

Energy Saving Paint

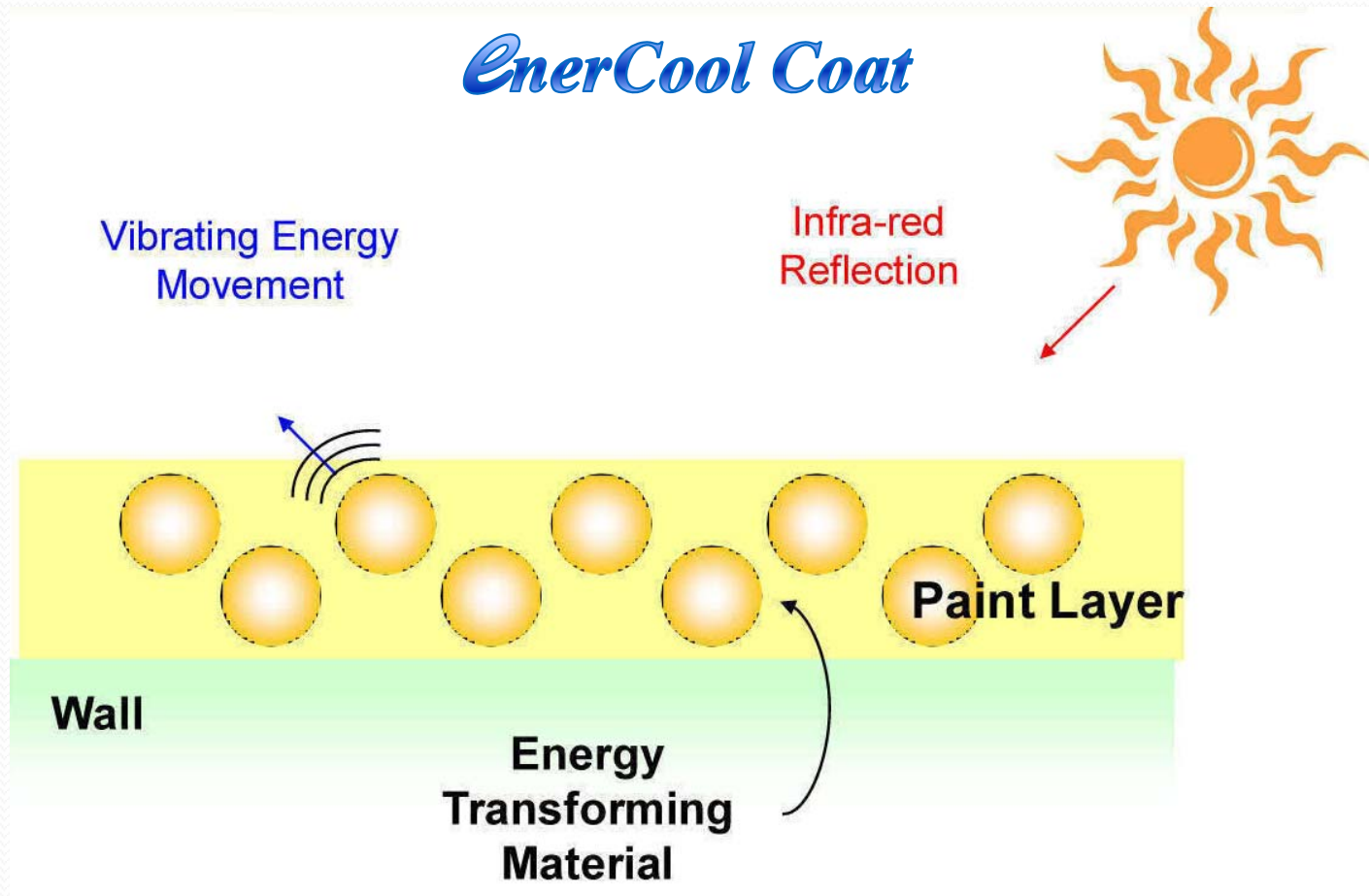
EnerCool Coat

Functions & Features

- *EnerCool Coat does not have the surface blemishes and loss of gloss that characterized previous heat reflecting paint.*
- *Daytime room temperature are reduced when EnerCool Coat is applied.*



