

SPACE AGE

A NEW PAINT ADDITIVE WITH EXTRAORDINARY INSULATING PROPERTIES CUTS HEATING AND COOLING ENERGY CONSUMPTION BY UP TO 40%; IT'S SET TO MAKE A BLOCKBUSTER OF A SALES ADD-ON IN THE HANDS OF SAVVY RETAILERS



SPREADING THE WORD Mike Calvert, left, and Nick Pollard are offering retailers a new product category.

When the space shuttle was being first launched, Nick Pollard remembers seeing a television documentary about the super high-tech tiles with which the spacecraft was clad. A blowtorch was shown on one side of a tile pumping out wild heat, representing the temperature on re-entry, while the presenter was holding his hand against the other side not feeling a thing. The tile's insulation properties were dramatically demonstrated.

Now a relatively short time later Nick and his partner Mike Calvert's company, Biotech Australasia have a commercial spin-off of that technology as the paint additive Thermilate.

Biotech is a family owned business dedicated to bringing next generation, clever products with tangible benefits. Thermilate fits their product profile perfectly.

With Thermilate, Biotech has created a landmark opportunity for retailers and painting contractors to offer more real power in their paint, real benefits no matter which brand.

Thermilate is one of the world's most advanced and yet simple to use energy saving techniques available. The effective results promise cooler buildings in summer and warmer buildings without condensation on walls in winter. This superbly effective insulator is basically the space shuttle's tile material shrunk down to microspheres with white, shiny, smooth surfaced microspheres. Each minuscule sphere is filled with vacuum and becomes a reflector of radiation; heat cannot travel through vacuum, that's the secret.

This NASA developed substance when added to paint gives the coating amazing insulating properties. Each microsphere has the same insulating rating as a 15cm thick batt, R3.52.

Mike and Nick couldn't have introduced Thermilate to this market at a better time. Longer, hotter summers are heating up our buildings at the same time as environmental consciousness about energy saving has kicked in. Thermilate can save 40% on a building's heating and cooling costs when it is included in the paintwork of the interior and exterior and so dramatically reduce CO2 emissions.

The good news is that Thermilate is completely safe to use, inert, non toxic and environmentally friendly; it has been approved by Energystar, a worldwide body for testing energy saving products.

Thermilate has more applications than insulating buildings, it can be used anywhere where paint is applied and is widely specified by leading manufacturers including Hyundai, Pratt & Whitney Aerospace, Ford, Linde Gas, Shell, Saudi Readymix, Piper Aircraft. Tests by the United States Department of Defence at a rocket launch site showed that where previously the interior temperature of the control cabin was horrifically hot, Thermilate reduced the interior temperatures dramatically from 54.8C to 36.5C, so making the cabin tolerable.

This nano-tech additive has been approved through independent tests

conducted by the Japanese National Railroad; Municipal Government of Tokyo; Marine Shipping, Spain, the United States Army, The National Construction Institute of Korea, the list goes on.

Yet, just about everyone Mike and Nick introduce to Thermilate wants a sample to 'test how it works'. Mike laughs they have given away a heap for private 'testing', but they aren't being so generous any more. "From now on anyone who wants to 'test' Thermilate will have to buy it like anyone else. It has been tested by the best; the figures are on the board."

The properties are so significant that a pre-insulated wall will increase the rating by 50%; so the whole-wall system increases from R10 to R15. "We never say don't use traditional insulation; rather add the Thermilate factor," says Mike. "This 'hybrid' combination of traditional plus Thermilate gives spectacular results."

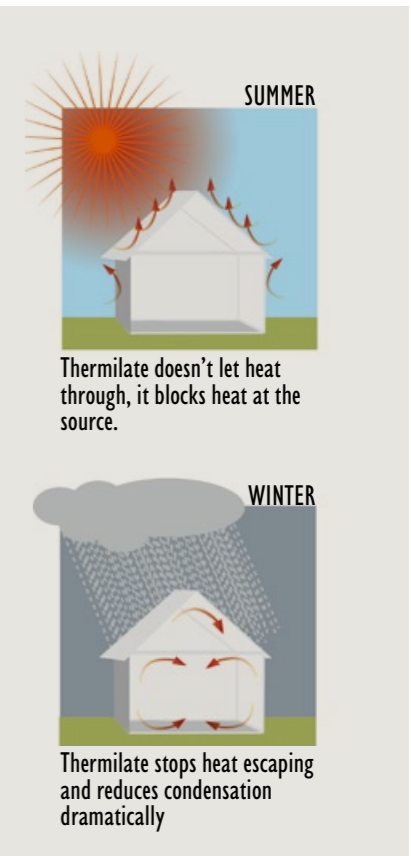
"Thermilate works differently to traditional insulation which slows down heat transfer, but eventually lets the heat through. Thermilate doesn't let it through, it blocks heat at the source," Nick explains.

