



# COCOON COOL ROOFS

Giving you back the power.

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# WHO WE ARE

Cocoon Cool Roofs are industry leaders in the energy efficiency space, specialising in the installation of solar reflective coatings.

Based on the 'Cool Roof' principal, Cocoon Cool Roofs reduces absorbed solar radiation on external surfaces, meaning less heat will be transferred into your building and dramatically decreasing energy costs.

Nationally established, Cocoon Cool Roofs have been protecting client's assets for over 15 years.

# OUR SERVICES



**Roof Restoration and  
Waterproofing**



**Solar Reflective  
Cool Roofs**



**Cocoon Roof Care &  
Maintenance**

SECTION ONE

# OUR PORTFOLIO OF WORK



COMMERCIAL  
AND INDUSTRIAL



HEALTH CARE



EDUCATION



GOVERNMENT

# COLLABORATION OPPORTUNITIES



# ESTABLISHED NEEDS

- The application of CodeMark endorsed products.
- High level of engineering and application support in Cool Roofs.
- Independent technical accreditation, providing a strong level of comfort.
- Existing level of confidence in Cocoon from both government and commercial sectors.
- Longevity within the Cool Roof industry.
- Providing a level of comfort and confidence to customers

# THE CCR ADVANTAGE

- Cool Roof technology significantly lowers the thermal heat load entering the internal building, subsequently reducing the use of air conditioning and power costs with equal significance
- Increased building asset value
- Financial and tax advantages
- Insurance challenges removed
- Assist in maintaining and enhancing sustainability policies and ability to impact NABERS rating through a reduction in CO2 emissions
- Reduced air conditioning maintenance due to reduced A/C demand
- Addressing tenant related issues

# COCOON COOL ROOF TECHNOLOGY

Cocoon Cool Roofs provides an elastomeric solar heat reflective waterproof membrane that has been independently tested and awarded CodeMark Certification under the Building Codes of Australia, Section J Energy Efficiency.

- This is the only coating in Australia to achieve this certification and also complies with Australian Insulation Standards AS/NZS 4859:
- Reduction of roof issues related to water leaks, corrosion, and others.
- The savings that stem from the reduced power costs create a commercially viable ROI.
- Helps increase roof life span by up to 15 years
- Prolongs the lifespan of air conditioning due to reduced work load
- Reduction with tenancy issues related to indoor environment (heat and water leaks)
- Reduction of carbon dioxide emissions

# THE PROCESS - PRE-INSTALLATION

In the preliminary phases of discovery, Cocoon undertakes analysis of the following to determine what the roof requirements are:

- Location
- BCA Climate Zone
- BOM Solar Exposure
- Roof Area m<sup>2</sup>
- Roofing material and age
- Existing insulation value, also airgap between roof and ceiling
- Unventilated or ventilated air space

From the information provided we calculate the surface temperature in w/m<sup>2</sup> enabling us to calculate the heat flow into building.

Once the above has been determined, installation begins.

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# THE PROCESS - INSTALLTION

Following the initial discovery, the following installation process is undertaken:

- Mechanical inspection of roof and development of OH&S strategy
- Remedial works list, which are then undertaken
- Hot water high pressure clean
- Following installation, a final inspection is undertaken with client before handover

When this process is complete, the warranty is issued to the building owner. A proposal is created for a maintenance regime with Cocoon Roof Care.

# HOW COCOON COOL ROOFS IMPROVES PHOTOVOLTAIC CELL EFFICIENCY (SOLAR PANELS)

As most PV panels are rated at ambient temperature of 25°C, as the ambient temperature increase the efficiency is reduced or De-rated refer to example at 28°C ambient.

Derating		Temperature Derating	
<b>Temperature coefficient</b>	0.4%/°C	Temperature of panel	$28^{\circ} + 30^{\circ} = 58^{\circ}$
<b>Ambient Temperature</b>	28°C	less tested temperature	$58^{\circ} - 25^{\circ} = 33^{\circ}$
<b>Tested temperature</b>	25°C	Multiplied by coefficient	$0.4\% \times 33^{\circ} = 13.2\%$
<b>Rack-type panel</b>	add 30°C	Temperature de-rating	13.20%

As the ambient temperature increase, so does the demand on the air conditioning system, a major contributor to this is, roof surface temperature. The roof is collecting heat and transmitting in the building, all the time increasing the internal temperature (heat flow). We reduce the surface temperature by applying an infrared heat reflective membrane, we reduce the heat flow in the internal space.

When the heat flow is reduced, so is internal temperature, therefore; reducing the demand for air conditioning, especially while PV system efficiency is reduced.

# CASE STUDIES

## **McKinnon Secondary College**

- Application of a Cocoon Cool Roof

## **Knox City Council**

- Infrared Reflective and Waterproof membrane to the roof.

