

ENVI-GEL 365

Solar Reflective and Thermal Insulation
Advanced Waterborne Exterior/Interior Coating System



Applications

- ✓ Lowers core temperature
- ✓ Reduce energy loss from air conditioners and heaters
- ✓ Prevents condensation on walls, cooling ducts and district cooling pipelines
- ✓ Can be applied as exterior or interior coating on roofs, walls, steel containers, tanks, pipes

Performance

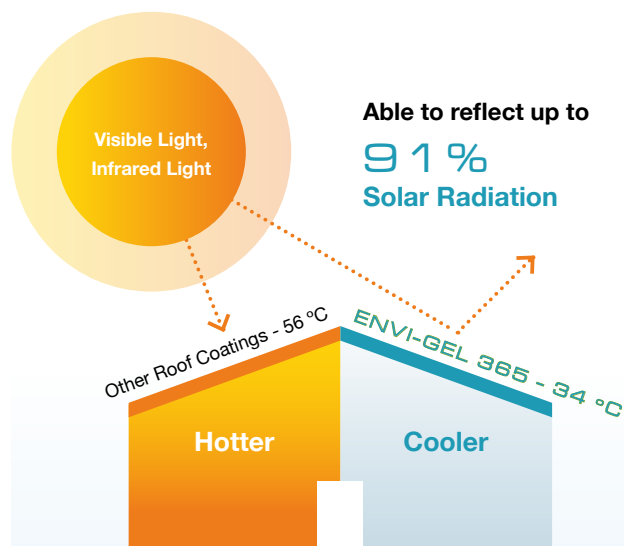
- ✓ Lowers concrete wall/roof temperature by 20 °C
- ✓ Lowers steel roof temperature by 30 °C
- ✓ All-In-One Coating or composite repair* to seal leaks and perforations on steel roofs, concrete walls etc

* ENVI-GEL365 can be used together with our composite materials as a coating system to seal leaks and perforations

ENVI-GEL 365

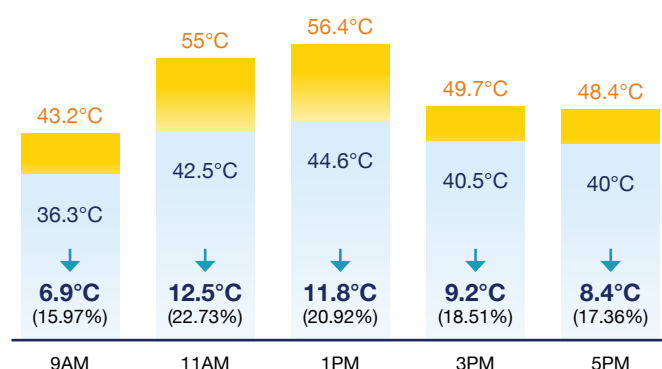
Designed to help prevent energy wastage

ENVI-GEL 365 is the most advanced solar reflectance and thermal insulation coating system that can be applied on both on inside and outside to reduce heat and cold loss. The product is a single component, waterborne acrylic based insulation coating with both solar reflective and thermal insulation properties with wide range of end uses. ENVI-GEL 365 may be used on zinc, aluminium, concrete and masonry.



A thin layer 0.3mm is able to bring down the external roof temperature by approximately **38%** from 56°C to 34°C.

Temperature effects of ENVI-GEL 365 when applied to a typical concrete or steel rooftop of a house in Singapore



A thin layer 0.3mm works well as a solar reflector

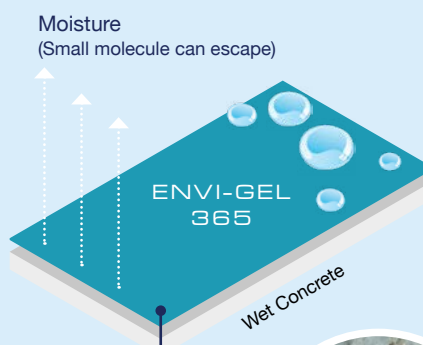
Insulation or thermal barrier to prevent condensation on walls or surfaces



This water-based coating has low VOCs and is safe to use indoors. It repels water, fungi and is algae resistant. It may also be applied as a barrier to restrict thermal transfer between walls to prevent condensation.

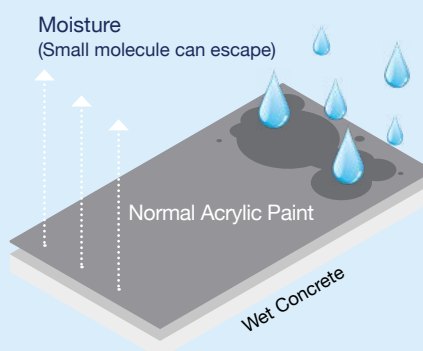
ENVI-GEL 365 "Hyperdry" technology

Prevents water penetration but allowing water vapour escape to prevent blistering. The unique "Hyperdry" technology displays superb hydrophobic properties that resists water penetration and yet allows water vapour escape through porous substrates. This prevents blistering which is a common problem in our wet and humid climate.



