



Press release
25 November 2020
Immediate Release

SANEDI cools down Lephalale SANDF training facility

SANEDI (the South African National Energy and Development Institute) has implemented a successful cool surface proof of concept (PoC) project at the Department of Defence's (DoD) Lephalale South African Military Health Service (SAMHS) Training facility in Lephalale, Limpopo.

The project, which entailed the resurfacing of 15 000 m² of walls and roofs with cool surface technology, forms part of SANEDI's Million Cool Roofs Challenge participation which sees the finalist working towards accelerating access to affordable, sustainable cooling through rapid deployment of cool roof materials.

The Lephalale SAMHS operates as a training facility and accommodation for doctors, nurses and other health practitioners serving in the South Africa National Defence Force (SANDF). Most of the facility's accommodation building material is made up of corrugated iron and prefabricated buildings, which means the indoor temperatures are scorching during hotter months.

"Immediately after completion of the project, we took a reading of the outside temperature at the accommodation rooms, it was a staggering 47.2 degrees Celsius. The facility was making use of industrial air-conditioning to cool down the various buildings which was extremely costly particularly during soaring temperatures in summer," explains Dr Karen Surridge, Centre Manager: Renewable Energy Centre of Research & Development, Renewables at SANEDI.

"As soon as the accommodation surfaces, roofs and walls, were painted we took a temperature reading inside the building, it had dropped to 29.8 degrees Celsius – almost 20 degrees lower which was remarkable. Although this is a single reading on one hot day, SANEDI will be monitoring the performance of the technology across 2 years of seasons, to

demonstrate that Cool surface technology offers a tangible and inexpensive solution to curbing heat and making buildings more liveable. It also is expected to result in far less electricity consumption and wear and tear on the air-conditioning units at the base”

The SANEDI cool surfaces project included the recoating of the walls and roofs of the students’ accommodation blocks, classrooms, ablutions and trainer’s accommodation blocks. The project, that was rolled out in September 2020, took less than a month to complete and also included the training of five artisans from SANDF.

Explains Surridge: “As part of our cool surfaces project we also train individuals on the correct application of the paint and surface preparation, how to use the airless spray machine and the theory behind how the technology works. In the case of SAMHS Lephalale we opted for white which was in line with the facility’s standards and also one of the most effective heat emissive colours.”

General Joseph Ledwaba of the DOD Defence Works Formation, sorting under Chief of Logistics SANDF, adds “We are excited to be a part of this energy intervention and look forward to a fruitful collaboration that leads to more comfortable living and working conditions for our members as well as reduced electricity and repair and maintenance costs.”

“Ultimately, we hope to rollout the cool surfaces project at various SANDF bases across the country. The cool surfaces technology not only offers a passive cooling solution but also provides better durability of the roof below in terms of protection from elements and water proofing” concludes Surridge.

Ends 519 words

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About SANEDI

The South African National Energy Development Institute (SANEDI), is a Schedule 3A, State Owned Company, Established by the Government to direct, monitor and conduct applied energy research to develop innovative, integrated solutions to catalyse growth and prosperity in the green economy. It drives scientific evidence-driven ventures that contribute to youth empowerment, gender equity, environmental sustainability and the 4th Industrial Revolution, within the National Development Plan (NDP), through consultative, sustainable energy projects. For more information, go to www.sanedi.org.za.

