

GREENSHIELD 108

**ELASTOMERIC COATING FOR HEAT REFLECTIVE,
WEATHERSHIELD & WATERPROOFING**

DESCRIPTION

Greenshield 108 is an excellent energy conserving elastic coating designed for roof, walls and substrates that requires heat reflective & waterproofing protection. Greenshield 108 is a "green" product that is eco-friendly and is safe for both the applicator and the environment. It is recommended for exterior use for all residential and commercial buildings. It is a water-based styrene acrylic co polymer resin system and filled with minute heat shield cells which act as a thermal resistant blanket covering the whole treated structure. Greenshield 108 is a heat reflective coating and when applied, the Ultraviolet and heat rays are reflected and emitted from the surface, reducing the thermal conductivity between the substrate and the coating.

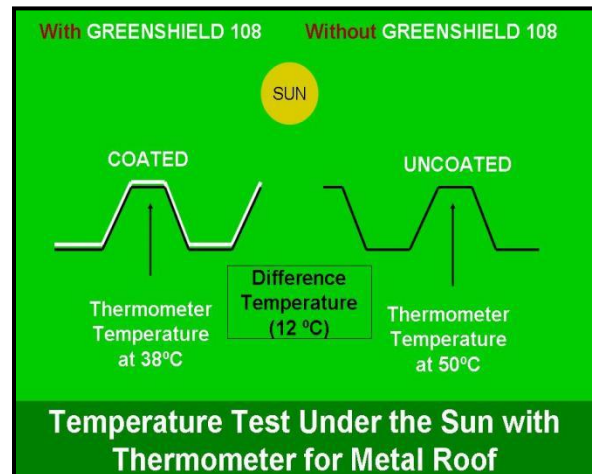
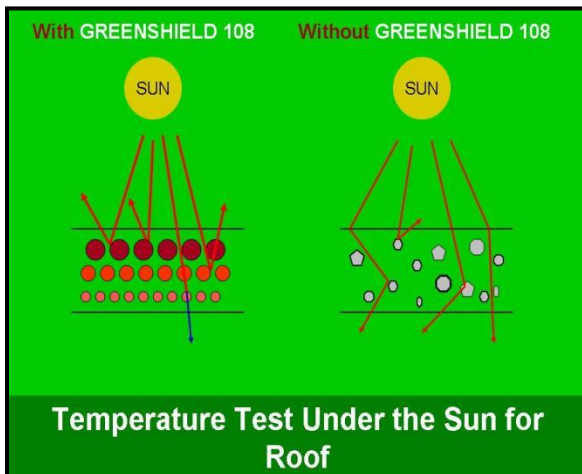
USES

Heat reflective & waterproof coating for :

- metal, clay or cement tile roof
- old & new metal roofing sheets
- old & new concrete roofs
- concrete flat roofs
- Polycarbonate roofing sheets
- all kinds of wall
- container office

ADVANTAGES

- Heat reflection thus saving energy and electricity bills i.e. reduce air conditioner usage and prevent global warming.
- Waterproofing protection.
- Self-seals any hairline cracks.
- Eco friendly product thus is safe for usage and helps in environmental protection.
- Ultraviolet resistant.
- Good elongation.
- Good adhesion to variable substrates.
- Non toxic and solvent free.
- Aesthetically pleasing colour options.
- Longer potential life-cycle due to less polymer degradation and thermal expansion due to lower temperature.
- Cooler to the touch for better ergonomics.
- Applied as is just like painting.
- Long-lasting protection against algae, fungus and mould.
- Excellent elasticity, durable and able to retain elasticity for many years.
- Able to absorb thermal shock and vibration.
- Excellent dirt pick-up resistance.
- Ease of Application - Brush, roller or airless spray applied.
- Sound deadening effect – reduce the sound of rain water droplets on metal roof.



PRODUCT PROPERTIES

Tests	Test Results	Standard
INSULATION:		
Total Solar Reflectance (TSR)	82.2	C1549 & E903-96
Emissivity	0.91	C1371-04a & E408
Solar Reflective Index (SRI)	103	Shepherd-USA
Thermal Conductivity	0.01888 W/m ² K	ASTM C518:1991
Emittance	0.68 ε	ASTM C1371: 2004A
Solar Heat Reflectance	99.3%	ASTM E903: 1996
Flame Retardant	PASS- Class One Surface Spread of Flame	BS 476: Part 7:1997
Flash Point, °C (COC)	No Flash Point Detected	ASTM D92
Soffit temperature difference	Reduce up to 10 - 15°C	Greenseal Laboratory
Accelerated Weathering	PASS -No Cracking	Greenseal Laboratory
WATERPROOFING:		
Solid Content	>60%	ASTM D1644-01
Specific Gravity	1.2	ASTM D1478
Elongation	~100%	ASTM D638
Tensile Strength	>1.5 Mpa	ASTM D638
Crack Bridging	Bridges gap to 2mm	Greenseal Laboratory
Hard Drying Time	45 minutes	Greenseal Laboratory
VOC Content	<10g/L	ASTM D3960

