



EnviroECOats MS-Thermashield by Milenium Solutions is a Multi Surface Coating made with our proprietary **ACV** Microspheres that act as an insulator and water repellent. MS-Thermashield is an environmentally friendly, low VOC (less than 250g/L) Premium Latex Paint for both interior and exterior use. Because MS-Thermashield can be applied to multiple surfaces and meets United States federal performance specifications, it is an ideal paint for projects requiring **ECO**logically friendly, Insulating **COOL** color paint. Help us protect the **Enviro**nment and save money by using **EnviroECOats MS-Thermashield**. Conserve and save energy.



MS-Thermashield is the product used in Accelerating the Clean Energy Transition in South Africa by The Office of Energy Efficiency & Renewable Energy of US Department of Energy (USDOE) with South African National Energy Development Institute (SANEDI) and Glocal Cool Cities Alliance (GCCA).
<https://www.energy.gov/eere/articles/accelerating-clean-energy-transition-south-africa>



MS-Thermashield is the product used to paint !Kheis Cool City in cooperation with Peer Africa and WinBuild Inc.
<https://za.usembassy.gov/renewable-technology-makes-life-better-cooler-ask-kheis/>

Milenium Solutions (EnviroECOats) is a proud participant in Million Cool Roof Challenge: <https://www.coolroofschallenge.org/news-and-blogs/2019/9/18/global-effort-to-deploy-cool-roofs-gets-a-boost>

Dengan Coolroofs Project, Suhu Kelas SD di Tangerang Bakal Lebih Adem

ON THE SPOT © Sabtu, 26 Oktober 2019, 16:31 WIB



Wali Kota Tangerang Ariel R Wismansyah (lengah) mengoleskan bahan bahan coolroofs (Foto: Dok. Pemkot Tangerang)

MS-Thermashield is the product chosen when Indonesia launch The Cool Roof Program in Tangerang, Indonesia.

Who is Milenium Solutions

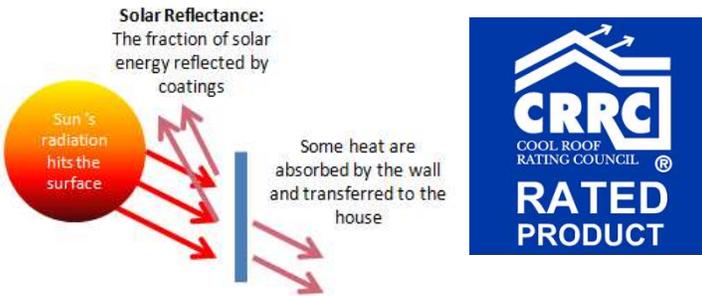
Milenium Solutions is a company started by 2 Engineers with over 30 years combined experience in the Building Materials industry. Their expertise resides in Process Engineering, Material Performance, Laboratory Testing and Qualification, Code Compliance and Quality Management in a high volume, multiple locations, and manufacturing environment. With access to the most up-to-date testing equipment, both founders have the ability to test and validate product quality and performance. In addition, the mission is to provide the Market with high performance, highly competitive, cost effective, and environmentally friendly solutions.

MS-Thermashield

MS-Thermashield is environmentally friendly premium latex paints that contain our proprietary ACV Microspheres. The features are low VOC, COOL colors with high solar reflectivity, thermal insulation, water repelling and have a high hide capability.

Solar Reflectance and Insulation

EnviroECOats color selection is validated to be coatings that reflect the radiation of the sun. In addition, our proprietary ACV Microsphere matrix reduces the temperature transfer by approximately 20%. The space age ACV Microspheres nullify the three methods of heat transfer through scientifically proven Knudsen diffusion. The affect is lower heat transfers wherever MS-Thermashield is applied, saving you money. As an added benefit the ACV Microspheres are naturally Hydrophobic which repels water and will not allow molds to grow.



MS-Thermashield is CRRC Rated with Initial Solar Reflectivity of 0.84 and Thermal Emittance of 0.90.

	<u>Initial</u>	<u>Weathered</u>
Solar Reflectance	0.84	0.77
Thermal Emittance	0.90	0.88
Rated Product ID Number	0001	
CRRC Licensee ID Number	1212	
Classification	Production Line	

Cool Roof Rating Council ratings are determined for a fixed set of conditions, and may not be appropriate for determining seasonal energy performance. The actual effect of solar reflectance and thermal emittance on building performance may vary.
Manufacturer of product stipulates that these ratings were determined in accordance with the applicable Cool Roof Rating Council procedures.

EnviroECOats MS-Thermashield

Technical Data Sheet

<u>Characteristics</u>	<u>Specification</u>	<u>Test Method</u>
Viscosity	90-100 K.U.	BYK Viscometer
Dry Time	Dry to touch, 30 min.	Test by applications.
Fineness of Grind	Spec 3 or above	ASTM D1210 Fineness of grind Gauge.
Alkalinity, pH	8.5-9.5	pH Meter
Gloss at 60 degrees		ASTM 523
Flat	0-5	
Eggshell	15-25	
Opacity	0.98 minimum	ASTM D2805
Scrub Resistance		ASTM D2486
Flat	+150 cycles	
Eggshell	+250 cycles	
% Solids by volume	40- 60%	
Spread Rate	250-350 sq ft/gal	
VOC	50g-250g/L	
Recommended wet film per coat:	4.5 - 6 mils	

Recommended dry film per coat: 2 - 3 mils

Description: EnviroECOats MS-Thermashield is in an interior/ exterior latex paint for use on properly prepared wood, masonry, drywall or metal.

Surface Preparation: All surfaces must be cured, clean, dry and free from dirt, dust, rust, stains, grease, oil, mildew, wax, efflorescence, and other contaminants. Remove all loose, peeling, or chalky paint by sanding, scraping, high pressure washing, or other appropriate methods. Repair all cracks, holes, and other surface imperfections with suitable patching material. Repaired surfaces should then be sanded, cleaned, and spot primed with suitable primer or sealer. If efflorescence exists, remove all noticeable deposits and prime the entire surface with suitable primer. New wood and metal surfaces should be primed with appropriate product.

Insulation and Thermal Transfer

EnviroECOats MS-Thermashield contains our proprietary ACV Microspheres utilizes nano-size voids, micronized ceramics and micro-size vacuum spheres to dissipate the heat molecules preventing the three ways for heat to travel: conduction, convection and radiation.

The ACV Microspheres in MS-Thermashield is one of best insulators in the world and its active ingredients are currently use in high tech insulation application for space exploration for both vehicle and human protection in extreme hot and cold weather.