 - Test Results
 - a 24-hr average efficiency
 - b Maximum Delta-T during testing
- (Delta-T = Difference in temperature between initial and final water temperatures)*

6. Collaboration with the Foreign Supplier

- Nature of collaboration
- Period of agreement

7. Production Capacity

- What components of the solar water heating systems are being imported?
- What production facilities are available with the company, along with address of the Works?
- Annual manufacturing capacity
 - a Solar collectors (sq. meter area/ year)
 - b Hot water storage tanks
 - c Total production capacity (LPD per year)

8. Company Profile

- Details of dealer network / As per list attached. points of sale
- Are you already a BIS approved manufacturer of FPC

based solar water heating systems? If yes, enclose a copy of the certificate.

- ❑ Experience in the area of solar energy installations (pl. enclose copies of the brochure, etc., if available)
- ❑ Infrastructure for sale and to meet repair and maintenance obligations.

9. Imports so far

- Quantity (pl. specify number of ETCs/whole collector/whole system, whichever applicable)
- Enclose a copy of AWB for the imports

10. Average cost details for the system

11. Any Other Information

Signature
CEO of the Company

Documents to be enclosed:

- (i) Documentary proof for having a minimum of 60 square meter manufacturing facility in a non-residential area. The documentary proof may include copy of the proof of ownership or the lease /rent deed etc.
- (ii) Copy of test report of ETCs for solar water heating applications (English version) as obtained from the supplier of ETCs
- (iii) Copy of test report of solar water heating system from SEC or one of the RTCs
- (iv) Copy of agreement with the supplier of ETCS.
- (v) List of dealer network / points of sale etc. with complete contact details (address, Tel./Fax No., e-mail, website)
- (vi) Other documents as per requirement of the format

EMPANELMENT OF MANUFACTURERS OF EVACUATED TUBE BASED SOLAR WATER HEATING SYSTEMS FOR THE PURPOSE OF MNRE PROGRAMMES

GUIDELINES

1.0 ELIGIBILITY

1.1 The manufacturer may import ETCs, but the balance of system including storage tank and stands etc. shall be indigenously manufactured.

1.2 The applicant manufacturer should have the capacity to handle sale, repair and maintenance of solar water heating systems sold by him in various parts of the country. Elucidation of the plans in this regard including establishment of dealer network etc. needs to be given.

1.3 Previous experience of business in solar thermal devices/ systems in the country will be preferred.

1.4 Availability of a minimum of 60 square meter accommodation with the applicant for manufacturing and storage facilities in a non-residential area is essential. Documentary proof in this regard, such as, copy of the proof of ownership or the lease /rent deed, needs to be provided along with the application. The type of machines, equipment and tools available will be clearly specified by the applicant.

1.5 An agreement has been signed by the applicant with the company from whom he is sourcing the ETCs clearly authorizing him to use the outsourced ETCs in his product intended to be marketed in India and elsewhere (if applicable). The agreement will also say that ETCs with the same technical specifications shall continue to be supplied during period of the agreement, subject to other satisfaction of other obligations on the part of importer.

1.6 A sample system has been tested at one of the RTCs or SEC, and test report is available with the applicant.

2.0 TESTING OF SAMPLE

2.1 The manufacturer shall contact either of the Regional Test Centres (Indore, Madurai, Pune, Vallabh Vidyanagar and Jadavpur) or Solar Energy Centre for submission of test sample.

2.2 The test sample shall be installed by the manufacturer at the test site in consultation with the test laboratory. The testing by the test laboratory will be carried out on the sample on "as installed" basis.

3.0 APPLICATION

3.1 All relevant information, as per [format](#), will be provided along with enclosures. The information to be provided includes details about the company, available manufacturing facilities, and technical specifications of the product.