There are many instances where traditional insulation is not possible, like the walls of heritage houses, Thermilate is an

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GREEN RETAIL



TAKING THE HEAT OFF

PROBLEM: How to bring an unrenovated 1941 cottage up to modern comfort levels without drastically altering the structure of the building. When reviewing the thermal insulation possibilities the client and builder decided that to retrofit bulk insulation would be impossible without changing the walls at considerable expense. Quotes for standard insulation ranged from \$3 000 to \$7 000, plus patching of internal walls.

SOLUTION: As they were going to paint inside and out and the additional cost of Thermilate was just a few hundred dollars they decided to give it a go.

The outside of the cottage was the first to be painted. The painting contractor and his team were extremely impressed with the way Thermilate mixed into the paint and was easily applied to the surface. Especially pleasing was the level of finish on the difficult 1970s vinyl cladding.

On a particularly sunny day partway through the external painting, the builder and client compared the inside of the west facing wall which had the exterior painted with Thermilate and the unpainted north wall. To their real surprise the west facing wall was much cooler.

The difference was so noticeable that everyone on site was surprised.

The client says that when it is time to paint another property, Thermilate will certainly be included.

easy to use and practical solution. The uninsulated metal roofs of warehouses and Colorbond sheds actually develop a human comfort zone with Thermilate insulation.

Thermilate can be mixed with almost all paints and coatings, it does not affect the paint's adhesion or life as it's extremely durable. Roofs are one of the biggest markets. The current fashion for heat attracting black and dark roofs even in warmest zones in Australia are made more sensible with two coats of paint plus Thermilate. UV doesn't break down the microspheres.

In Europe Thermilate is mainly used for heat retention, but in our hot area of the world, Thermilate is a real godsend for cooling. Test results from Florida prove the point.

Identical walls in a rendered apartment building when the temperature was 33C were tested; one painted with Thermilate, the other without.

The outside wall surface in direct sunlight was 45C compared to 33C with Thermilate. The interior wall was 28C without Thermilate and 24C with the paint insulation. There was a marked decrease of heat influx into the apartment.

If a house had the exterior painted with Thermilate added, it would be noticeably cooler in summer; the heat would be stopped from entering through the walls or roof. However, if only the interior was to be painted, painting the walls and ceiling would still make it cooler.

On the other hand, the heat retention in cool months also has huge benefits. Hydro Tasmania has a commercial

instance where Thermilate saved the day. They required an anti-condensation paint because water at 10C was running through pipes in a 40C degree room causing dripping condensation, obviously a real problem in an electrical environment. Thermilate solved the problem by eliminating condensation. By the way, the project manager thought so much of Thermilate he has now painted his house with it.

Thermilate has a tangible application to solve Australia's most pesky household problem, mould and mildew which spreads on damp wall surfaces. Thermilate creates a moisture resistant barrier that blocks surface condensation.

If consumers are going to paint, they may as well add Thermilate and get the insulation benefits and bankable savings on energy costs. Linde Gas in Singapore call Thermilate an investment not an expense.

Bio-tech Australasia has met with all the major paint manufacturers in Australia and several smaller ones regarding the effect the addition of Thermilate to their coatings would have on warranties.

The majority of those manufacturers contacted, took samples and carried out their own laboratory tests. Without exception no manufacturer has stated that Thermilate will affect their coatings warranties.

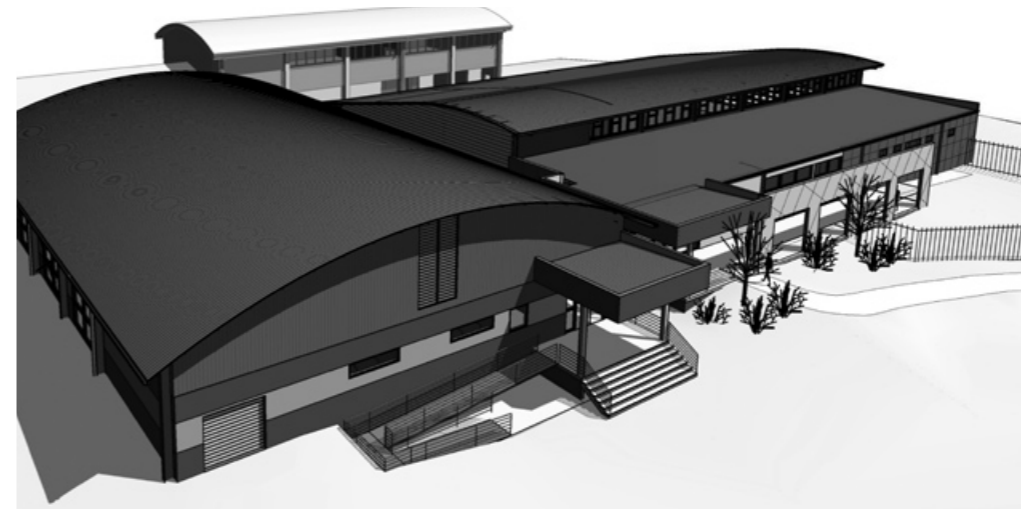
Not only did the laboratory tests show Thermilate would have no negative effect on the warranties, several manufacturers are, as a consequence, developing specialist thermal coatings, incorporating Thermilate.