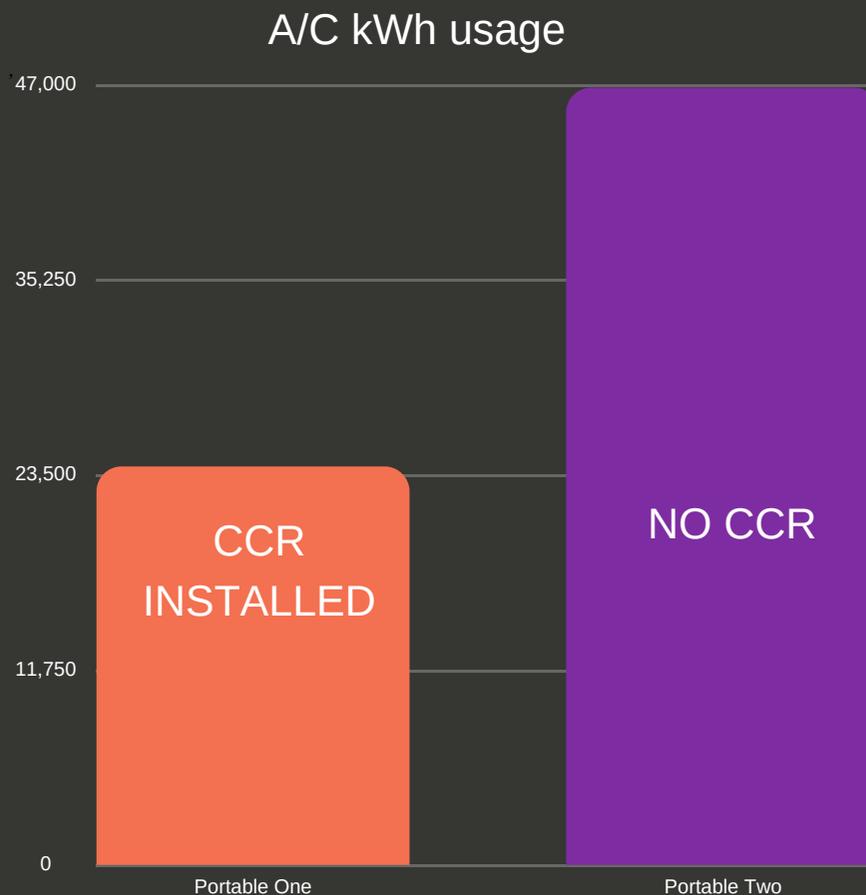
## **Koo Wee Rup Hospital**

- Infrared Reflective and Waterproof membrane to the roof
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# MCKINNON COLLEGE

Ongoing trial: For the duration of the 8.5 year trial period, power meters were installed into two portables side by side, with the same occupancy levels; one coated with our infrared heat reflective waterproof membrane, the other one without the membrane.



# MCKINNON COLLEGE

## TESTIMONIALS

“Providing adequate thermal comfort and waterproofing services is integral to the provision of high quality educational facilities across the state.” - The Hon James Merlino MP , Minister of Education

“The heat load has been reduced internally by 5-8°C and has been so successful that additional roofing around the facility has also been treated.” - Terrona Ramsay Former CEO/DON of KRHS

“Cocoon coating improves the thermal performance of the project. The nanoceramic in the membrane genuinely reflects heat more effectively than regular paint.” - Judith North Architect Director of NOWarchitecture

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# KNOX CITY COUNCIL

# \$30,000

PER ANNUM saved ongoing, following the installation of Infrared Reflective and Waterproof membrane to the roof.

Two years following the installation of a Cocoon Cool Roof the initial investment cost of the roof was returned and an ongoing \$30,000 per annum was saved and reentered the Councils cash flow.

# KOO WEE RUP HOSPITAL

## CLIENT CHALLENGES

- High energy consumption from air conditioning system, due to poor ceiling insulation R value
- Un-insured roof due to installation defects and water ingress claims
- High level of roof plumbing and maintenance deteriorating and aging roof

## OUR APPROACH

- Applying our infrared heat reflective waterproof coating we increase the inward insulation Radiant Barrier R value to R 4.5, Reducing the internal heat load
- We rectify plumbing defect and as our membrane is waterproof all water ingress issues were resolved
- Reduce roof attendance, as warranty is for 10 years, therefore also restoring the roof

## HEAT LOAD KW/M2 CHANGE



# WHY DO WE DO IT

We see no one better than us in this market, and with such a high environmental and commercial return, we feel responsible to share CCR with our clients and with any asset owner in Australia.

For 18 years we have maintained our mandate of providing a premium quality service to meet our client's needs, which has installed the highest level of confidence in our clients.

WAYNE GRIFFIN | DIRECTOR

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# QUALIFICATIONS

**“We offer the highest Qualification in Australia for Infrared Heat Reflective Membrane”**

Australian Building Codes Board, Section J Energy Efficiency. **Compliant**

Australian Building Codes Board: Evidence of Suitability Handbook **Compliant**

“CodeMark certified” **Compliant**

**Certificates of Conformity receive mandatory acceptance under State and Territory building control legislation.**

National Construction Code Vol: 2 **Compliant**

Standards Australia for Insulation ASNZ: 4859.1 **Compliant**

# ACCREDITATIONS





# LET US KNOW WHAT YOU THINK

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