InfraCOOL® Technology

colours that shield from the sun

FAQ's - Dulux® AcraTex® COOL ROOF MEMBRANE with InfraCOOL®

Q. I didn't know Dulux® has specialist Roof Coating Systems?

A. The Dulux® AcraTex® brand is focused on residential and commercial Building Industry Solutions. We are the largest coatings company in Australia with products and technology partnerships spanning all facets of the coatings market. The AcraTex® brand is the market leader in Acrylic Membrane & Façade coating systems.

Q. How does Cool Roof work?

A. Dulux® AcraTex® Cool Roof uses InfraCOOL® technology to reflect more of the Suns light energy away from the surface which means coated surfaces stay cooler.

Q. InfraCOOL® Technology – what is that ?

A. InfraCOOL® Technology by Dulux® works by targeting the invisible INFRA-RED portion of the suns energy which accounts for around 50% of the heat energy hitting the surface. Even dark colours can be made cooler.

Q. White is White and Black is Black – isn't it?

A. Well – Yes and No !
The reason we see the colours we see is because certain portions of the visible light spectrum are either absorbed or reflected (think of the portions of visible light as the colours in a rainbow). White reflects almost all visible light. Black absorbs almost all visible light, which is why dark surfaces are naturally hotter than light ones.
The visible light (colour we see) makes up only half of the total light energy. The other 50% (mainly invisible Infra-Red) is largely ignored in conventional products. With Dulux® InfraCOOL® technology, dark colours that reflect more of the suns energy are available.

Q. So how much cooler is Dulux® CoolRoof?

A. It varies dependant on the colour choice, building structure & air movement.

For a typical Dark Grey-Black roof a surface temperature difference of 10-20°C can be demonstrated which translates into less heat flow into roof & living spaces.

Q. What colours are available with InfraCOOL® Technology?

A. Dulux® InfraCOOL® technology is an option for most colours across the AcraTex® Roof Membrane colour range. Additionally Dulux® has formulated comparable colour matches to most popular Colorbond® colours. Some colours benefit more than others from InfraCOOL® Technology.
Refer to the InfraCOOL® colour range charts for confirmation of availability and performance potential.

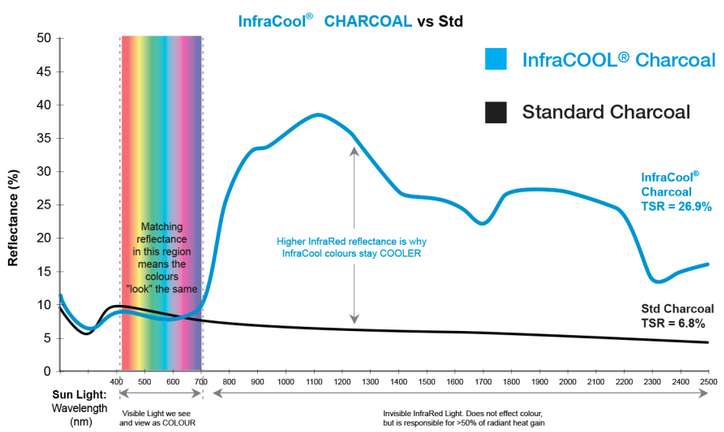
Q. I've heard claims of greater cooling effects or "space shuttle" insulation – I'm confused about what's real?

A. You are wise to question "unbelievable" claims. Dulux® does not make claims about "insulating" properties or publish results comparing fictitious "worst case" examples where the "standard" colour is manipulated to be particularly bad.
What we say is that our InfraCOOL® colours are optimised for reflectance of Infra-Red radiation, which makes up around 50% of the potential heat gain

Q. Is it more expensive?

A. Comparing the total cost of the project (including the application component which remains constant) the additional investment is relatively small and that's before you factor any potential energy cost or environmental savings from reduced air-conditioning load.

Spectral Reflectance Performance



TSR and Spectral Reflectance is tested in accordance with ASTM E-903

2 visually identical colour panels :

- Standard Charcoal vs InfraCOOL® Charcoal are reported on a Spectral Reflectance chart.
- % Reflectance of both versions is reported at individual wavelengths from 200-2500 nanometers

Results:

- Matching reflectance (intersecting lines) in the visible light region confirm the colours are close visual matches
- Significantly higher reflectance of InfraCOOL® across the infrared region (separation of the lines above 700 nm)
- TSR (Total Solar Reflectance) increased from 6.8% to 26.9% (296% increase) with InfraCOOL®

Dulux® AcraTex®

NATA APAS AUSTRALIAN PAINT APPROVAL SCHEME

Quality System Quality Endorsed Company

962 Roof Membrane

Dulux® AcraTex® Cool Roof is part of the 962 Roof Membrane System to be applied by Dulux AcraTex® Registered Roofing Professionals.

5200/0111

COOL ROOF
With InfraCOOL® Technology

InfraCOOL®... *colours that shield from the sun*

Dulux® AcraTex®

InfraCOOL® Technology

Previously surface temperature was dictated by how light or dark a colour was

...Dulux® InfraCOOL® changes all that.

Dulux® Acra·Tex®

A range of InfraCOOL® colours from Dulux® that keep your home cooler

Reflects Solar radiation

Dulux® AcraTex® InfraCOOL® technology REDUCES surface temperatures by maximising reflectance of the infra-red portion of the Suns energy.

