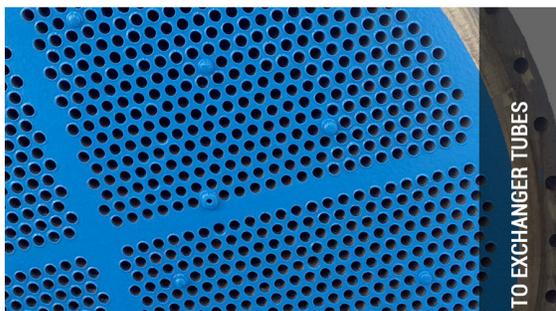
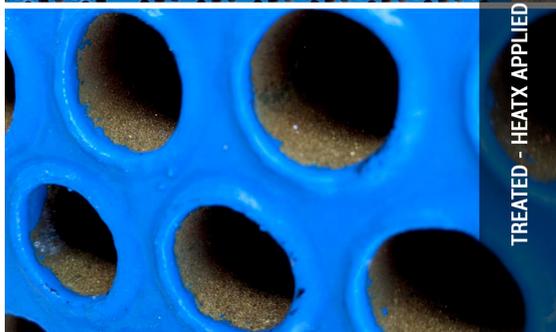


UNTREATED - EXTENSIVE BIOFILM GROWTH



TREATED - HEATX APPLIED TO EXCHANGER TUBES



APPLICABLE ON ALL TYPES OF HEAT EXCHANGERS

GAME-CHANGING FUNCTIONAL HEAT TRANSFER SURFACE

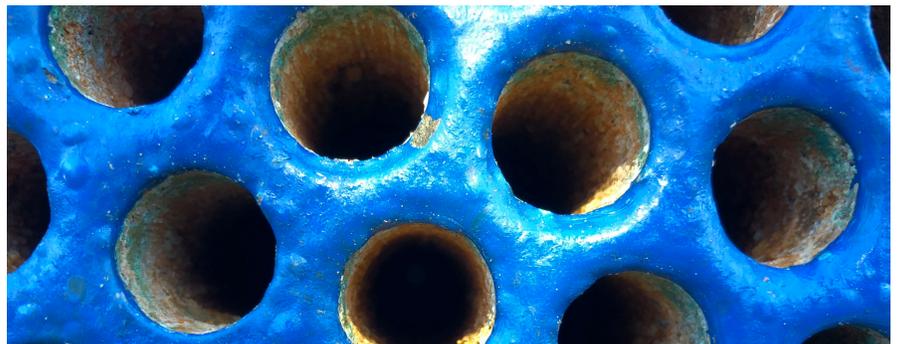
HeatX is a nanocomposite technology designed specifically for heat transfer surfaces focused on increasing the performance and surface protection from fouling and deposition. HeatX is a non-hazardous, non-VOC, water-based surface treatment that is compatible with both hydrocarbon and aqueous products. It allows for fouling-release and drag reduction while not compromising heat transfer efficiency.

HeatX Benefits:

- Long-lasting, erosion-resistant surface treatment that can significantly extend the operational lifetime of an in-service heat exchanger
- Provides chemical resistance against both highly acidic and alkaline solutions, imparting corrosion resistance
- Releases biofouling on tube interiors, improving cooling efficiency and reducing pressure drop from frictional drag
- Extreme thinness of the surface treatment (1-2 mil DFT), allows for negligible change in exchanger thermal efficiency
- Surface treatment material is compatible with a variety of different inspection techniques (eddy current, borescope, leak testing)
- Functional up to 400°F, and stable under thermal cycling
- Non-biocidal, non-toxic formulation is environmentally friendly

HeatX Applications:

HeatX has successfully demonstrated the value in field applications, both for new and in-service heat exchangers. So far, HeatX has been applied on both shell & tube and plate & frame exchangers. The longest running data is from an untreated sea water chiller: 54+ months after application the unit shows virtually zero fouling or corrosion. More importantly, this application demonstrated a projected savings of \$72,000 on maintenance and \$1.5 million on replacement generation cost over a period of five years – per heat exchanger unit.



54+ Months of use shows virtually no biofouling in the exchange tubes