MY BIG NANO

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Product Brochure

MBN ThermOff

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Editorial

About MyBigNano South Africa and our Products.

MyBigNano South Africa was established in 2010 with the aim to bring Nanotechnology coatings to South Africa.

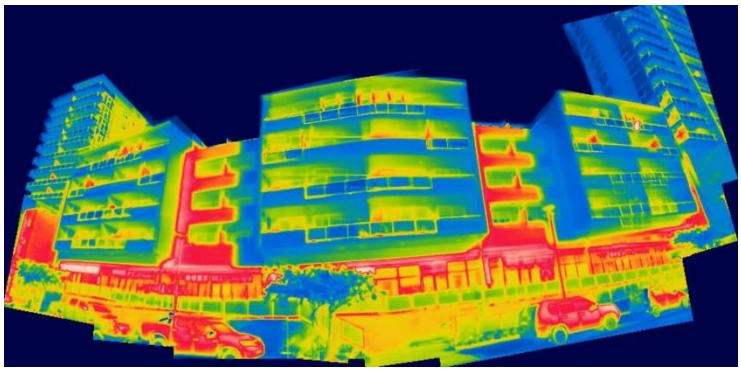
Our Company was the first company in South Africa to do so by signing an exclusive territorial distributorship agreement with Nano4Life EUROPE, the global leader in Nanotechnology Coatings with Distribution in over 30 Countries and counting.

On a National Level, we offer ALL of Nano4Life's Sector Specific range and have established a Provincial operators' system. We currently have Operators in 6 of South Africa's 9 Provinces.

Internationally, **MyBigNano** is also present in Australia, Zambia and Turkey under the same System.

MBN ThermOff Home & Commerce New

In another South African First, MyBigNano Brings to you ThermOFF Home and Commerce. The application is a Thermal Radiation Reflective Paint, for the purpose of cooling down a building or structure.



FLIR Image heatmap of a building

Information Sheet

MBN ThermOFF Home and Commercial Grade

Description:

MBN ThermOFF H&C is an Infrared Thermal Radiation Reflective Coating, which can be applied like standard paint to the top of structures (Roofs), as well as walls where necessary with the purpose of cooling the ambient temperatures in the structure by as much as 15°C. It's great for standard Home and Commercial Applications. Need something more Heavy Duty? Inquire about MBN ThermOFF Industrial and Engineering, our Thermal Ceramic Heat Barrier.

Basis Of Operation:

MBN ThermOFF is a broad light spectrum thermally reflective coating with proprietary micro-spheres which ''block out'' heat radiation to a much broader spectrum than thermal energy (heat). Heat transfer is reduced from the solar infrared radiation as well as the ultraviolet radiation light spectrums that generate heat.

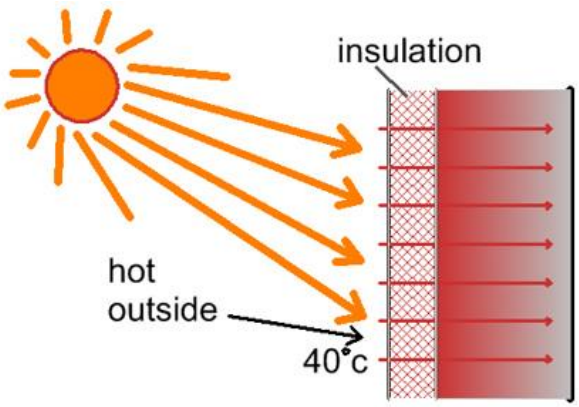
Modern Thermal Insulation in the Modern environment:

Maintaining acceptable temperature in buildings –by Heating & Cooling- uses a large proportion of global energy consumption. Historically, trying to achieve the above has meant an evolution in various insulation materials and techniques. Glass Wool, Rock Wool, Polystyrene Foam, Vermiculite, Perlite and even Cork have all been used through History to regulate temperatures within structures.

When well insulated, a building will be energy efficient, saving the owner money, will ensure uniform temperatures throughout the building and lower the structure's carbon footprint. A Well insulated building also has minimal recurring expenses, as unlike heating and cooling equipment, insulation is permanent and does not require maintenance, upkeep or adjustment.

Traditional Fiber Glass Wool Blanket

Thermal Reflective Coatings and Heat Barriers are new age Insulation Materials that were spawned from the Space revolution of the 1960's and is nothing new. Only now however, has the price of these materials become cheap enough for manufacturing on an industrial scale for average use.



1mm of Thermal Reflective Coating is equal to 40mm of regular Insulative Material.

