CYNDAN

chemical solutions

HEAT SHIELD – HOLSWORTHY ARMY BASE

HEAT SHIELD
Holsworthy
Army Base

Key Customers Include:

- Essential Energy.
- Central Parklands.
- Nilsen Electric (SA)
- NSW Golf Club.
- North Ryde RSL Club.
- Ringwood Property Services.
- Road Trek Body Works.
- Star Trak Express Tullamarine.
- Toll Fleet Management.

HEAT SHIELD

Paint on Heat Insulation

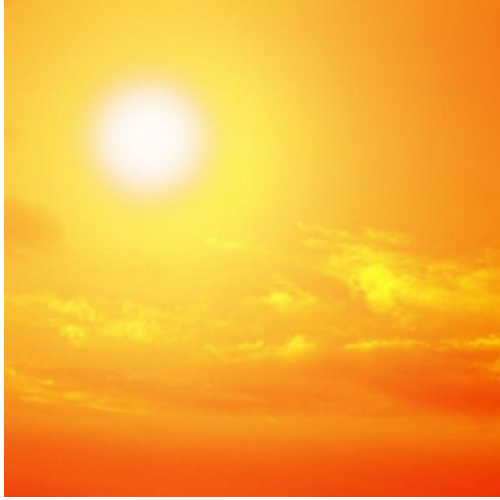
Cyndan Heat Shield is an acrylic, solar reflective paint utilising the latest in micro crystals technology, with a proprietary formulation to provide an excellent coating for heat insulation purposes.

It is primarily used for exterior roof or vertical surfaces, facades, HVAC equipment and ductwork. It can also be used in many other miscellaneous applications that benefit from the insulation provided. The finished coating also provides exceptional fire proofing properties.

Key features and benefits

1. High total reflective index (85%) to sun light
2. Low glare, which reduces the environmental impact to your neighbourhood.
3. Excellent water proofing properties, can bridge cracks and holes of up to 4mm.
4. Excellent flexibility and adhesion to any substrate.
5. Excellent weather and UV durability, life expectancy 25 years +.
6. Satisfying the requirements as an energy saving product, can save up to 40% in cooling costs.
7. Can be applied to all metal, timber, plastic and masonry surfaces.
8. Available in a range of colours.

Part of the Cyndan Green Range



- Reduces internal building temperatures by up to 20°C
- Cuts cooling costs by up to 40%
- Waterproofing properties
- Fire resistant properties

Use on:

- ✓ Rooftops
- ✓ Buildings
- ✓ Facades
- ✓ HVAC equipment
- ✓ Fuel storage tanks

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DEMONSTRATION
Holsworthy Army Base

Cyndan Heat Shield was applied on a vacant property managed by Brookfield Multiplex – Defence who manage the NSW Defence Services Portfolio that includes the Holsworthy Army Base. Air-conditioners were not used during this demonstration.

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THE PROJECT

This project was undertaken to determine the Solar Reflective properties of Heat shield and determine its ability to reduce the Heat Load in buildings.

The level of reduction could then be used to support any business decision to apply Heat Shield based on the extent to which it could assist in reducing energy costs associated with air-conditioning that represent more than 60% of the overall energy use/costs for an average building.

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RESULTS

The raw data obtained by Cyndan after installing a Data Logger within the unused building and comparing temperatures measured every 30 minutes with temperatures from the Holsworthy Weather Station is contained on the next slide. It revealed the following:-

a. From the 2nd-12th Dec before Heat Shield was applied, the internal building temperature only stayed below the daily maximum external temperature as recorded by the weather station on 3 out of 10 occasions. It also regularly exceeded the external daily maximum temperature;

b. From 13 Dec 2012 through to 22 Jan 2013 after Heat Shield was applied, the internal building temperature stayed below the daily maximum external temperature as recorded by the weather station on 33 out of 34 occasions. The single exception of 9 Jan 2013 is likely to be due to the significant drop in overnight temperature from 42C to 24C where the thermal properties of Heat Shield would have prevented such a significant movement in temperature. Only on this one occasion after a significant drop in external temperatures did the building exceed the external daily maximum temperature;

c. With Heat Shield applied, the internal temperature stayed up to 4C below the external maximum temperature. Whenever it got significantly hotter outside, the more notable the saving in internal temperature becomes evident. When applied to the use of air-conditioning, instead of energy demand rising sharply when external temperatures rise to cool the building, Heat Shield would enable air-conditioning to remain relatively constant or even reduce if automated to retain a constant office temperature.

