

I-CanNano™



Nanotechnology based Marine Anti-foul Paints

Nano Marine Anti-foul Paints

MARINE PAINTS

PROBLEMS: Any surface in a marine or freshwater environment acquires a growth of organisms of different types. This problem has traditionally been controlled by incorporating biocides (chemicals that kill organisms) into coatings. Fouling, such as barnacles, tubeworms, slime and algae, significantly reduces the speed and performance of any vessel, resulting in increased fuel consumption, extended dry-docking and higher maintenance costs. So, some of the major problems are Contamination of hull with barnacles, contamination of hull with algae, power loss on propellers due to fouling, cavitations due to thick propeller coatings, soiling by sea water, annual anti foul treatment and recoating, time consuming cleaning effort, expenses for dry dock time, expenses for lifting, UV damage on GFK hulls, corrosion on metal hulls.



COATING SHOULD ADDRESS: Efficient and durable anti-foul treatment, suitability for propellers, no cavitations on propellers, suitability for very different ground materials, resistance against organic solvents; pesticide, herbicide, chromate and lead-free; weather resistance and corrosion resistance; resistance to water and solvents steel; high yield due to thin layer; easy application; scratch, shock- and abrasion resistance; protection from osmosis.

WORLD WIDE MANDATORY BAN ON TBT

One of the most effective antifouling paints, developed in the 1960's, contains the organotin compound Tributyl tin (TBT), which has been proven to cause permanent damage to the marine environment. TBT has been banned globally since January 1, 2003.

HOW NANOTECHNOLOGY BASED ANTI-FOUL PAINTS AT I-CanNano ADDRESSES ALL ISSUES

- TBT-free and so harmless To ALL Marine Life.
- Chrome & Lead-Free and so harmless To ALL Marine Life.
- Specifically engineered and does not contain any biocides, pesticides or other toxins, safeguarding precious marine environment.
- Contains anti-bacteria/ foul nano-silver and proprietary alloy that resist fouling, algae, tubeworms etc.
- Very low Volatile Organic Compounds. , making I-CanNano a front runner in the quest to reduce the effects of Volatile Organic Compounds, most notably the depletion of the ozone layer and increased green house gases, conditions associated with global climate changes.
- Contains self-assembled & structurally defect-free inorganic nano-particles that gives smooth surface finish, anti-sticking property, high UV/corrosion/impact/scratch resistance, etc.
- Highly effective and environmentally safe, I-CanNano Antifoul Paints are a SUPERIOR solution to a GLOBAL problem.



NANOTECHNOLOGY BASED MARINE ANTI-FOUL PAINT

DESCRIPTION: Nanotechnology based Anti-foul paints of finest quality, durable, UV resistant, high scratch/ impact resistant, bacteria resistant, thermally stable, primer & finish for a wide variety of metallic surfaces.

BENEFITS: Outstanding adhesion, high anti-corrosive (1000 - 4000 hours of salt spray), resistance to UV/water, anti-bacteria/foul/ fungus and blistering, impact & scratch resistant, high thermal stability, low VOC, high coverage area with a desirable ease of application. Robust performance due to inorganic structurally defect-free nano-particles, incorporated in the paint matrix.

FINISH/USAGE: Mild Steel, CI, DI, Aluminium, SS surfaces

TYPE: Nano Marine Anti-foul paint

COLORS AVAILABLE: Wide variety of colors.

PRACTICAL COVERAGE: 130-140 square feet per kg, depending on the porosity of the substrate.

SURFACES: Mild Steel, CI, DI, Aluminium, SS surfaces

SURFACE PREPARATION: Surface must be clean, dry, and free of wax, grease, oil, loose or peeling paint, and other foreign material. Use emery paper to remove rusts, if any. Use special thinner to remove rusts completely. Use I-Can nano red oxide primer.

NEW WORK: For maximum durability, apply I-Can nano red oxide Primer. On new metallic surface, use one coat nano primer & one coat finish.

REFINISH WORK: Follow conditions listed above. Previously painted, glossy surfaces should be lightly sanded and use special thinner to remove rusts completely. Use nano red oxide primer and allow all primers to dry thoroughly before applying finish coats.

SURFACE TEMPERATURE: For best results, ambient temperature would be preferred. Avoid frost, fog, or damp conditions.

APPLICATION: Stir well before using. Use spray or brush for application.

THINNING: Formulated for use at package consistency. Thinning is required for brush/spray application. Use only special thinner and as per technical data sheet.

DRYING TIME: Dries naturally dust free depending on temperature and humidity. Refer data sheet for details.

DATA SHEET

Sl. No	Properties	Result
1	Type	Epoxy based air drying two pack system
2	Mixed Ratio	2:1
3	Viscosity	180" @23°C
4	Sp. Gravity	1.33
5	% of solid contain by volume	66.5%
6	Pot life	18hrs
7	Hot pot stability	Pass IS

8	Flash point	Pass IS
9	Method of application	Brush/Spray
10	Application temperature	10-50°C
11	Application Viscosity a) Brush b) Spray	50''@30°C 30''@30°C
12	Dry film thickness a) Brush b) Spray	30μ 35-40 μ
13	Coverage a) Brush b) Spray	140 sq ft/lt 130 sq ft/lt
14	Drying Time • Surface Dry • Tack Dry • Hard Dry	1 hr 3-4 hrs 3 days
15	Minimum recoat time	4 hrs
16	Temperature resistance	150°C
17	Salt Spray	1000+ hrs
18	Humidity	1000+hrs
19	UV Stability	400+ hrs
20	Gloss	Semi gloss
21	Scratch Resistance	3 kg +
22	Impact Resistance • Direct • Indirect	20J+ 20J+
23	Acid Resistance	Passed IS+
24	Alkali Resistance	Passed IS+

CLEAN UP: Clean application equipment with solvent.

STORAGE: Store in cool & dry place.

PACKING: 20 kg

Disclaimer

The information on this leaflet 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. We reserve the right to alter product constants within the scope of technical progress or new developments. The recommendations made in this leaflet should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. The recommendations do not absolve the user from the obligation of investigating the possibility of infringement of third parties' rights and, if necessary, clarifying the position. Recommendations for use do not constitute a warranty, either express or implied, of the fitness or suitability of the products for a particular purpose. Our General Terms and Conditions of business shall apply in all cases. All information is subject to change without notice.

Innovation Center for Applied Nanotechnology (I-CanNano™)

India: 22A Hemchandra Mukheerjee Road, Barisha, Kolkata -8. Tel.: +91 33 64520110, E-mail: info@ican-nano.com;

UK: Finsgate 5-7 Cranwood Street, London EC1V 9EE, Ph.+44 (0) 20 7251 3761, Fax:+44(0) 20 7566 0023; E-mail:

icanpaineurope@ican-nano.com

URL: www.ican-nano.com