Working Principle



Summary

Energy Saving

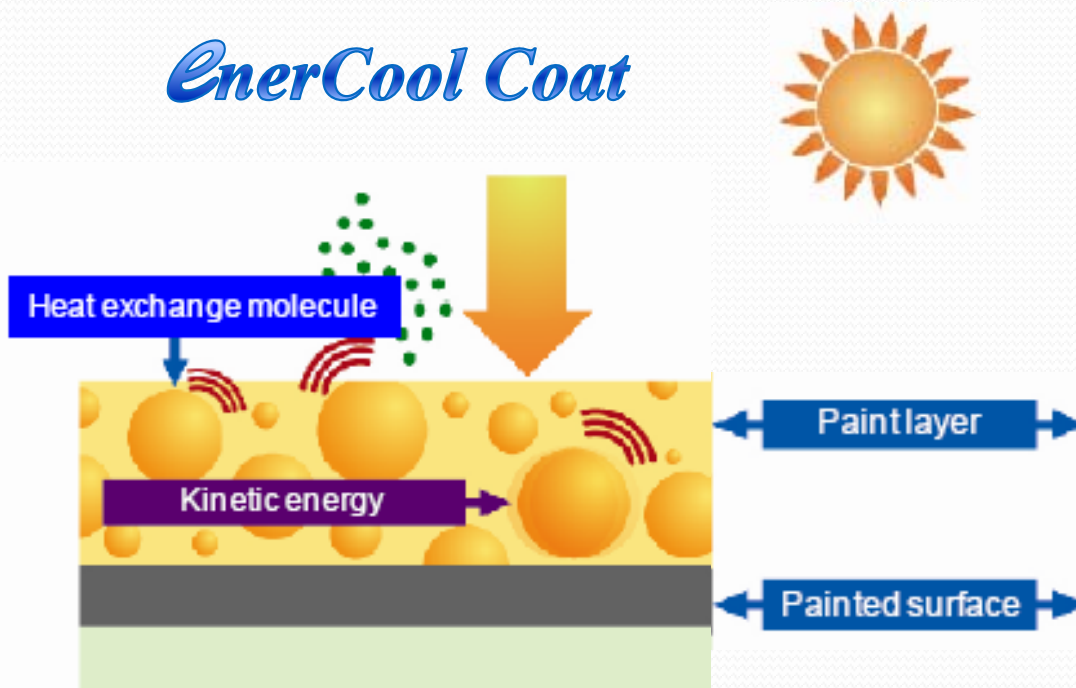
- Reduces temperature of non air-conditioned rooms (improving living-space quality)
- Substitution to smaller capacity air-conditioning equipment (reduced energy related capital costs)
- Air-conditioning energy reduction (reduced energy related operating costs)

Reduced Thermal Expansion

- Reduction of structural stress caused by thermal expansion
- Reduced calking and sealing of gaps due to reduced thermal expansion

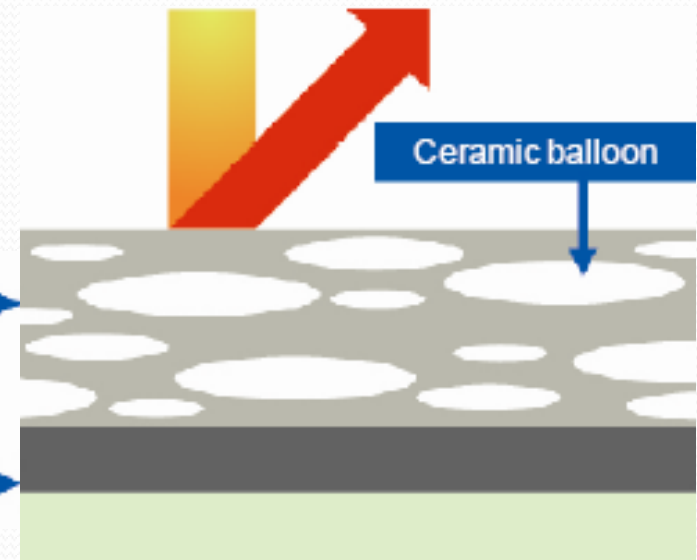
Comparison of Working Principle

EnerCool Coat



EnerCool Coat dissipates thermal energy within the paint by converting heat into kinetic energy.