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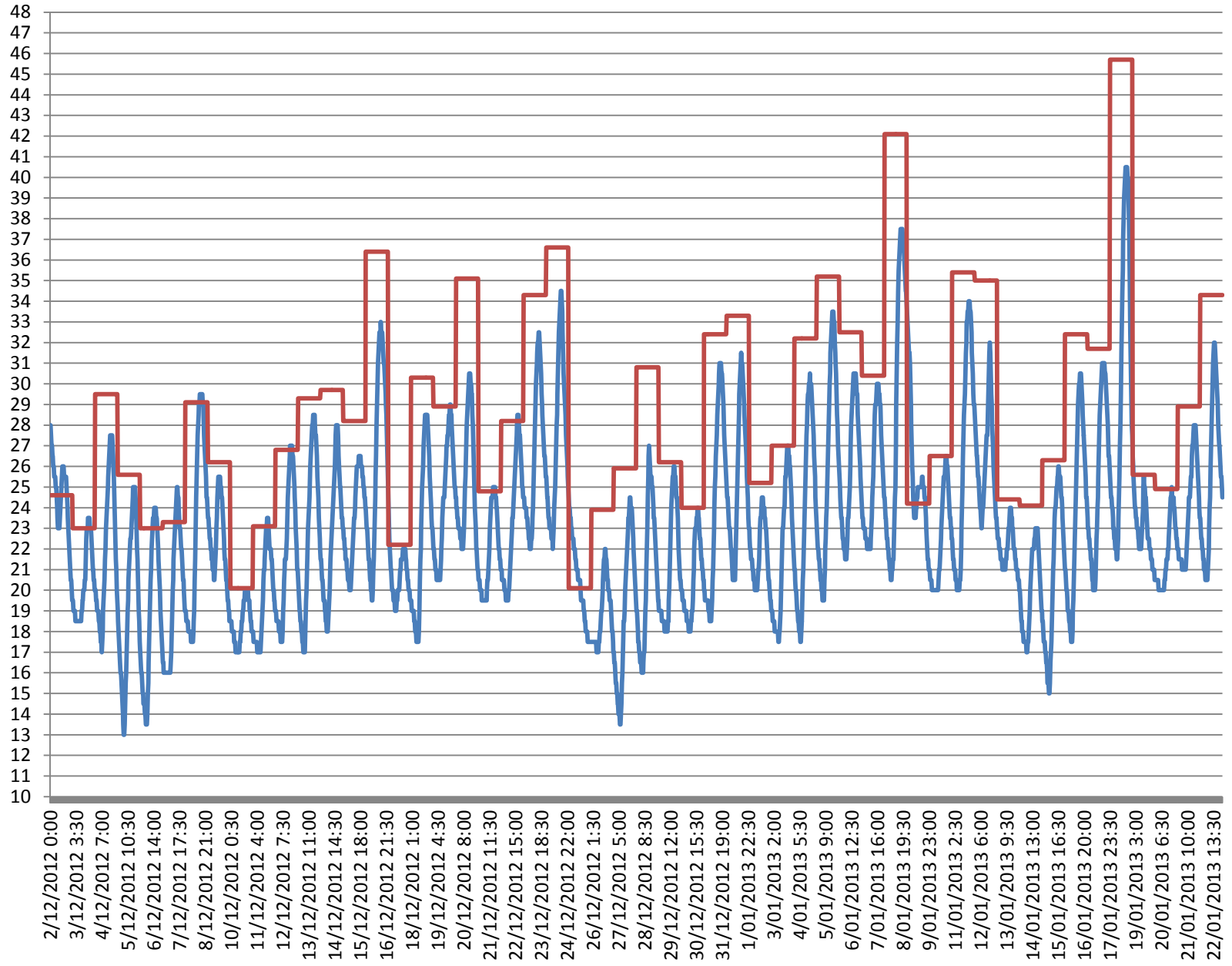
Holsworthy



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RESULTS

By then focusing on a set time of day to compare results without the minimum and maximum daily internal temperature fluctuations, the next slide shows internal building temperatures at 1pm daily as compared with the daily maximum external temperature.

