



Nano Stone Coating

n-stoncoat_03

**Water Repellent | Dust Repellent | UV Protection | Thermal Shock
Absorbing | Transparent | Anti-Bacterial | Anti-Corrosive |**

Innovation Center for Applied Nanotechnology - I-CanNano™

NANO STONE COATING

Based on *Chemical Nanotechnology*, the synthesized product contains specially modified *Functional Nano Particles* that are specially linked into a Silicon Matrix in a Solvent Base. Self-organizing Nano components form an invisible layer on the surface with Excellent Water and Oil Repellent properties. NANO STONE COATING is very versatile and special additional properties like UV protection; Anti-Bacterial protection are incorporated into the material.

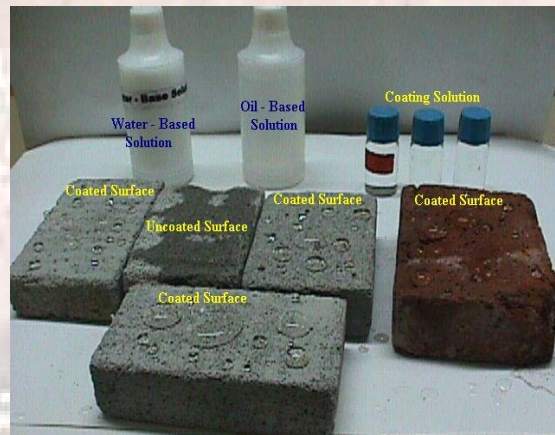
Benefits and Advantages

- Water repellent (hydrophobic) and Dirt repellent (oleo phobic).
- Properties such as UV Resistance, Anti-Bacterial can be incorporated.
- The water rolls-off the surface forming a Brushing Effect (Self-Cleaning Effect).
- Easy application through Spray, Brush, etc.
- Material curing at atmospheric temperature.
- Stable at varying Temperatures.
- Low Cleaning and Maintenance Cost.
- Ecologically beneficial and biologically safe.
- Retains the quality of Surface.
- Resistance against: Dirt, Algae, etc.



Areas of Application

- Buildings with Stone exterior
- Buildings with stone interior
- Stone Sculptures
- Stone Walls
- Stone Slabs, etc.



Application Instructions

The product must be used as delivered (The material must not be diluted further.).

Cleaning of the Stone/Plaster Surface

- It must be ensured that the Surface is free of all loose particles/ Dust etc.
- Before application the Stone/ Brick Surface must be clean and completely dry.

Application of Coating Solution

- The material can be applied on the surface by either Spray, Brush, Roller etc.
- It should be ensured that the material is adequately applied until the surface is saturated (This may vary for different surfaces, usually rough & absorbing surfaces)

may consume more material than smooth surfaces. On an average, a liter of the coating material should be sufficient for about 70 – 100 Sq Ft).

Test of Coating

- ✿ The Coating takes about 6 Hrs to completely set
- ✿ Once coated the performance can be tested by pouring some water on the coated panels. If properly coated, the water should form droplets and roll-off.

Why nano stone coating from I-CanNano™?

- ✿ Performance of I-Can™ n-stoncoat_03 is robust due to effects of INORGANIC NANO PARTICLES incorporated in non-polymer based matrix i.e. it is a dispersion of functionalized nano-particles in a solvent base. This solvent acts as carrier in spreading the coating across the applied surface. Over the curing period (5 to 6 hrs.) nano-particles self-assemble across the surface and bonds with the surface. The solvent evaporates over the curing period leaving only INORGANIC NANO PARTICLES that forms a uniform thin layer of 50 - 60 nm over the surface. I-CanNano™ has developed the technology to combine many properties into one nano-particle. Each such nano-particle exhibits property of water/dirt repellency, UV protection, anti-bacterial, thermal resistance etc.
- ✿ This nano coating does not remain only as a coating on the surface but fine nano-particles penetrate deep inside porous stones (e.g. sandstone) through its fine pores and over a period of time (say 1 year) it covers a large part of the stone, and continues to penetrate & spread inside, rendering robust anti-damp/bacterial/thermal effect. This effect is due to only nano size particles being able to penetrate inside because non-polymer matrix (solvent) have been used for dispersion that evaporates & leaves behind only nano particles. For this scientific reason, this coating would likely to have effect through out the life time of the existence of the coated building.
- ✿ In Indian environment conditions temperature variations are wide and this generates thermal shocks leading to multiple cracks. Nano-particles incorporated in the coating behaves in elastic manner i.e. absorbs thermal shocks but does not allow it to pass on and saves building from thermal shocks & cracks. These nano-particles are manufactured at 900°C to 1000°C and thermal performance of the coating is completely due to effects of INORGANIC NANO PARTICLES (being non-

polymer based product). Conventional water proofing chemicals do not incorporate such kind of properties.

- ✦ **I-Can™** nano-coating also have robust anti-bacterial effect that does not allow algae/scale formation. Performance is robust due to effect of INORGANIC NANO PARTICLES while compared with fragile & low performance organic additives used in manufacturing conventional polymer based coatings for anti-bacterial performance.
- ✦ **I-Can™ n-stoncoat_03** is optically neutral i.e. completely transparent and while applied over stone surface, the color of surface is retained over a long period of time.
- ✦ Due to above reasons nano-coating differs from conventional water-proofing chemicals available at present. Conventional water-proofing chemicals are of soapy nature, colored and are generally calcium salt/organo silane/silicone (polymer) based that can never impart robust water repellency/UV/anti-bacterial/thermal performance such as **I-Can™ n-stoncoat_03**.

Why I-Can Nano™?

I-CanNano™ has indigenously developed & perfected robust process technology to manufacture high quality & pure nano-materials with wide range of elements/compounds and also has developed the technology for functionalizing nano-particles and formulation to manufacture nano-enabled novel coating. This ensures robust process technology ensures high performance of the nano stone coating.

Read carefully:

The information on this data sheet is based on the current status of technical development as well as our experience with the product. However, given the variety of surfaces and ambient conditions, the information provided on this data sheet shall in no way diminish the responsibility of the user to ensure with due care, that our product is suited for the intended purpose, surface and application conditions.

Since application and processing lie outside our purview, no manufacturer liability shall be derived from the information provided herein. Our General Terms and Conditions of business shall apply in all cases.

All information is subject to change without notice.

I-CanNano™ is brainchild of Dr. Arup Chatterjee, a internationally reputed expert Chemical Nanotechnologist from IIT-Mumbai, having one US patent on Fuel Cell electrode and one Indian patent on super-capacitor at his credit. He has indigenously synthesized nano material of several metals/non-metals/oxides/compounds and also nano-alloys. Nano material synthesized by him has already entered into diverse application segments like paints, coatings, catalysts, filters/membranes, energy conservation/storage, cancer research etc.

Nanotechnology is an emerging technology on manipulation of materials at atomic level to achieve targeted property. This technology finds application in almost every discipline of science/engg., life sciences, physics, chemistry, biology etc. Impact of Nanotechnology has been estimated to be 1 trillion US dollar by 2015 (Courtesy: National Science Foundation, USA). It is being said "the next big thing, is really small".

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