



[www.MyBigNano.co.za](http://www.MyBigNano.co.za)  
**Product Brochure**



### 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.

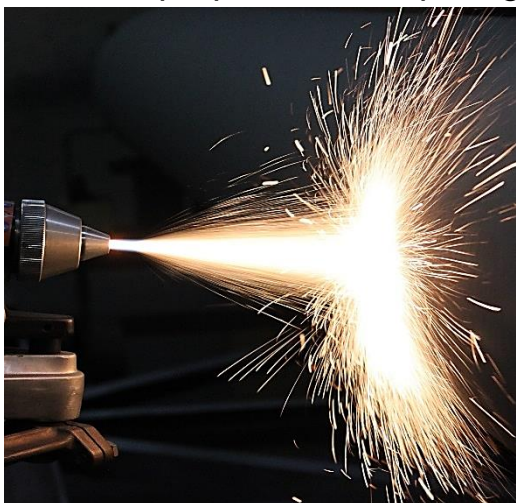
Internationally, **MyBigNano** is also present in Australia, Zambia and Turkey under the same System.



*A South African First*



In another South African First, MyBigNano Brings to you ThermOFF Home and Commerce. The application is a Thermal Barrier, for the purpose of dissipating Heat on a Hot Surface.





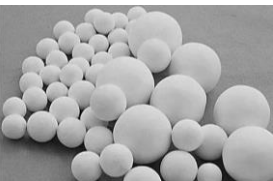
## MBN ThermOFF Industrial & Engineering Grade

### Description:

MBN ThermOFF I&E is an High Grade Ceramic Heat Barrier for Heavy Duty Industrial and Engineering use for professional projects and works. The fine compound is mixed with paint and will assume a thick slurry like consistency that is applied in layers to the surface and will return much of the heat to the underlying untreated surface. It's Great for heavy duty applications. Need something lighter duty for mass application? Inquire about ThermOFF Home and Commercial Grade, our Thermal Radiation Reflective Coating.

### Basis Of Operation:

Ceramic is by definition a thermal barrier that has been used for millennia to trap heat sufficient enough to complete some process such as cooking, hardening or drying (like ovens and kilns).



MBN ThermOFF goes further by utilizing a proprietary technology known as "Ceramic Matrix Vacuum Technology" which essentially removes air from the ceramic microspheres. Science tells u that when there's no air, there is no path for the transfer of air which carries heat.

When mixed with paint, the painted surface dries and crystallizes to form a tightly packed layer of ceramic microspheres. This tightly packed layer then minimizes the path for the transfer of heat and is able to reflect, refract and block heat radiation to dissipate heat transfer rapidly preventing heat being radiated back into the atmosphere.

### Thermal Barriers and how it developed from NASA:

Thermal barriers have always been used in form or other for thousands of years to accomplish a certain task or certain sets of tasks. Think of old Kilns that have been used to manufacture everything from Tiles to Bricks. The common denominator is that most of the time, Ceramic was used.

NASA, discovered in the late 60's that the only material that could withstand the extreme heat of a space vessel during Earth's re-entry was Ceramic. The Space shuttle's Thermal Protection System is based on ceramics.



High rotation ceramic ball bearings



Porsche Carrera GT Carbon Ceramic Disk Brakes



Horizontal Fire Test Furnace padded with ceramic tiles.



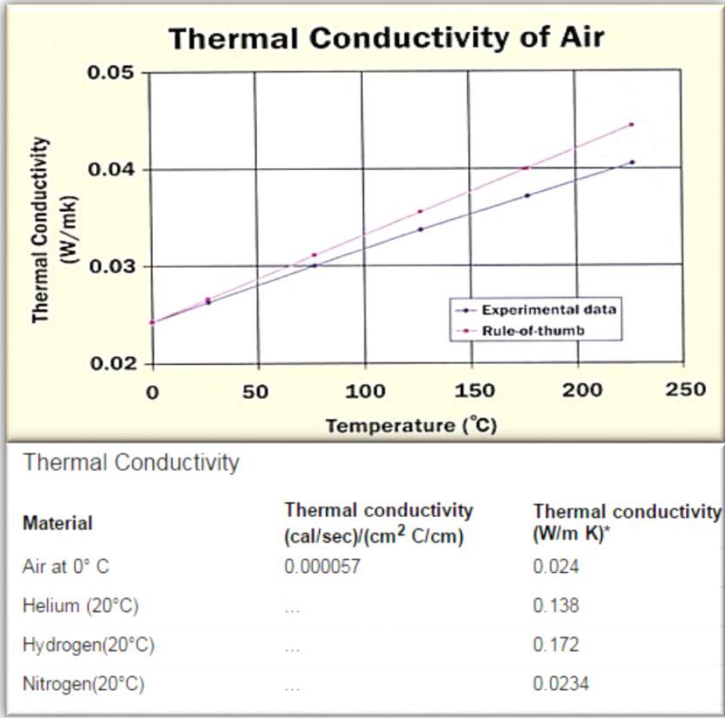
A Space Shuttle Thermal Tile can withstand the heat of atmospheric reentry that can reach 1,650 °C .