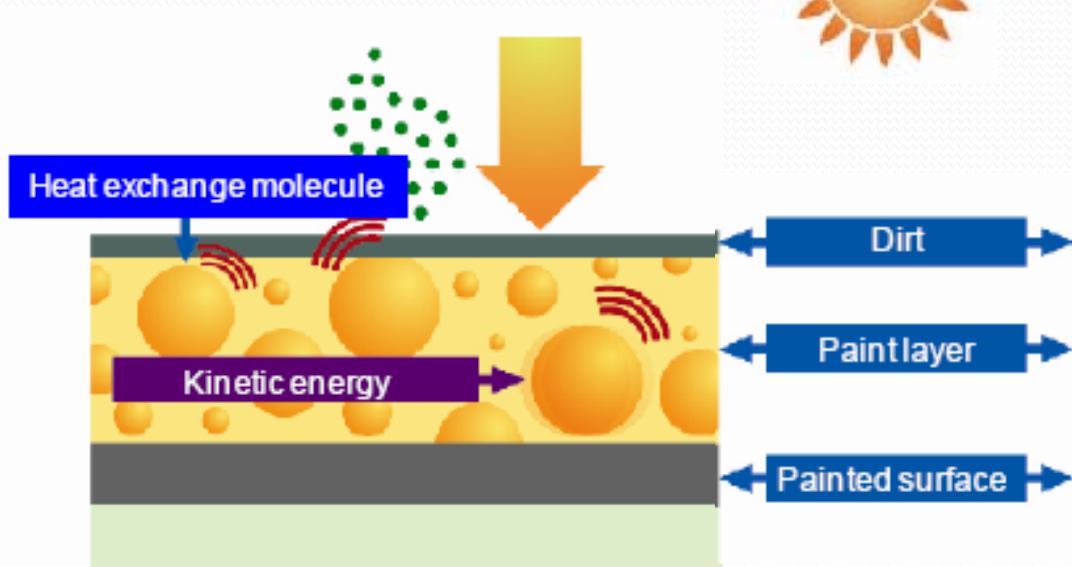
Conventional Heat Reflective Paint



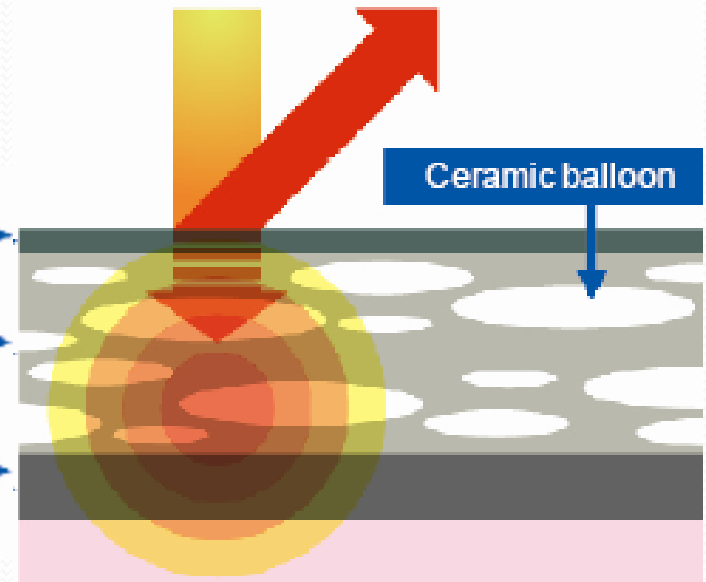
Conventional heat reflective paint reflects IR (infrared rays) creating an Urban Heat Island Effect. (UHI)