Water forms large beads and is repelled by "HyperDry" Technology

1. ENVI-GEL 365 does not absorb water
2. Concrete stays dry
3. Mold and Algae will not thrive because there is no water within the substrate to fuel their sustenance



Water Spreads out and is absorbed by the paint

1. Moisture is retained within the paint (like a sponge) and will only dry when humidity and temperature is right
2. More Water is absorbed into the concrete
3. Mold and Algae grows when the moisture within the substrate is available for extended periods of time

APPLICATIONS

Residential and Commercial Establishments (Hot Climate)



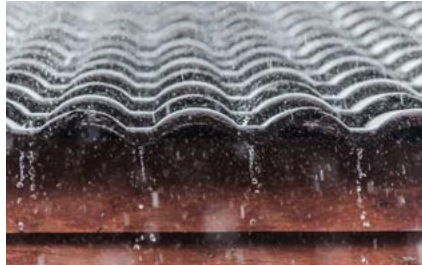
Applications

To reduce solar heat within the building

Recommended thickness 0.3 mm

on roofs and external walls will generally bring the indoor air temperature to 28°C even on a hot day at 38°C

Residential and Commercial Establishments (Cold Climate)



Applications

To insulate and reduce heat loss

Recommended thickness 2 mm

to be applied on internal walls and ceilings to achieve best results in heat conservation. Product is safe and dust free and may be applied directly on existing paint work

Cold Storage Containers



Applications

Reduce build up of heat within the container from solar radiation and latent heat

Recommended thickness 0.3 mm

on external of container to reduce solar heat conductivity. Reflects away up to 91% of solar radiation reducing heat build up.

Battery Energy Storage



Applications

Maintain optimal operating temperature of battery bank

Recommended thickness 0.3 mm

on external of container to reduce solar heat conductivity. Reflects away up to 91% of solar radiation reducing heat build up.

Dual Sided Solar Panels



Applications

High solar reflectance index of 91%

Recommended thickness 0.3 mm

when applied on roofs or surfaces can optimize reflected light for dual sided solar panels

Properties

- Safe and Eco-Friendly formulation
- Non-Flammable
- Dust Free
- Matt Finish
- Usage Temperature -50°C to + 120°C
- Electric based paint sprayers are acceptable since the product does not pose ignition or explosion risks
- Can be applied directly on substrates (concrete walls, steel roofs etc), no primer needed
- Can be built up with varying thickness between 0.3 mm to 2 mm to achieve desired insulation outcomes

PERFORMANCE TESTS



Thermal Conductivity
W/(m·K)
0.0787
(ASTM D5930-17)



Solar Reflectance index, SRI, [-]
114.2 (Low wind)
112.9 (Medium wind)
112.3 (High wind)
(ASTM E903-20)



Water Absorption (Fresh Water)
Passed SS 500
67 ml water/m²
(150 um WFT)



Water Absorption (Salt Water 1.023)
Passed SS 500
58 ml water/m²
(150 um WFT)



Passed ASTM 3359 Adhesion Test (X-cut)
Rating 4A on fiber reinforced cement

	Short-Term Test	Long-Term Test	Remarks
90 Days Natural Weathering (ASTM D1014-18)	Emittance = 0.88 Solar reflectance = 0.892 (89.2%) Solar absorptance = 0.108 (10.8%)	Emittance = 0.89 Solar reflectance = 0.885 (88.5%) Solar absorptance = 0.115 (11.5%)	Minor degradation due to dust accumulation. Specimen was placed flat, non angled profile to encourage water pooling No corrosion visible on the steel substrate.
Water Immersion 7 Days (ASTM D543)	9 Samples Average of 3.37 grams	9 samples Average of 3.8 grams	12.75% weight increase due to water absorption Classified as excellent resistance to water.
Accelerated UV (1000 hrs)	3 Samples	3 Samples	No Blistering, Chalking, Yellowing. Adhesion Rating remains at 4A.
Concrete Immersion Tests Red Dye (1000 hrs)	9 samples	9 samples	8 Samples had no water permeation. 1 sample had water permeation 5 mm depth due to non-coated pinhole of 1 mm diameter. For concrete substrates where mechanical trauma is expected, ENVI - GEL 365 RPET membrane is recommended.
Adhesion Cross Cut on Steel (1000 hrs)	9 Samples Rating 4A (ASTM 3359)	9 Samples Rating 4A (ASTM 3359)	Specimen subjected to natural weathering 41 days. No loss of adhesion detected. No Signs of corrosion on steel substrate *** ENVI - GEL 365 is designed as reflective/insulation coating, a suitable anti-corrosive is still required for steel substrates.

CONTACT US



67 Ayer Rajah Crescent
#02-10/17
Singapore 139950



www.envicom.com.sg



info@envicom.tech