



TECHENOMICS NANOSURE CARBON COMPOSITE FIN COATING

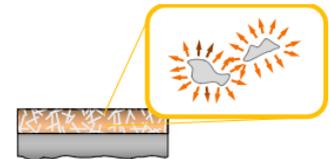
Techenomics introduced world's first Nano technology HVAC corrosion protection that improves thermal conductivity. NanoSure, a revolutionary carbon composite coating for HVAC equipment that uses the latest in nanotechnology to;

♣ Increase energy efficiency ♣ Prevent corrosion ♣ Extend equipment life

Untreated Air Cooled Heat Exchangers Inevitably Lose Performance: Air cooled heat exchangers are constantly exposed to harsh atmospheric conditions as well as airborne dirt and debris. As debris accumulates in densely packed fins, unfinished and untreated surface of heat exchanger coils begin to corrode from day one. This corrosion permanently impairs thermal performance and necessitates regular cleaning to minimize performance losses.

Weaknesses in Traditional Fin Coating Systems-

All coatings aim to create a smooth fin surface that accumulates less debris over time and protects against corrosion. However, when compared to Nano-Sure, traditional fin coatings noticeably impair thermal conductivity which, in turn, negatively impacts the efficiency (power consumption) and the lifespan of air cooled heat exchanger components. Traditional coatings are also susceptible to tears and cracking and often leave gaps at the point of fin-to-tube bond or unfinished edges where fins are cut during the manufacturing process.



Traditional aluminium-impregnated coatings are less efficient because the aluminium micro-particles conduct and radiate energy in all directions. This reflects heat back towards its source and creates heat reservoir pockets in the coating layer.

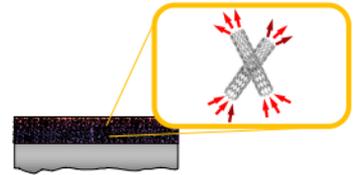
Nano-Sure Carbon Composite Protective Fin Coating??

Infused with a proprietary blend of carbon nanoparticles, Nano-Sure possesses a thermal conductivity more than 10 times greater than traditional aluminum impregnated polyurethane coatings. Nano-Sure's 1 mil (0.001 inch) thick polymer-based coating is also markedly closer to the substrate material and its base components provide extreme resistance to the expansion-contraction cracking and galvanic corrosion to which air cooled heat exchangers are commonly exposed. With Nano-Sure, loss of energy efficiency on new equipment is negligible and there is no discernible effect on performance; old equipment is customarily restored to like-new performance.

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Nano-Sure Advantage

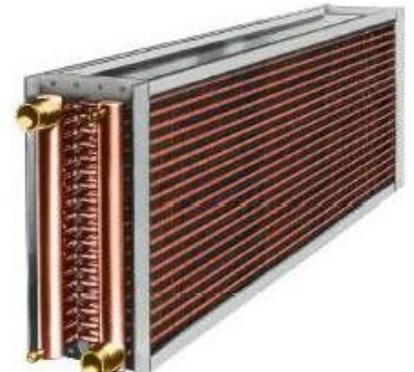
- ✦ Eliminates corrosion on the fin surface and at the fin-to-tube bond preventing loss of heat exchanger performance
- ✦ Reinforces the fin-to-tube bond; essential to maintaining optimal heat transfer and cooling performance
- ✦ Hydrophobic anti-microbial surface inhibits the causes of fouling; the adhesion of dust and grime and the growth of mold, mildew and bacteria
- ✦ Carbon nanotube (CNT) coating composite provides thermal conductivity 10 times greater than any other coating product on the market



Nano-Sure contains highly thermally conductive nano-particles that produce axial, linear heat transfer shortcuts through the protective coating material, providing 10 times the thermal conductivity of traditional aluminium impregnated coatings.

Nano-Sure Delivers

- Sustains original heat exchanger thermal performance for new systems
- Customarily restores near original performance for existing systems
- Optimizes compressor operation and reduces stop/start cycles
- Decreasing power consumption and extending compressor life
- Substantially reduces maintenance, cleaning requirements, and downtime
- Extends overall equipment life and defers capital investment



Who can benefit from Nano-Sure?

- ❖ Nano-Sure is suitable for use on all air cooled heat exchangers
- ❖ Original Equipment Manufacturers (OEMs) can have the treatment applied in-factory before shipment
- ❖ Facility owners and managers can have Nano-Sure applied to new equipment in-factory or in situ prior to start-up
- ❖ Facility owners and managers can have existing HVAC equipment Nano-Sure treated in situ after a restoration and cleaning process

Nano-Sure is a spray-on system which meets ASTM and DIN industry standards. It has met EPA and state regulatory agency standards for component compliance and is 100% VOC-free.

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Nano-Sure Results

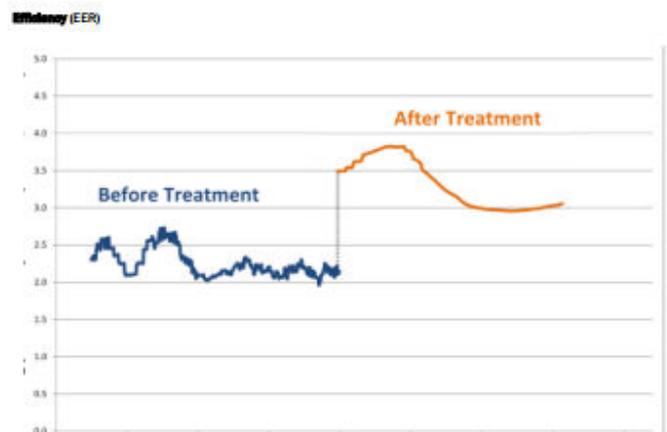
Nano-Sure offers attractive payback periods based on energy and other cost savings. Payback can be quantified based on several factors:

- ✓ Direct energy cost savings
- ✓ Longer compressor life
- ✓ Delayed equipment replacement

Typical payback period is less than 18 months on energy savings alone.

Heat Exchanger Performance and Energy Savings

The chart below demonstrates the benefit of treating new heat exchanger coils. Older systems can be renewed with Nano-Sure to restore lost cooling capacity.



Nano-Sure is a simple, effective way to lower carbon footprint and contribute to a cleaner environment without major investment or disruption to operations.