Comparison of Working Principle

EnerCool Coat



Conventional Heat Reflective Paint



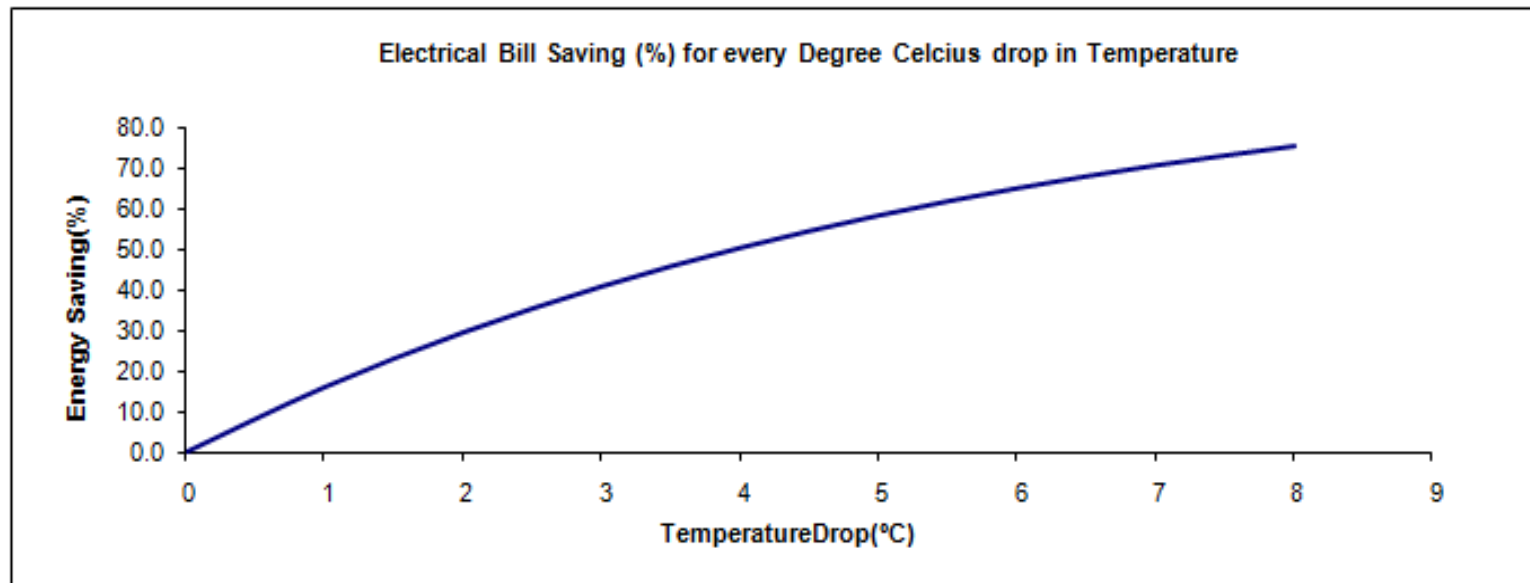
Surface dirt does not affect energy exchange mechanism. Temperature of underside remains low and cooling.

Heat reflection becomes weaker when dirt accumulates on the surface. Paint itself contain heat hence further increase temperature.

Saving on Electrical Bill

Every Degree Drop (°C)	Energy Consumed (W)	Electrical Bill Saving (%)
0	1600	0.0
1	1344	16.0
2	1129	29.4
3	948	40.7
4	797	50.2
5	669	58.2
6	562	64.9
7	472	70.5
8	397	75.2

*2HP / 2.682kW Air Conditional is take into consideration.
Ambient Temperature is 34°C and thermostat is set to 22°C.



Case Study I

- Test conducted by one of the certified testing institute in Singapore in a solar chamber at 35°C on a 20L container coated on the outside of container only. Temperature were taken at three locations:-

EnerCool Coat

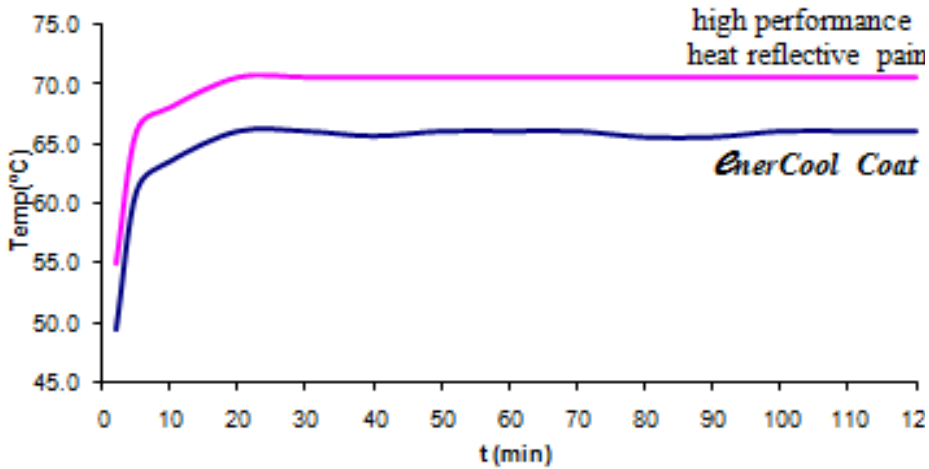
Exposure Time to sunlight (mins)	Lid Top Surface Temperature (°C)	Lid Underneath Surface Temperature (°C)	Lid Underneath Ambient Temperature (°C)
2	49.5	40.0	23.5
5	61.0	52.5	27.5
10	63.5	55.5	35.0
20	66.0	58.0	40.5
30	66.0	58.0	42.0
40	65.6	58.0	42.5
50	66.0	58.5	42.0
60	66.0	58.0	42.0
70	66.0	58.0	42.0
80	65.5	58.0	42.0
90	65.5	58.0	42.0
100	66.0	58.0	42.0
110	66.0	58.0	42.0
120	66.0	58.0	42.0

