

Press Release

June 13, 2011

Solar thermal top technology from Finland

Savo-Solar Oy is Intersolar AWARD winner!

The leading event of Solar Energy in the world, Intersolar exhibition, was organized in Munich at the beginning of June, 2011. Together with the exhibition was arranged Intersolar Award competition that honors the most innovative achievements of the industry. Savo-Solar Oy from Finland was awarded in the field of solar thermal together with two other nominees.

The potential of solar energy is unlimited and during the last years there have been more and more investments in utilizing it. The most common ways of utilizing solar energy are solar thermal and photovoltaics. Savosolar manufactures solar thermal collectors which collect radiation energy as heat into liquid and heat buildings and tap water.

Worldwide innovation competition

The future of the solar thermal industry lies in new applications. The Intersolar award will give recognition to the most pioneering of the industry's diverse innovations and present the winning products, services and companies to the audience.

This year, the Intersolar AWARD was more international than ever. For the first time, all of the 3,000 exhibitors of Intersolar Europe, Intersolar North America and Intersolar India were able to submit entries.

Competition fields were solar thermal technology, photovoltaics and PV production technology. Prizewinners were selected using a multi-stage selection process. First, a body of recognized experts selected the ten best entries in each of the three categories from all those submitted. An independent jury made up of representatives from research, science, industry and the trade press then chose this year's winners from the nominees. The competition was now organized for the fourth time.

New concept in energy harvesting

Savosolar is introducing to the market the full aluminium direct flow absorber of a solar collector. Absorber means the construction inside the collector that absorbs solar radiation and is heated by the energy. Direct flow means a structure where liquid flows directly inside the structure absorbing heat instead of separate tubes attached to heat absorbing plates.

"Savosolar is the only manufacturer in the world able to make a highly selective PVD absorption coating on a complete absorber, including the header tube, with a size of up to 18 sqm. This is our key process that enables us to produce direct flow absorbers", says Mr. Jari Varjotie, CEO, Savosolar. "The existing annual coating capacity of Savosolar is one million sqm. Savosolar MEMO coating has superior optical properties with absorptance of 96% and emissivity of only 5%. The coating is very stable in high temperatures without degradation of the optical and mechanical properties."

"The direct flow principle assures a superior heat transfer from the absorber to the fluid and uniform heat distribution on the absorber surface, minimizing radiation loses", continues Mr. Kaj Pischow, CTO, Savosolar. "Absorber MPE-profiles are extruded of HyLife alloy, which is approved for solar thermal. Brazing of the absorbers is made by SecoWarwick CAB process, which is an efficient and high quality furnace brazing process. The process is generally used by car industry but unique in absorber industry. The method is very well suitable for mass production."

Full aluminium solar systems

Additionally to higher energy production throughout the lifetime of the direct flow absorber there are also other benefits. Even though the full aluminium absorbers can be applied to any system, both existing and new, with collectors having Savosolar full aluminium absorbers it is possible to build a full aluminium solar system. That would be very economical especially in bigger installations like in district heating applications.

Savosolar makes absorbers for collector manufacturers and complete collectors for OEM manufacturers. Besides full aluminium Savosolar is producing Cu-direct flow absorbers made of solar grade copper Multichannel tubes from Luvata. The Savosolar coating process can also be used with stainless steel and polymer materials. Major benefits are high efficiency, tolerance to high temperatures and economy throughout the life cycle.

There is plenty in the Sun

The solar radiation power on earth surface is about 1,000 watts per square meter when the sun is shining. At the level of South Finland about 1,000 kilowatt-hours of energy can be utilized annually. Closer to Mediterranean the amount is about 2,000 kWh/m²/a. In one hour earth receives solar radiation energy more than the total yearly energy consumption of the whole mankind. So only 0.01% of the energy needs to be collected.

The energy efficiency of solar thermal collectors is more than 50% and they are used for heating buildings and tap water. In Finland hot tap water can be produced with solar energy about half of the year. The energy efficiency of photovoltaic panels is typically 10-20%.

Solar radiation is free so the expenses are mainly investments in the equipment. This is the challenge for the industry and continuous work is made to develop lower cost applications and better energy efficiency. The Savosolar innovation is a brilliant example of Finnish expertise in the field and for its part is bringing solar energy within reach of more and more people.

About Savo-Solar Oy

Savo-Solar Oy is a privately held cleantech company located in Central Finland, in Savo County. The company was founded in December 2009 and the operation started in April 2010. The operation is based on strong R&D and vacuum coating competence. The company is owned 70% by key employees, 20% Clean Future Fund and 10% Cleantech Invest Oy.

The mission of Savosolar is to contribute on solving the climate change challenge by using sustainable Solar Energy and improve living conditions creating a clean and secure environment.

The goal of Savosolar is to become a leading company in Solar Thermal Technology.

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The representatives of Savo-Solar Oy received Intersolar AWARD innovation prize at Munich international Intersolar exhibition.

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New concept in energy harvesting: Savosolar full aluminium direct flow absorber is the most efficient in the world.

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Savosolar in line vacuum coating machine enables coating of complete absorbers together with the header tube and thus production of direct flow absorbers.

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The Savosolar full aluminium direct flow absorber is the most efficient in the world.