Since NASA declassified it's thermal tile technology in the late 80's, NASA spinoff companies as well as private companies have developed thermal ceramic products that can actually be applied on flat as well as curved surfaces, bypassing the hurdles ceramics always had with it's poor performance in fracture mechanics due to it's brittleness.



# Performance Data

The thermal coefficient of MBN ThermOFF I&E ultrafine thermal insulation coating is 0.001...0.0015W/m°C°. UNBELIEVABLE! Because the thermal conductivity coefficient of air is 23 times higher!



How can the thermal conductivity rate be so low? Isn't this defying physics?

Not really! Physics law states that nothing can move by conduction through a vacuum, since it represents an absence of matter. In effect we have a miniature thermos bottle. A microscopic hollow vacuum sphere that resists thermal conductivity and reduces the transfer of heat.

ThermOFF's microsphere's are devoid of spaces and gas as they have been removed through a special process, thereby creating a vacuum. When mixed into paint, the painted surface will crystallize into a tightly packed reflective film that will effectively reflect, refract and dissipate heat radiation.



Thermoff ceramic compound is a fine, white powder blend of high strength ceramic "microspheres". Each single ceramic microsphere is so small that it is measured on a micro-scale (Nm) and to the naked eye looks like a grain of flour. It's in fact thinner than a human hair.

# Advantages and Applications

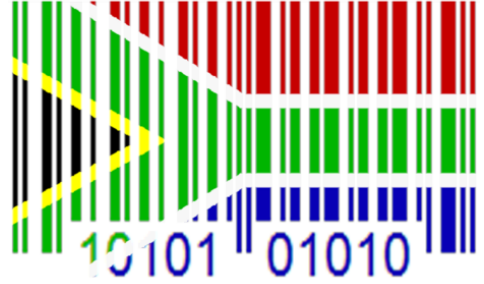
## Advantages of MBN ThermOFF Industrial and Engineering:

- ✓ Thermal Insulation and barrier.
- ✓ Exceptional stain and scrub resistance.
- ✓ Improved Sound Insulation.
- ✓ Easy to apply
- ✓ Works in Hot and Cold Climates.
- ✓ Long Lasting Durability.
- ✓ Non-Toxic and Fire Resistant.
- ✓ Resists Corrosion, Abrasion and Mildew Formation.

## Applications:

- ✓ Aviation and Automotive Industries.
- ✓ Oil and Petrochemical Industries.
- ✓ Piping and Ductwork.
- ✓ Boiler Rooms.
- ✓ Construction and Engineering Industries.
- ✓ Manufacture and Production Facilities.
- ✓ Storage and Cold Storage Facilities.
- ✓ Container Housing.
- ✓ Emergency Resident and Refugee Housing
- ✓ Factories, Schools, Clinics and Office Buildings
- ✓ Hotels, Motels and other Hospitality Facilities
- ✓ Observatory Domes
- ✓ Garages

**MADE IN SOUTH AFRICA**



# Direction for Use



## Safety

- Although FlameOFF is environmentally friendly and non-toxic in its powdered State, inhalation may cause respiratory irritation. For this reason, please wear dust mask and do your mixing in a well ventilated place.

## Ratios

- 450 grams of ThermOFF will fix 4 Litres of paint.
- Note that your paint density will thicken with ThermOFF. I needed, add 0,4L of Water to per 4 Litres of Paint to help the flow.

## Mixing

- The FlameOFF Compound should be stirred into the appropriate container size of Paint. Do not add Compound into the original paint container as it will probably not fit. Get 2<sup>nd</sup> Larger container to do your mixing.
- Stir Slowly to avoid lumping and if you have to use the mixing apparatus on the end of a Drill, use the slowest speed possible.
- Make sure to mix the full additive equivalent to your paint.
- If the paint has been sitting for over 2 Hours, always stir briefly before continuing your project.

## Application

- If you are using Roller, we recommend size 5/8" or 1/2" nap.
- If you are using an airless sprayer (NOT HVLP), make sure You remove all filters and use .019 - .024 Nozzles.
- Two coats is recommended and will dissipate around 30% of The heat from the applied on surface. Each additional coat will Dissipate 30% of Thermal Heat.



## 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 vacuum packed 450g Package. Enquire for bulk quantities.



## 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.