Contact Thermilate on 02 9603 4488 www.biotechaustralasia.com.au

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THE WORLD'S MOST
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SIMPLE TO USE ENERGY
SAVING TECHNIQUES
AVAILABLE

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GREEN RETAIL



The Sydney Academy of Sport indoor pool development at Oxford Falls, designed by architects Facility Design Group, has Thermilate in the paint specification.

THE ARCHITECT'S STORY

ARCHITECT STEPHEN JOHANSSON'S PRACTICE FACILITY DESIGN GROUP SPECIALISES IN AQUATIC CENTRES, THEY HAVE BUILT VAST POOL FACILITIES ALL OVER NEW SOUTH WALES. Stephen is a unique architect, fiercely practical, no nonsense, hands-on, critical of wastefulness and incompetence in the building game. He doesn't suffer fools in the industry at all. Steve's proud of his ability to design and construct and always meet the budget because of his unusually deep understanding of materials and construction. Sounds like the perfect guy to give Thermilate a look.

When Mike and Nick from Biotech

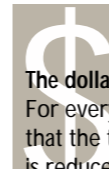
Australasia visited Steve at his Nowra office the architect did a quick, impromptu test. The guys had brought with them two samples of painted lightweight card, one had Thermilate added, the other was without.

Steve took two Esky cooler blocks from the freezer and on each placed a card paint side up, so replicating cold weather outside and a warm room with walls painted with Thermilate. The meeting continued, they forgot about the test that was in progress for half an hour.

When Steve checked on the samples, the difference was dramatic. The painted surface without Thermilate had condensation that ran off it like a running

tap. The Thermilate sample was dry. Steve was convinced of the fantastic thermal properties and has become a great fan of Thermilate ever since. "I believe it should be in every can of paint sold. The cost is \$1 or \$2 a square metre compared to over a hundred dollars for insulating board products that double the cost of a wall," he says.

Construction has just started on FDG's newest project, the Lismore Aquatic Centre and Thermilate is in the paint specification for interiors and exteriors. It seems like common sense to him. "It's a cheap additional cost and adds value to the thermal efficiency of the building," he says.



The dollar bonus
For every degree that the thermostat is reduced, the saving is around \$110 per year on energy bills in a three bedroom home. Thermilate will recover its cost from energy savings and keep on saving year after year. Thermilate doesn't have to be incorporated in subsequent repaints as it keeps on working.

How to use Thermilate

Thermilate is manufactured in the United States and imported in 500 kilo sacks (recycled, of course). Thermilate is then packaged by hand into 440 gram packages for the retail market with a RRP of \$39.95.

The dosage is 110 grams of Thermilate per litre of paint. The paint should be poured into a pail, then the additive is mixed in because it does expand the volume. It mixes in easily. Feedback from painting contractors is they find they have to go to the roller tray less often, it loads up well. Two coats are recommended.

Thermilate leaves a

very slightly textured feel which is a benefit as it hides imperfections. If a perfectly flat finish is required, two coats of undercoat with Thermilate added and a final topcoat or two of the paint without Thermilate will give the desired effect.

Thermilate can be applied by brush, roller, paint pad or spray. If spraying it's important to remove the filters or they will trap the Thermilate; gun tips in the range of .617 to .621 work well for most applications. Thicker roof coatings may require tips in the .627 to .631 range.

Thermilate lightens dark colours by one shade.

Retail opportunities with Thermilate fall into three categories

- 1 Retailers can sell consumers the small volume packs so that the consumers easily add Thermilate themselves. Sales of a bucket and mixer would be an add-on opportunity.
- 2 Retailers can buy in bulk for the trade or to integrate Thermilate in-store for the DIY consumer.
- 3 Retailers can stock pre-mixed paints like Acryloc's Roofcote: The Super Cool System. Or Acryloc Wallcote which will be available early in 2008. Call 08 8368 0222