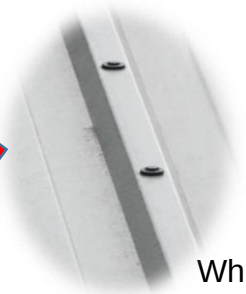
Advantages and Applications

Advantages of MBN ThermOFF Home and Commerce:

MADE IN SOUTH AFRICA

✓ Thermal Insulation
✓ Water based anf NON TOXIC
✓ Easy to apply
✓ Inexpensive
✓ Long Lasting
✓ Saves Electricity and Energy

The Added Bonus to your ROOF



When MBN ThermOFF is applied to Concrete roofs, helps to prevent Thermal Shock from the expansion and Contraction of these structures, which in turn puts an end to cracking and leaking. MBN ThermOFF will also do the same job to metal roofing sheets, thereby minimizing roof bolts, rivets and screws popping. This naturally means a prolonged roof life.

Applications:

✓ Shopping Centres
✓ Poultry Houses
✓ Seed Houses and Grain Silos
✓ Commercial Livestock facilities (dairies, pig houses etc)
✓ Fruit Packaging and processing plants.
✓ Tobacco Sheds.
✓ Food Wholesalers and Supermarkets.
✓ Container Housing.
✓ Emergency Residnt and Refugee Housing
✓ Factories, Schools, Clinics and Office Buildings
✓ Convention Centres and Halls
✓ Hotels, Motels and other Hospitality Facilities
✓ Observatory Domes
✓ Garages
✓ Lodges
✓ Bus/Taxi Rank Shelters
✓ Under Cover – Outdoor Market Places

Performance Data

Reflectance	92%
K Value	0,4 Btu-in/hr/Ft.sq/deg. F
k/x	1,6 (x = mm)
r	0.25
Emissivity	0.9-0.96
Den	1,3 (Kg`s/Lt)
Deg F	0 - 212
Aluminium	0.61
White-Coated Gravel on built-up Roof	0.65
White EPDM	0.69
White Cement Tile	0.73
ThermOFF – 1 Coat	0.8
ThermOFF 2 Coats	0.85

- ✓ Can reduce air conditioning costs by up to 25%.
- ✓ Can reduce Thermal Shock by up to 50%
- ✓ Increases rust onset and degradation time by 300%
- ✓ Increases live carry capacity by up to 25% (chicken house spec/men)
- ✓ Decreases Heat Stress Mortality by 90% (chicken house spec/men)
- ✓ Roof Substrate temperatures Drop by an average of 50%

Example SRI Values for Generic Roofing	Solar Reflectance	Infrared Emittance	Temperature Rise	Solar Reflectance Index (SRI)
Gray EPDM	0.23	0.87	68F	21
Gray Asphalt Shingle	0.22	0.91	67F	22
Unpainted Cement tile	0.25	0.9	65F	25
White Granular Surface Bitumen	0.26	0.92	63F	28
Red Clay Tile	0.33	0.9	58F	36
Light Gravel on Built-Up Roof	0.34	0.9	57F	37
Aluminium	0.61	0.25	48F	56
White-Coated Gravel on built-up Roof	0.65	0.9	28F	79
White EPDM	0.69	0.87	25F	84
White Cement Tile	0.73	0.9	21F	90
ThermOFF – 1 Coat	0.8	0.91	14F	100
ThermOFF 2 Coats	0.85	0.91	9F	107

Available Colours

Must it be White?

The Narrative us usually that the cooling potential of roof coatings is connected with Colour. The Florida Solar Energy Centre (FSEC) has evaluated by testing the Solar Reflectance of some 37 Roofing Materials, that white, does indeed generally exhibit the best performance. The reason for this is white surfaces are highly reflective across solar spectral bandwidths and especially towards the far-infrared regions of the Spectrum.

However, this may put you at odds with your decorator, who may not agree with your choice of white or cases where a white surface may not be possible. For this reason, we offer several choice of colours. It won't work as well as White but will definitely work much better than an untreated roof or surface.

Application

Surface Preparation:

The substrate should be clean dry and stable.

Application:

Ensure that the surface is free of loose paint, dirt, grease, grime etc. and that it is dry prior to applying MBN ThermOFF. Apply by brush roller or spray applicators.

Consumption:

4-5 m2's Per Litre Depending on the Substrate and Application Method.

Package Handling and Storage:

Shelf Life: 6-12 Months when kept in recommended storage conditions and original unopened containers.

Storage: Store indoors in a dry environment between 5°C - 35°C. Protect from freezing.

Packaging:

MBN ThermOFF comes in a standard 20L Bucket. Enquire for bulk quantities like barrels and tanks.

Application Service and Price (optional):

Don't want the hassle of buying the product and doing the application yourself, we can send out a crew to come and do it for you. Contact us for a quote.