Lessens Heat penetration

Higher solar reflection means lower surface temperature. By repelling heat in the first instance, less heat is transferred in the roof and living space.

Reduces Cooling costs

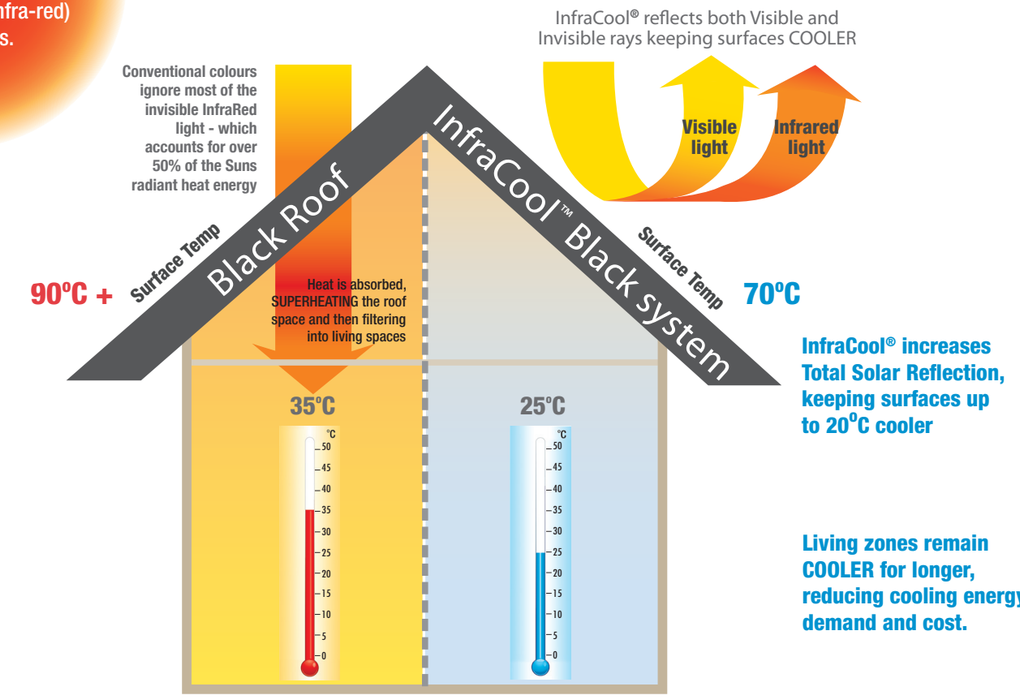
By reducing heat penetration, Air-conditioning running times are reduced thus saving energy costs.

Lowers Carbon Footprint

Less use of air-conditioning reduces power consumption and the associated greenhouse gasses to generate it. That's good for the environment and for you.

The Suns RADIATION is spread across visible (colour we see) and invisible (mainly infra-red) wavelengths.

Due to their large surface area and angle of exposure, ROOF SURFACES capture enormous amounts of the Suns energy and thus COOL ROOFS offer significant gains in the energy efficiency of a structure.



InfraCool® increases Total Solar Reflection, keeping surfaces up to 20°C cooler

Living zones remain COOLER for longer, reducing cooling energy demand and cost.

Actual temperatures will vary due to wind conditions, site location and construction variables. Data represents estimates based on ASTM E1980 methodology and principles as published by US EPA*

COOL ROOF InfraCOOL® Colours*

Dulux® AcraTex® InfraCOOL® technology is an option for most colours across the standard 962 Roof Membrane Colour Range.

Total Solar Reflectance data is shown under each colour as InfraCOOL® **TSR** vs (conventional colour), together with the % performance increase delivered by InfraCOOL®.

Higher TSR figures translate into cooler surfaces. Colour specific Test Reports providing full TSR data and translated surface temperature benefit are available on request.

Dulux® AcraTex® Cool Roof White delivers the maximum cooling benefits reflecting over 90% of the suns radiant energy.

Mist Green	42.30 (21.70)	95% increase	
Rivergum	33.00 (17.30)	91% increase	
Caufield Green	25.40 (13.50)	88% increase	
Mid Brunswick Green	18.70 (9.30)	101% increase	
Iron Bark	28.90 (9.10)	218% increase	
Dark Grey	23.60 (8.50)	178% increase	
Mid Grey	41.00 (21.70)	89% increase	
Charcoal	26.90 (6.80)	296% increase	
Slate Grey	29.60 (20.80)	42% increase	
Ebonite	17.60 (4.20)	319% increase	
Bluegrass	31.00 (15.10)	105% increase	
Torres Blue	27.70 (12.20)	127% increase	
Mountain Blue	26.50 (7.50)	253% increase	
Merino	60.50 (46.00)	32% increase	
Birch Grey	58.90 (40.90)	44% increase	
Sienna	47.60 (41.70)	14% increase	
Terracotta	49.50 (41.50)	19% increase	
Dark Terracotta	42.80 (38.20)	12% increase	
Heritage Red	34.50	Std Roof Membrane 100% optimised	
Indian Red	23.30 (14.40)	62% increase	
Off White	75.50 (64.00)	18% increase	
Smooth Cream	75.20 (65.80)	14% increase	
Moss Vale Sand	62.00 (57.30)	8% increase	
Earth Grey	35.00 (26.00)	35% increase	
Gun Metal Grey	25.20 (9.40)	168% increase	

*Colours depicted are representations only. For accurate colour refer to the 962 Roof Membrane colour card.