3.2 A copy of the thermal performance test report (indicating at least the optical efficiency and overall heat loss coefficient) for the ETCs used in manufacturing the solar water heating system will be enclosed. This test report should be from a nationally/ internationally recognized test laboratory. The test report may be obtained by the manufacturer from the supplier of ETCs.

3.3 An undertaking will be given on the company's stationary that technical specifications of the solar system shall not be changed from those of the test sample. The approval will become null and void when there is change in the specifications, and approval will have to be taken afresh.

4.0 EMPANELMENT

4.1 The manufacturer, whose product meets the minimum performance requirements, as per [test procedure](#) available on MNRE website, and subject to fulfillment of other requirements will be empanelled by the Ministry with a validity period of one year.

4.2 Once all the required documents are received in the Ministry, the empanelment will be done on monthly basis.

5.0 RENEWAL

5.1 Validity of test report shall be two years from the date of issue of the report. If there is a change in the technical specifications of the system or otherwise after the expiry of two years period, the system will have to be again tested for renewal of the certification.

5.2 For renewal of the validity of the empanelment, it will be obligatory on the part of manufacturer/ supplier to apply for renewal and provide the following information/data to the Ministry at least one month prior to the expiry of the validity period in the prescribed format for the year of empanelment:

- a. total number of ETCs imported
- b. total number of systems installed
- c. total collector area installed

5.3 The empanelment may be considered for renewal on yearly basis based on the satisfaction of the Ministry regarding the performance of the manufacturer/ supplier in the field. One of the benchmarks will be the installation of at least 50 numbers of solar water systems during a period of one year.

5.4 In case the manufacture/ supplier have not applied for renewal, the Ministry will not be responsible for the loss caused by the deletion of his name from the MNRE list of empanelled manufacturers/suppliers.

6.0 OTHER

6.1 The manufacturer shall cooperate with the representative of the Ministry which may visit the manufacturing facilities available with him.

7.0 BROAD SPECIFICATIONS

7.1 The broad specifications of the domestic solar water heating systems shall be as given below:

Number of Tubes in the ETC	
<ul style="list-style-type: none"> - For tubes with OD: 47 mm, ID: 34 mm and Length: 1500 mm - For tubes with OD: 58 mm, ID: 47 mm and Length: 1800 mm. 	<p>Minimum 7 numbers for each 50 LPD capacity of system.</p> <p>Minimum 5 numbers for each 50 LPD capacity of system</p>
Storage Tank (Inner tank, directly coupled with the tubes)	
<p>Fabricated using Argon arc or metal inert gas (MIG) welding</p> <ul style="list-style-type: none"> - Thickness when fabricated in SS 304 or 316 using Argon arc or metal inert gas (MIG) welding - Thickness when fabricated using other type of welding 	<p>0.5 mm, minimum</p> <p>0.8 mm, minimum</p>
Storage Tank (Outer cladding)	
<ul style="list-style-type: none"> - Material - Thickness 	<p>Al/SS/FRP/GI coated sheets</p> <p>Suitable for handling the load</p>
Storage Tank Insulation	
<ul style="list-style-type: none"> - Material - Characteristic 	<p>PUF</p> <p>Night temperature drop should not be significant.</p>
Stand / Frames	
	<p>Should be either of non-corroding materials (viz. SS, Aluminum) or have corrosion resistant protective coating</p>

8.0 CHECKLIST

8.1 The list of enclosures

- (i) Documentary proof for having a minimum of 60 square meter manufacturing facility in a non-residential area. The documentary proof may include copy of the proof of ownership or the lease /rent deed etc.
- (ii) Copy of test report of ETCs for solar water heating applications (English version) as obtained from the supplier of ETCs
- (iii) Copy of test report of solar water heating system from SEC or one of the RTCs
- (iv) Copy of agreement with the supplier of ETCs.
- (v) List of dealer network / points of sale etc. with complete
- (vi) Photographs of the production line**

contact details (address, Tel./Fax No., e-mail, website)

Other documents as per requirement of the form