High Performance Heat Reflective Paint

Exposure Time to sunlight (mins)	Lid Top Surface Temperature (°C)	Lid Underneath Surface Temperature (°C)	Lid Underneath Ambient Temperature (°C)
2	55.0	48.5	29.0
5	66.0	67.0	33.5
10	68.0	70.0	40.0
20	70.5	72.0	45.0
30	70.5	71.5	46.0
40	70.5	70.5	46.5
50	70.5	70.5	46.0
60	70.5	70.5	46.0
70	70.5	70.5	46.0
80	70.5	70.5	46.0
90	70.5	70.0	45.5
100	70.5	70.0	46.0
110	70.5	70.0	45.5
120	70.5	70.0	45.5

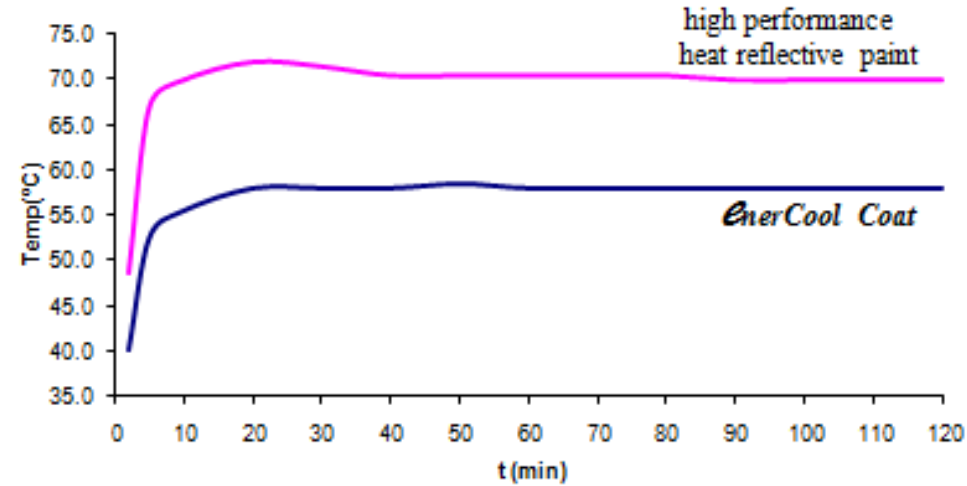
Top Surface Temperature

Lid Top Surface Temperature Comparison

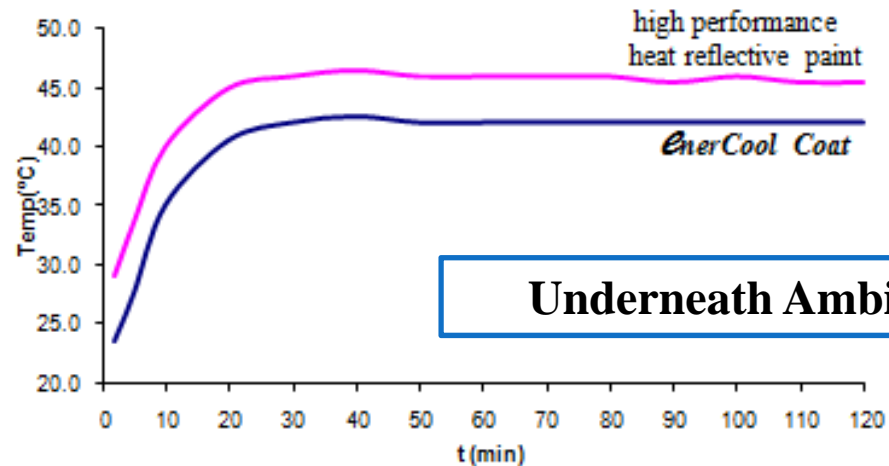


Underneath Surface Temperature

Lid Underneath Surface Temperature Comparison



Lid Underneath Ambient Temperature Comparison



Underneath Ambient Temperature

Case Study II

Comparison of surface temperature between Ordinary Paint & *EnerCool Coat*

Surface Temperature Comparison									
Ordinary Paint	°C	24.6	30.0	40.0	50.0	60.0	70.0	80.0	90.0
<i>EnerCool Coat</i>	°C	24.6	27.3	31.3	37.3	42.9	48.5	53.9	60.5
Temperature Difference	°C	0.0	2.7	8.7	12.7	17.1	21.5	26.1	29.5
Ratio	%		9.0	21.8	25.4	28.5	30.7	32.6	32.8

