

**Case Study 1: Descaling a Marine Heat Exchanger heavily contaminated with limescale and marine encrustation – controlled conditions – Sharjah, UAE. January 2010**

For demonstration purposes, the following series of photographs graphically demonstrate the effectiveness of Dynamic Descaler in dissolving limescale and removing barnacles and other marine crustacean from the tubes of a marine heat exchanger.

The test was carried out under supervised conditions and a workshop in Sharjah, United Arab Emirates with a series of before, during and after photographs showing the progress of the clean and descaling process.

For the purposes of clarity, only part of the heat exchanger was immersed in a specially built steel holding tank, in order to clearly show the difference between the treated and cleaned portion of the heat exchanger and the untreated portion.

A 50% Dynamic descaler and 50% water mixture was used for the demonstration and the unit was successfully cleaned of all rust, limescale and marine shells and other encrustation over a 6 hour period. Intermittently, the unit was also given a short pressure wash with water before being returned to the steel tank.

After the descaling / cleaning process was complete, the remaining liquid was tested for pH value and recorded approximately pH 4 meaning the retained liquid was still active and could be used for further descaling work.

Dynamic Descaler will be neutralised when no further reaction can be seen or when the pH value approaches pH7 neutral, and the liquid can then be safely disposed of to sewer / drain.

**The Photos are set out in time order**



Before any descaling, the marine heat exchanger is heavily encrusted with limescale, barnacles, rust & other marine debris



Dynamic Descaler and water



Lowering the heat exchanger into specially prepared steel tank



Reaction of the Dynamic Descaler liquid rapidly dissolving the marine encrustation & limescale



Almost 50% of the shells were dissolved after only 2 hours soaking in the liquid



Simple pressure washing removes non limescale deposits & washes off descaling liquid residues

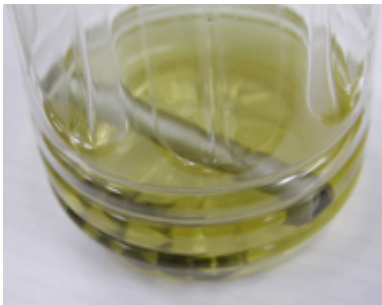


After 6 hours soaking in Dynamic Descaler 99% of all limescale, shells & marine encrustation successfully removed

**Case Study 2: Test carried out in controlled environment by MDI Corporation Japan, exclusive distributor for *Dynamic Descaler®* for Japan**



Before soaking in *Dynamic Descaler®*. Metal Tube and metal spiral severely rusted. To demonstrate the effectiveness of *Dynamic Descaler®* in removing rust without damaging or corroding the base metal, a test was run with 50% solution of *Dynamic Descaler®*



The two test items were submerged in a small quantity of a 50% *Dynamic Descaler®* 50% Water to test the effectiveness of removing rust deposits. After just over 90 minutes, the metal had been cleaned of rust back to base metal.



The two test items were submerged in a small quantity of a 50% *Dynamic Descaler®* 50% Water to test the effectiveness of removing rust deposits. After just over 90 minutes, the metal had been cleaned of rust back to base met