PRESS RELEASE

SOLAR HEATING & COOLING PROGRAMME
INTERNATIONAL ENERGY AGENCY

Australian Solar Cooling Standard Published

4 September 2013. Standards Australia has published the world's first Solar Cooling standard. The standard "Solar heating and cooling systems – Calculation of energy consumption" provides a means of predicting the performance of desiccant based solar cooling systems and fan coil solar heating systems. Further system types can be added to the standard as new technologies are tested.

The interim standard AS 5389(Int)-2013 has been developed by Standards Australia Committee CS028 with input from solar cooling experts of the multi-country project of the IEA Solar Heating and Cooling Programme titled "Quality Assurance and Support Measures for Solar Cooling". The annual energy performance of solar heating and cooling systems is calculated using the Component Testing - System Simulation (CTSS) method as used in a number of national and international standards for solar heating systems. So far, the procedure in the interim standard is limited to desiccant cooling and fan coil heating systems. Further technologies, such as absorption and adsorption chillers will be added later.

The standard uses laboratory test results, obtained at pre-specified conditions, to calibrate defined mathematical models of the major components in the complete system. The resulting component models characterize the performance of each component, and are combined in a computer simulation model of the full system. This system simulation is then used to calculate the annual energy saved, compared with a conventional airconditioning system, when providing comfort in a standardised Australian home. The standard incorporates five climate zones to represent performance in different locations across Australia. The standard can also evaluate the hot water generation potential of the complete system and calculate the greenhouse gas emissions saved.

Dr. Stephen White of CSIRO calls this new interim standard "a significant industry development". The standards committee worked with CSIRO, which has made available its own commercialised desiccant wheel technology to provide the performance model and technical data for the development of the standard

The Australian Standard AS 5389(Int)-2013, "Solar heating and cooling systems - Calculation of energy consumption" can be purchased from the SAI Global InfoStore: http://infostore.saiglobal.com

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Further information:

- Project webpage: www.iea-shc.org/task48/index.html
- Standards Australia: http://www.standards.org.au
- Commonwealth Scientific and Industrial Research Organisation (CSIRO): www.csiro.au
- Australian Solar Cooling Interest Group: www.ausscig.org

About the International Energy Agency's Solar Heating and Cooling Programme (IEA SHC):

- The Programme was established in 1977.
- Its objectives are co-operative research, development, demonstration and exchange of information regarding solar heating and cooling systems.
- 20 countries and the European Union are IEA SHC members.
- The research topics of the current 12 projects range from more general topics, such as "Solar resource assessment and forecasting" , system research, such as "Large solar thermal systems", market support such as "Solar Rating and Certification" to material research, such as the use of "Polymeric materials for solar thermal applications."
- Additional information: www.iea-shc.org

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