

## what sorcery is this!?

Nocturnal tappings; lights flashing on and off; drawers opening and closing – have the poltergeists renewed their infernal interference? Nah! It's just Resene 'SmartTouch' going through its paces.

I ask your indulgence for diving straight into brand names but I do think that a generic description would have irrevocably damaged my opening paragraph!

The generic descriptor for 'SmartTouch' would be 'conductive coatings' but that does not fully describe the scenario. Zinc rich, anti-corrosive coatings are also conductive but don't quite fit into the category of 'SmartTouch'. (Lordy! Three references to brand names in the first three paragraphs – will you ever forgive me?)

The product has generated some 'buzz' since its low key launch, along with a few 'how does it work?' queries. I will attempt to shed a little light – without touching the wall once!

First of all; as well as everything being chemical in nature, it is also electrical. Indeed the two natures are irreconcilably interwoven. The simplest atom of all – that of hydrogen – has a nucleus of one positively charged proton with one orbiting electron carrying an equal and opposite (negative) charge. The make-up of all other atoms and molecules is dominated by the need to keep these electrical charges in balance.

Further, various physical structures (crystals, composites, etc) have the ability to hold a significant electrical charge – a feature called capacitance. The amount of charge held can be quite large as in specifically designed 'capacitors', or very feeble in something such as a brick! Capacitors, whether subtly designed or brick-like, can release a pulse of electricity when suitably stimulated; generally due to the interaction with another electrical field. The interaction with the human body's electrical field provides suitable stimulation.

Capacitance restores itself and is interminable.

So, part of the technology of this coating (tactfully avoiding a further use of a brand name) is to include in its design a capacitance which will generate a signal (significantly above the general electrical background 'noise') which will be useful. In order for the signal to be useful, it needs to be able to move to a receptor which can then use this signal – otherwise it will simply decay. To enable such movement requires conductivity.

We are all aware of the fact that copper wires conduct electrical signals superbly – but paint is very far removed from a copper wire. In fact, most paint binders are insulators as are most of the pigments used within them. There are, of course, exceptions with metallic pigments being the most obvious. However, graphite and certain other carbon black pigments also offer conductivity. High levels of such pigments are required to achieve the particle to particle contact necessary to achieve conductivity – even though contrarily a very, very slight degree of separation can enhance capacitance.

Although quite a dark shade of black, we now have a paint that can generate a 'pulse' of electricity and carry it to a receptor.

This is where the paint chemist steps back and the electronic expert steps in. Although the paint is delivering only a 'GO' or 'REVERSE' signal, this is enough for electronics wizards to deliver an astonishing range of outcomes. Resene has teamed up with an incredibly talented NZ company who will keep driving us ever further. There is an exciting future ahead which, I am sure, will be driven as much by our customer's "can we do this?" as by the technical boffins.

So, there is magic here; underneath a couple of layers of topcoat.



Architect Memos

In Australia:  
Call 1800 738 383  
visit [www.resene.com.au](http://www.resene.com.au)

or email us at [advice@resene.com.au](mailto:advice@resene.com.au)

# Resene

the paint the professionals use

In New Zealand:  
Call 0800 RESENE (737 363)  
visit [www.resene.co.nz](http://www.resene.co.nz)

or email us at [advice@resene.co.nz](mailto:advice@resene.co.nz)