COVERAGE FOR CONCRETE ROOF & WALL

APPLICATION SYSTEMS	AS HEAT REFLECTIVE & PAINT	AS HEAT REFLECTIVE & WATERPROOFING MEMBRANE FOR ROOF
1 st Coat Greenshield Primer (Water Based)	8 m ² / Litre	8 m ² / Litre
2 nd Coat Greenshield 108	3.3m ² / Litre	1.6m ² / Litre
3 rd Coat Greenshield 108	3.3m ² / Litre	1.6m ² / Litre
Theoretical Thickness	0.3 mm	0.7 mm

* Coverage and thickness is theoretical and may vary due to different substrates.

COVERAGE FOR METAL ROOFING

APPLICATION SYSTEMS	AS HEAT REFLECTIVE & PAINT
1 st Coat Greenseal 103 Aluminum Primer (Solvent Based)	10 m ² / Litre
2 nd Coat Greenshield 108	3.3m ² / Litre
3 rd Coat Greenshield 108	3.3m ² / Litre
Theoretical Thickness	0.3 mm

* Coverage and thickness is theoretical and may vary due to different substrates.

GREENSHIELD 108

MULTI-COLOURS HEAT REFLECTOR

Greenshield 108 has many standard colours and colour shades which utilise a combination of IR-reflective pigments. This will exhibit a greater Total Solar Reflectance (TSR) than the exact same colour made with conventional pigments. Total Solar Reflectance (TSR) actually describes how much of the sun's energy an object reflects.

When Greenshield 108 is applied on the surface, it helps to minimize the effects of the sun and improved the overall durability of the coatings as Greenshield 108 is a special weatherable formulation which can withstand the highest level of heat and chemical resistance over the years without significant degradation. This gives a long lasting effect, as its minute heat shield cells with infrared reflective pigment allows buildings to remain cool under the sun. Darker colours will give lower reflectivity only.

APPLICATION INSTRUCTIONS

SURFACE PREPARATIONS

Surface preparations are required before using Greenshield 108. All surfaces must be clean and free from laitance, dust, dirt, oil and grease.

PRIMER

- Apply Greenshield Primer (acrylic based) to unpainted clean surfaces for better adhesion and to fill small imperfections on the surfaces.
- For painted surfaces, remove all flakes of paint before applying Greenshield Primer.
- For old and new metal roofing apply Green Seal 103 Aluminum Primer before applying Greenshield 108.

APPLICATION METHOD

Greenshield 108 can be applied by roller, brush or airless spray. For good protection, it is recommended to first spray Greenshield 108 & then back rolls Greenshield 108 on the substrate. If cross spraying method is used, Greenshield 108 should be applied on touch dry between coats.

1. Thoroughly clean concrete surfaces free of oil, grease, paint and loose dust, mud and laitance and hose down concrete surfaces thoroughly.
2. Hacked along the cracks areas (2mm and above) to make a small V groove. Repair all the hacked off areas with Green Seal Injection Grout.

3. When the primer coat is reasonably dry, it can accept foot traffic without lifting up of material when step on or touch on. This would be at least 1/2 hour after the primer coat application.
4. Over the primer coat, applied Greenshield 108 as a first coat at the rate of 0.3litre/m² on top of the primer coat.
5. After the first coat of Greenshield 108 has been applied, it is important to roll the coat with sufficient material and shall not be less than 0.3litre/m² or 3.3m²/litre coverage.
6. Wait for the first coat Greenshield 108 to be dry at least 1-2hours.
7. Then applied the second coat (top coat) of Greenshield 108 at the rate of 0.3litre/m² per coat and then wait for the top coat to dry.

MIXING

No mixing is required.

CURING

45 minutes (The coating should no longer be susceptible to airborne dust and will not run in the presence of 50% relative humidity at 24°C).

When maintenance is required after 5-7 years, the coating surface can simply be cleaned and re-coated with a refresher or single coat.

CLEANING EQUIPMENT

Clean equipment with soapy water followed by rinsing with clean water. Flush mineral spirits through the spray equipment to prevent rust.

PACKAGING AND APPEARANCE

- 5 & 20 litre pail
- Colour – (please refer to Greenshield 108 colour chart)

STORAGE AND SHELF LIFE

Greenshield 108 has a shelf life of 12 months. Keep containers tightly closed. Do not expose it to direct sunlight or leave it too long in the open air.

