



“ I’m melting in the heat. Last week I had to get out and tackle some painting. By barely 11am it was so hot I could have fried an egg on the dark coloured paint, let alone the frying that was happening to my exposed limbs. A pot of **Resene suntan lotion** sorted out the frying of me, and once the surface had cooled, an application of a **Resene Cool Colour** system has sorted out the hot paint. Amazing how time flies – just a couple of years back I would have had to choose a lighter paint colour to solve my hot paint problem. It feels a bit like when waterborne enamels were launched and started taking over from solventborne enamels – it was a bit of a shock to the system when everyone was used to the old products, but we got used to the idea, so much so that today the waterborne enamels far outsell the solventborne paints. ”

Roller, yeah right

Just in case you aren't into 'new fangled' technology, it might be worth reading this story sent in by Lea Insall of Lea Insall Painters in Invercargill – just goes to show everything has to start somewhere...

I have been in the painting decorating trade for 48 years as was my father for 60 years before me. While doing my apprenticeship a paint

traveller arrived with a new way of putting paint on – a roller! As we always used brushes then this was a new invention which impressed us all. My father was not on the job that day and so when we were having tea that night I told him about this new paint roller. To which he replied “Don't be so bloody silly how the hell could you roll paint on?” His imagination could not cope with this until later he saw it.

And yet here we are half a century on and most painters couldn't imagine tackling many paint jobs without their trusty roller!

Keep your cool

Ever had a customer think their house or building would look great painted in a sleek, dark colour – then had to shelve plans for fear of the heat damaging the substrate or the building getting unbearably hot in summer? Or perhaps the customer has taken the risk and chosen the colour anyway causing havoc on your nerves as you wait for the potential phone call from the customer demanding compensation because the dark paint system has cooked the substrate.

Well, forget all that. **Resene Cool Colour** technology makes painting exterior surfaces in dark colours both easier and safer. It can be used on all sorts of exterior materials and applications, from weatherboards and concrete to windowsills.

A **Resene Cool Colour** looks the same as normal, but reflects much more heat – so it doesn't get as hot as a standard paint would. The pigment technology allows the coating to retain its usual visible shade, but reflects heat back from the surface, reducing stress on the coating and substrate, and reducing subsequent heat related damage. The technology also minimises the buildup of unwanted heat in the building, keeping air conditioning and cooling costs down.



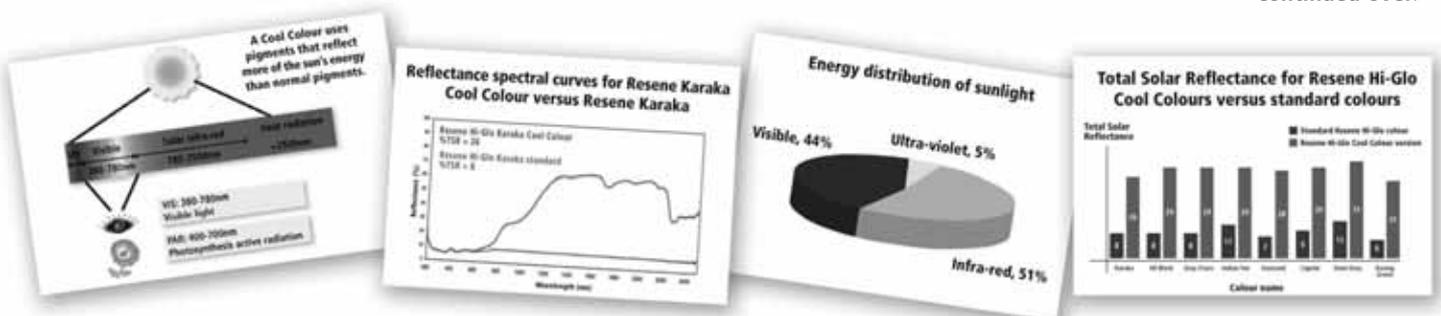
When looking at the role paint can play in temperature control in buildings it comes down to colour. The ability of white to reflect visible light extends through the infra-red and, because of this, white surfaces remain relatively cool to touch, even in direct sunlight.

The opposite is true of black and dark colours, which absorb light in this infra-red area, resulting in significant heat build-up in the surface. As the emissivity of paints is not particularly good, the surface heat is conducted into the substrate and then radiated into the building.

Sunlight energy is made up of 44% visible light, 5% ultra-violet light and 51% infra-red light.

