

# PROTECT YOUR CHILLER AND SYSTEM, PROTECT YOUR PRODUCTION

The lifetime of a chiller, is typically in excess of 10 years, however this depends on its design, application, usage and maintenance.

The water, or fluid, flowing through a chiller and associated system can often be overlooked, yet can be affected by many factors such as dissolved oxygen, pH imbalance and bacteria or bio-fouling.

Once a system becomes unstable, rapid system degradation can take place, potentially forming debris and sludge. Adequate filtration may protect vital components such as Heat Exchangers, however a blockage will still require intervention, causing potentially costly downtime. Furthermore, unwanted bi-products hinder the thermal efficiency of a system and left uncontrolled may eventually lead to a failure, even when filtration is present.

Some forms of bacterial growth, galvanic corrosion, dezincification and pitting are less obvious and can therefore go unnoticed; eventually leading to component failure and expensive remedial work. Even after the failed component is replaced, if action is not taken to remedy a situation, a repeat failure can occur.

Detailed guidelines on pre-commissioning of pumped fluid systems are set out in BSRIA BG29-2012.

Guidance on testing and sampling of closed water systems can be found in BS8552: 2012.

Here are our top tips to ensure your chiller and system are protected:

- 1 Understand the material composition of your system**  
Consult your system design specification; dissimilar materials can lead to galvanic corrosion and dezincification (of brasses)
- 2 Carry out pre-commission cleaning before or during installation**  
Neutralising the effects of oxidation, ingress of dirt and debris, fluxes, solders and oils, and other bacterial activity
- 3 Use Glycol/Thermal Fluid**  
For low temperatures "Flowcool" and "Flowcool Plus" offer further protection (based on a minimum concentration) and inhibitors and biocides are incorporated
- 4 Ensure sample points and procedures are understood**  
For repeatability and a true representation of the circulating fluid
- 5 Check the Glycol concentration and pH**  
The correct concentration will ensure adequate protection against most situations and the pH will give an early indication of potential issues
- 6 Enlist the help of planned preventative maintenance specialists**  
Make sure they have experience of water treatment in relation to BSRIA Guidelines

ICS Cool Energy maintenance programmes include water quality sampling to check pH levels, clarity and Glycol concentration as standard. If required, a full test with lab analysis can be undertaken and recommendations provided to treat your system and water should your engineer find any issues. **Call 0800 774 7406 for more information.**