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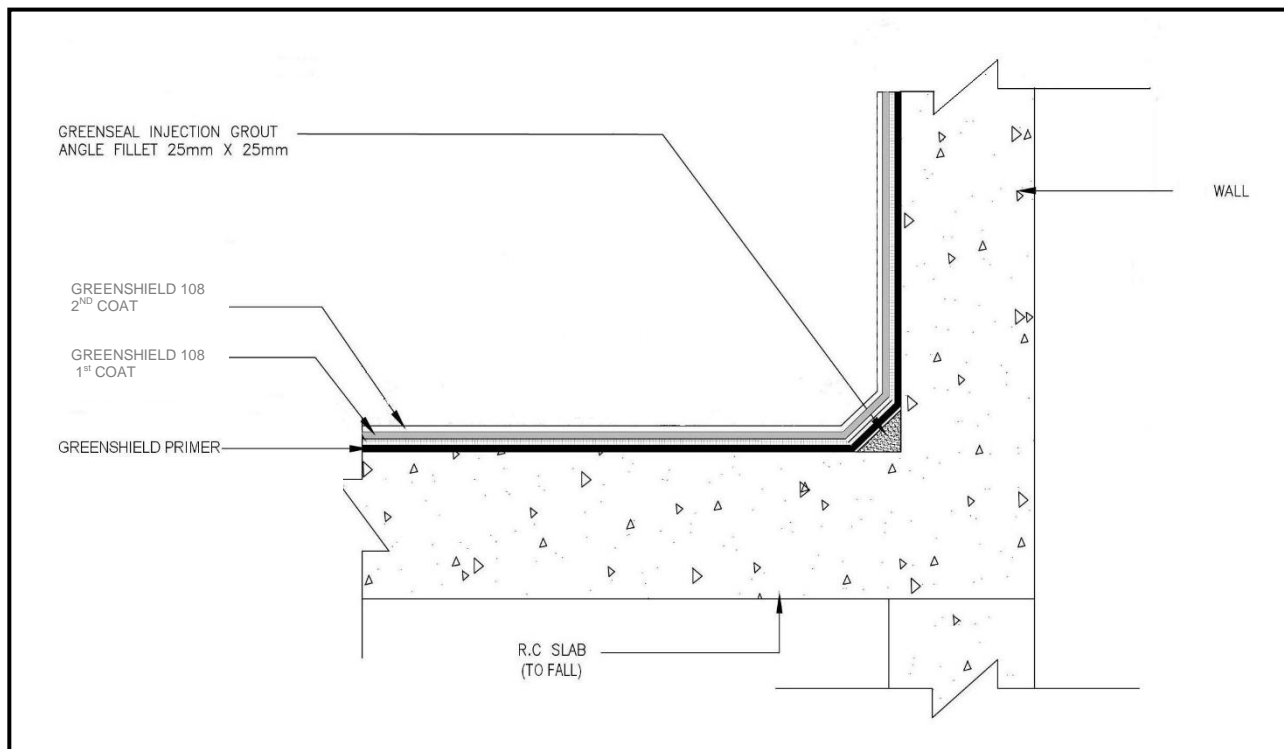
PRECAUTION

Do not apply Greenshield 108 if weather is imminent before the coat is dry thoroughly, or when temperature is expected to drop below 5°C.

Newly applied Greenshield 108 should be protected from rain, extreme heat and moisture during the first few hours. Please contact Greenseal Products (M) Sdn Bhd for further technical assistance.

HEALTH, SAFETY AND CLEANING

Greenshield 108 is non-toxic, but it is recommended that the applicator wears a safety goggles and gloves by spray method. Avoid prolonged contact with exposed skin, and keep away from mouth and eyes. In case of skin contact, wash areas with soap and water. If contact with eyes, rinse thoroughly with clean water. Seek medical attention immediately if irritation persists.



Guarantee

The information contained in this leaflet is based on our experience and technical knowledge, obtained through laboratory testing and from bibliographic material. GREENSEAL reserves the right to introduce changes without prior notice. Any use of this data beyond the purposes expressly specified in the leaflet will not be the Company's responsibility unless authorized by us. Our guarantee covers exclusively the quality of the manufactured product. We will not accept any responsibility exceeding the value of the purchased product.

Greenseal Products (M) Sdn Bhd, Lot 5 & 7, Jln 35/10A, Taman Perindustrian IKS, Mukim Batu Caves,
68100 Kuala Lumpur, Malaysia. Tel : 603-61882298 Fax : 603-61861298

E-mail : enquiries@greenseal.com.my URL: <http://www.greenseal.com.my>

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