# Quartzene proves its energy-saving effect in cool roof coatings on buildings: Scientific article from the University of Gävle published

**The University of Gävle's case study on the energy-saving potential of Quartzene®-based cool roof coatings, plasters and renders has now been officially published. This peer-reviewed publication confirms the material's ability to reduce energy use in buildings in warmer climates.**

The case study was conducted and led by PhD student Sana Sayadi, alongside associate professors Jan Akander and Abolfazl Hayati. The energy performance of a model building with various wall and roof coatings was simulated. Results with the Quartzene®-based coatings showed energy savings of 11% in hot climates compared to the base case building.

Svenska Aerogel has previously reported of Quartzene's strong performance in these systems that stems from its material properties to give a combination of very high solar reflectance index (SRI) in a coating, as measured to 123 by the Research Institutes of Sweden (RISE), and its insulating properties in a coating. This dual feature allows Quartzene® to both reflect solar heat and provide insulation, unlike other cool roof coating additives that primarily focus on one or the other parameter alone.

The now-published paper highlights the material's potential to reduce the need for energy-intensive cooling systems in hot climates, by using Quartzene® in different coating systems, thereby contributing to energy efficiency and sustainability.

"Through access to innovative materials such as Quartzene®, we have been able to explore and point towards new solutions to improve energy efficiency in buildings. Svenska Aerogels commitment has been invaluable in driving the applied research forward", says Sana Sayadi, PhD Student at the University of Gävle.

For further details, the peer-reviewed paper can be accessed here

**Overview of the research**

This study comprised simulations of a typical old row house (1960-70's standard), placed in two different climate zones (in Gävle, Sweden, as cold climate and Palermo, Italy, as warm climate) to investigate the effect on energy savings by applying various coatings with and without aerogel on the building's envelope. Analysis encompassed coating thicknesses, containing Quartzene. The case study implied energy savings of up to 11% in the hot climate, where externally applied Quartzene coatings with low thermal conductivity and high solar reflectance proved effective in reducing transmission losses by

enhanced dynamic time delay and damping factor in external walls and roof. The study shows nice energy savings in the warm climate and are indicative, though savings will vary depending on the design and characteristics of the building.

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**About Svenska Aerogel Holding AB (publ)**

Svenska Aerogel manufactures and commercializes the mesoporous material Quartzene®. Svenska Aerogel's business concept is to meet the market's need for new materials that are in line with global sustainability objectives. Quartzene® is flexible and can be tailored to different applications to add essential properties to an end product. The company's vision is to be the most valued business partner providing pioneering material solutions for a sustainable world.

Svenska Aerogel Holding AB is listed on Nasdaq First North Growth Market. Certified Adviser is FNCA.

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