

PERFORMANCE DATA – InfraCOOL™ TORRES BLUE vs Std Torres Blue

KEY FACTS : HEAT REFLECTIVE COATINGS

- Due to their large surface area and exposure, Roof Surfaces capture enormous amounts of the sun's energy and thus COOL ROOFS offer potential energy savings of 10-30%*, resulting in direct cost and green house gas emission savings
- Dulux® InfraCOOL™ technology works by maximising the TOTAL SOLAR REFLECTION including the (invisible) infra-red portion of the sun's energy which accounts for over 50% of the sun's total light energy
- Various internationally accepted verification methods demonstrate the direct benefits of InfraCool technology in comparative testing vs comparable std colour and/or surface materials

ASTM E1980-01 : SOLAR REFLECTANCE INDEX

The following comparative test data (based on constant solar conditions) demonstrates the calculated surface temperature cooling benefit using Dulux® InfraCOOL™ technology against the nominated system.

Total Solar Reflectance <i>Reflectance of the sun's energy across the broad solar spectrum including</i> • visible region, defining the colour we see • non visible region, mainly Infra-red (approx 50% of Total Sun's rays)	% TSR ASTM E903 or C1549			Dulux® AcraTex® COOL ROOF Torres Blue					
	Std Torres Blue								
	12.2 %			27.7 %					
Thermal Emittance <i>The ability of a material to release (ie. emit) captured heat energy</i>	0.85			0.90					
	Wind condition...			low	medium	high	low	medium	high
Solar Reflectance Index	4.66	6.65	8.41	28.65	29.16	29.62			
Surface Temperature	101	80	60	88	71	55			
InfraCOOL™ effect	potential surface temp. COOLING			13°C COOLER low wind conditions					

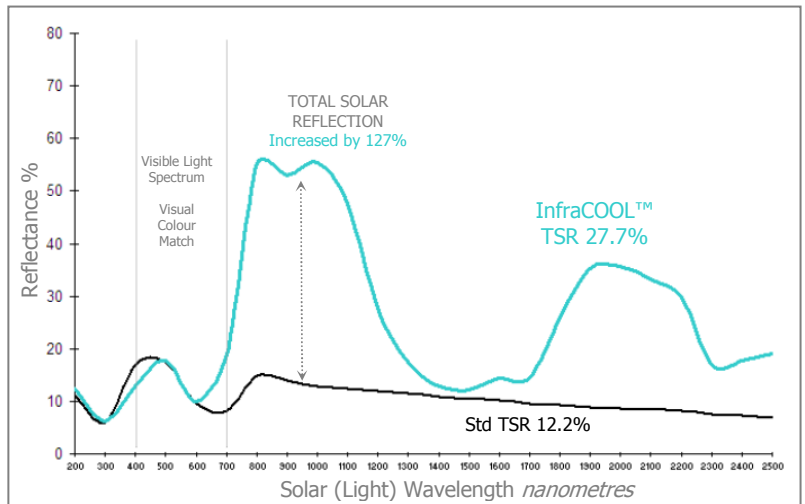
ASTM E903 : SOLAR ABSORBANCE

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

% Reflectance of 2 visually equal panels 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 12.2% to 27.7% (127% increase) with InfraCool™ Technology.



COLOUR CLASSIFICATIONS :

Solar Absorbance (SA)	
Std (SA)	InfraCOOL™ (SA)
0.878	0.723

Building Code of Australia (BCA) Classification		
Criteria (SA)	STD rating	InfraCOOL™ rating
Light : <0.55 Dark : >0.55	DARK	DARK

NSW Building & Sustainability Index (BASIX) Classification		
Criteria (SA)	STD rating	InfraCOOL™ rating
Light: <0.475 Medium: 0.475-0.70 Dark : >0.70	DARK	DARK

* Energy saving potential based on Field Study of 2 identical buildings with constant state air-conditioning. High reflectance white coating vs original dark roofing surface
Technical Report : ICTorresBlue-01

InfraCOOL™...Colours that shield from the sun