Traditionally light reflectance values have been used to define what colours are suitable for heat prone substrates, however visible light reflectance values only measure a proportion of the light and ignore the effects of ultra-violet and infra-red light. Total Solar Reflectance (TSR) values take into account all three forms of light to give a better measure of the reflectance of the colour. A **Resene Cool Colour** uses pigments that reflect more of the sun's energy resulting in the same visible light reflectance value as the standard colour but a considerably higher Total Solar Reflectance value.

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The solar spectrum includes infra-red radiation that **Cool Colour** pigments are designed to reflect. Replacing the standard black pigment that absorbs all infra-red with a **Cool Colour** black pigment reduces the heat absorption. Some blues, greens and reds are transparent to infra-red radiation so are best used with a **Resene Cool Colour** compatible primer to reflect infra-red that passes through these shades.

In terms of technology, the **Cool Colour** effect can also be seen in plants. Most plants have leaves of a very high chroma green. If those leaves reached the same temperature when exposed to solar radiation as those of a similarly coloured paint they would shrivel and die. The fact they don't is because that pigment – chlorophyll – absorbs what it needs from the visible range to photosynthesise but reflects the infra-red range, keeping the plant cool.

Over the past decades, there have been vigorous efforts to create heat resistant pigments in the ceramics industry, as most tints break down at the very high temperatures under which ceramics are fired. Novel ways were discovered of doping refractory metal oxides of titanium, zirconium, chromium, and so on, with other metal ions to produce a wide selection of high temperature colours. The behaviour of these mixed oxides were examined under infra-red and the results showed an ability to withstand a range of very high temperatures. Focusing on this aspect, further refinements were made to maximise this for use in various commercial applications.

Using these findings Resene took the very popular roofing colour Karaka and incorporated into it these new infra-red reflecting pigments. Comparing

the new blend against traditional coatings over a five minute standard Resene test revealed a 12°C drop in temperature. It still absorbs some heat but the 12°C difference can make a tremendous difference to the stresses exerted on the substrate and can have a telling effect on its stability and heat gain.

When it comes to roofs, having a darker shade in winter will not make much difference to how hot your roof – and home or building will get – as when it is cold they will be cold too, however in summer it will make a difference as to how hot your home or building will get by reflecting the heat away from the building.

First developed for high gloss roof coatings, **Resene Cool Colours** are now available in a range of paints and stains. These include **Resene Lumbersider satin acrylic**, **Resene Sonyx 101 semi-gloss acrylic**, **Resene Hi-Glo gloss acrylic**, **Resene Enamacryl gloss acrylic**, **Resene X-200 waterproofing membrane**, **Resene Lustacryl semi-gloss waterborne enamel**, **Resene AquaShield mineral effects** and **Resene Waterborne Woodsman wood stain**.

Resene Cool Colour technology is now available in hundreds of colours and new colours can be formulated on request – check with your Resene ColorShop or representative to see if a **Resene Cool Colour** is right for your project.

And to make sure that **Resene Cool Colours** are a real choice, generally the cost is either the same or no more than 10% extra for a **Resene Cool Colour** – so your customer can get the benefit without breaking the bank.

Galvo cool

Resene Galvo-Prime has been tweaked and tested by the Resene Technical Dept to enable it to be used as a primer for a **Resene Cool Colour** system. The new lighter colour primer works well as a **Cool Colour** system primer – look out for the new formula labels on pack.

If you're painting new timber, concrete or the like with a **Cool Colour** system, then **Resene Quick Dry** is ideal as a primer to ensure the maximum benefit of the **Cool Colour** system is achieved.

Lighten up!

Resene Waterborne Colorwood has been around for a few years now and as time has gone by we have had some feedback that the colours appear perhaps a little too dark making it harder to control the depth of colour than some fans might like. The Resene colour team have gone back through all the colours and where appropriate tweaked them to reduce the colour strength. This provides for more flexible application, giving more time to wipe off excess without being left with a too dark finish.

Freshly phrased

If you have recently found yourself lost for words, there is a collection of 142 freshly minted phrases to fill in the linguistic gaps of the 21st century. Among the pick of them:

Arrelsa (ah-rell-sa)	a woman with a prettier sister.
Edgevert (edge-vert)	an unreachable back itch.
Grubous (grew-bus)	alarming bad interior decoration.
Weelebrity (wee-leb-rit-tee)	a celebrity formerly only seen on TV who appears much smaller in person.

And if you want to see more check out www.cG.com

More news next month!
Eneser Buckett, Editor.

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There is hot demand for Resene Cool Colour, the cool new kid on the block