Revolutionising sustainability with Super Therm®: Beyond reflective paint to an advanced insulation coating

Australia's rising temperatures and energy costs need sustainable solutions in the construction and energy sectors. Enter Super Therm® — for 35 years, it has been an advanced multi-ceramic heat-blocking insulation coating that transforms heat management at the building and infrastructure envelope.

Super Therm® provides insulation capabilities, blocking an average of 96.1 per cent of total solar heat, including 99 per cent of infrared heat, contributing significantly to energy savings, reduced carbon emissions and personnel safety.

THE SCIENCE BEHIND SUPER THERM®

Co-developed with NASA in 1989, Super Therm® employs a blend of four specific ceramic compounds designed to reflect, block and insulate against the solar nanowaves spectrum.

It blocks all three forms of heat transfer — radiation, conduction, and convection.

With a dry thickness of just 0.25mm, it acts as a high-performing heat barrier and thermal membrane, reducing reliance on air-conditioning while lowering energy consumption to keep urban surfaces near ambient which removes the urban heat island impacts.

THE CITY OF ADELAIDE COOL ROOF PILOT

The City of Adelaide Cool Roof Pilot showcased the remarkable benefits of Super Therm®. Applied to a building's roof and monitored by the University of Adelaide, the coating significantly reduced urban heat.

On a 37.5°C day, local trees were recorded at 41.5°C, while the Super Therm® roof was near ambient at just 38.9°C. Inside the building the temperature was just 28°C without air conditioning.

This pilot's success validated through Super Therm's global results, including testing by the Florida Energy Office across three geographical locations, demonstrating 20 to 50 per cent energy savings.

Super Therm® reduces heat mitigation costs across Australia's buildings and infrastructure including its use in far Western Australia at the BHP Newman mine.

LAS VEGAS: AIRPORT ENERGY SAVINGS AND COMFORT

Super Therm® was applied to over 100 exterior jet air bridges at Las Vegas International Airport. It proved to be the best insulation coating tested in the intense desert heat.

The results were compelling: the coating reduced interior temperatures, improved passenger comfort, and dramatically lowered energy usage.

Doug McMahan, Managing Director for Facilities and Maintenance, noted: "The ones (air bridges) with the coating (Super Therm) stay about one to three degrees from the exterior ambient temperature — that is phenomenal."

This project exemplifies how Super Therm® extends beyond buildings, offering sustainable solutions for diverse infrastructure challenges and substrates affected by heat.

WHY CHOOSE SUPER THERM?

Unlike reflective paints that degrade under UV exposure, Super Therm's industrial strength composition ensures durability and long-term performance beyond 20 years.

Super Therm® also blocks and stops moisture from humid air or rain from touching the substrate to prevent any corrosion development along with preventing thermal expansion issues.

With a permeability of just 8.8, Super Therm® can breathe, but not allow moisture to enter. It has fire protection, offers acoustic insulation and a high resistance to mould growth.

As industries across construction and energy strive to reduce carbon footprints, Super Therm® provides a sustainable, cost-effective strategy to energy efficiency.

With its advanced science and real-world results, Super Therm® is more than a coating — it's a step toward a cooler, greener future for Australia.

For more information visit neotechcoatings.com.