This graph more simply demonstrates the implications of Heat Shield in the all important peak times around the middle of the day and early afternoon. It revealed the following:-

a. As highlighted in the original slide, the sharper the daily increase in temperature the bigger the saving Heat Shield was able to provide. Differences of up to 10C are evident when comparing results at 1pm. This shows that just looking at overall daily results can be misleading as it is the peak load periods when energy costs are at a premium and as a result, more significant savings in energy costs can be realised;

b. When you consider that the internal temperature of a demountable style building not using any air-conditioning would normally well and truly exceed external temperatures as occurred regularly before Heat Shield was installed per Graph 1, the solar reflective capabilities of Heat Shield offer significant improvements in human comfort for occupants of the building as well as the obvious savings in energy costs. Whether it be residential, office or industrial, the practical benefits of Heat Shield are clearly supported by the data;

c. It is also feasible that using Heat Shield could enable a reduced capital outlay whenever acquiring new air-conditioning systems in terms of the size of units required to maintain spaces if they are protected by Heat Shield;

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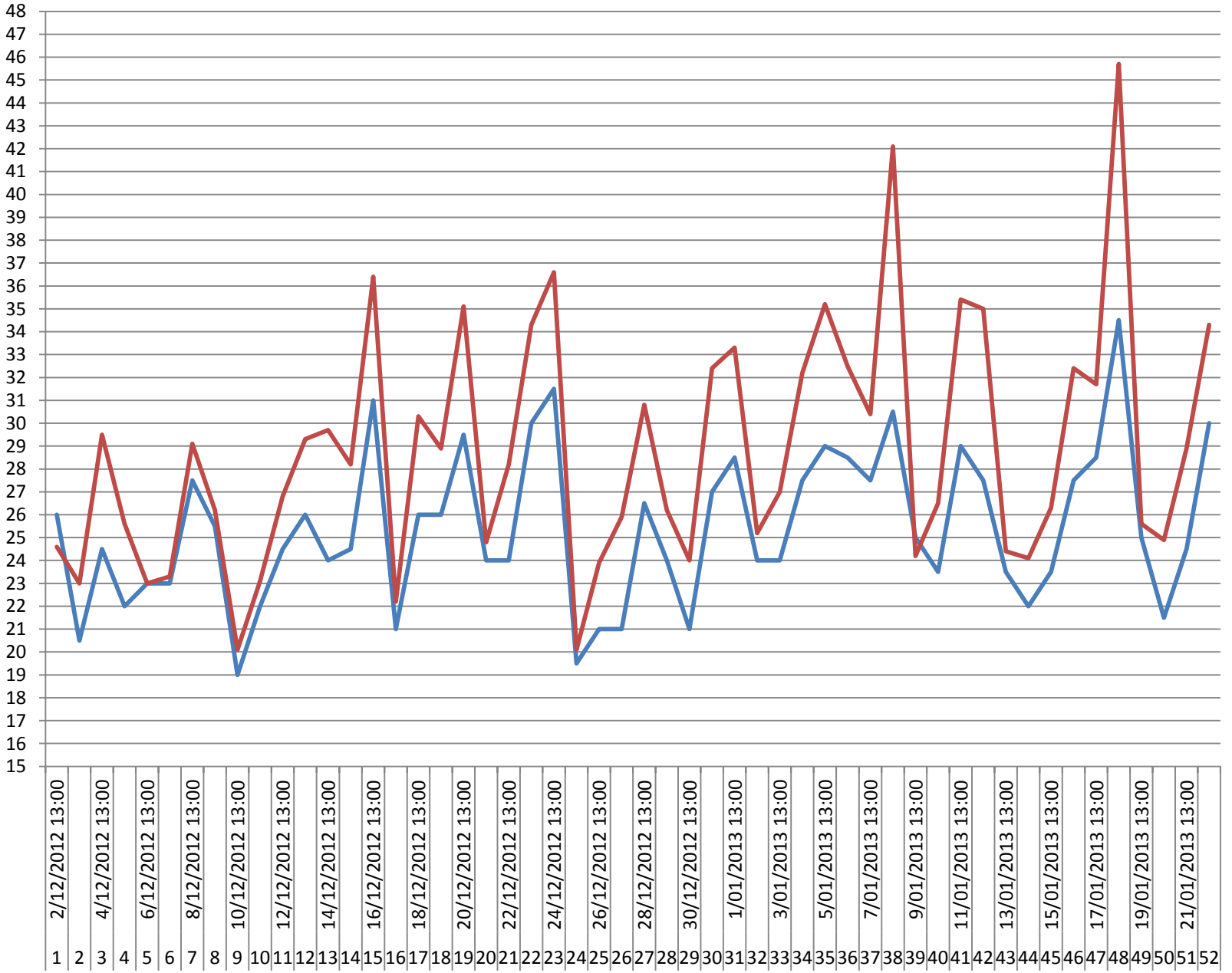
Internal temperature 1pm daily compared to maximum external daily temperatures:-



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CONTACT US FOR FURTHER INFORMATION

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