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## BULLETIN #2 HOW TO CLEAN A CLOSED SYSTEM ON-LINE AND WHAT ARE THE REAL BENEFITS?

The build-up of biofilm within the closed circuit systems is one of the few key problems encountered during the maintenance. The build-up of biofilm and other detritus will not only affect water flow, but also prevent (film forming) corrosion inhibitors from working effectively with possibly catastrophic results. The key to the effectiveness of a corrosion inhibitor within a closed circuit system is ensuring complete contact of the inhibitor with the metal surfaces.

Cleaning out any "dirt & debris" from pipework can be difficult, however, it is made much easier using online cleaning products like the Multitreat SF XTRA. Although the UK market is already familiar with dispersants within most current inhibitors, the Multitreat SF XTRA has been specifically developed to work in synergy with existing inhibitors to mobilise both the "normal" detritus and biofilm within a system.

You can benefit both financially and environmentally by cleaning out any "dirt & debris" from the pipework.

Especially you will:

- Save energy costs due to increased heat exchange efficiency from both your process and plant
- Extend capital plant life expectancy for plants, pumps, heat exchangers and pipework
- Reduce downtime avoiding loss of critical plant or equipment.
- Save on expenditures related with any unforeseen costly and untimely maintenance and repairs
- Improve Health & Safety reducing microbiological contamination and running a cleaner system

The blend of cleaning and dispersing agents within Multitreat SF XTRA works to lift and mobilise system contaminants, enabling to effectively remove them when working in conjunction with a suitable side stream filtration unit (see photo, right).

ICS Cool Energy and AWT recommend a unique combined stainless steel magnetic bag filter housing known as 'Greenlife'. The Greenlife effectively removes these contaminants on a two-stage approach, with all ferrous deposits attracted to a strong magnetic rod and the remaining dirt & debris collected via a bag filter.

The long-term effect of a build-up of biofilm, scale, or general deposits within a closed circuit should

not be underestimated, as anaerobic bacteria will grow under the deposits. Their actions and metabolic byproducts, such as sulphuric acid, can cause rapid pin holing and failure - as shown in this example below.



Extensive pin-holing of this particular system occurred within days and the system required a complete replacement.

Multitreat SF XTRA can not only prolong the life of closed circuit pipework, but also increase the efficiency of the systems in which it is used. For example, Multitreat SF XTRA can revitalise both chilled and heating systems. Partially blocked Fan Coils, Evaporators and Radiators that were not operating to their designed specification will begin to produce the desired heat exchange again as water will once again flow through them at optimal rates.

Multitreat SF XTRA is simple to use. The product should be added to the system through a suitable dosing pot, a dosing pump or manually into an area of high flow at a dose rate of 1% - 2% VV. The Multitreat SF Extra can be left within the system to circulate and allow a suitable side stream filtration unit to gradually remove contaminants. Initially a 50 micron gauge filter is recommended, reducing to 5 micron for finer filtration as the system is gradually cleaned.

After the Multitreat SF XTRA has been circulated, a suitable system inhibitor must be dosed to give continuing corrosion inhibitor protection throughout the closed system. All our closed circuit inhibitor products are compatible with Multitreat SF XTRA and contain polymers, which inhibit the formation of future deposits.

