



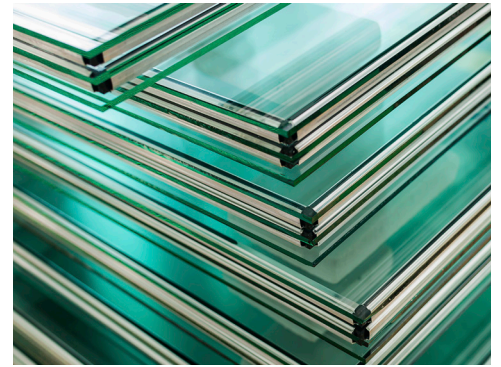
## Case Study: Wallenius AOT for CHW system at Pilkington Glass



### The project

Pilkington Glass, part of the NSG group, invested heavily in a new Off-line Coater (OLC), used for coating panes of glass in various materials. A critical element of the OLC's operation is that the cooling water has a low conductivity and that bacteriological growth is controlled. While commonly used biocides would control the bacteria, they add to the conductivity and are therefore not fit for purpose.

Organic biocides had been used, but with limited success, so Guardian introduced its chemical free solution, Wallenius Advanced Oxidation Technology (AOT), as an alternative treatment.



### The solution

Guardian installed two AOT 25 units on the site cooling water systems. Wallenius AOT is a patented water treatment system, providing a non-chemical alternative to water purification. A safer and greener option compared with traditional chemical water treatment, Wallenius AOT has been proven to kill 99.999% of Pseudomonas and Legionella bacteria.

Utilising a specific frequency of light together with photocatalytic semi-conductor surfaces to produce free radicals – just like nature does with sunlight, these reactive radicals break down harmful micro-organisms and other pollutants in water.

The entire process is instant, taking just a few micro-seconds and adds no chemical by-products to the system water. Interestingly, this process is very similar to how Pilkington's self-cleaning glass works.





## The outcome

Prior to the installation of AOT, the site spent several thousand pounds a year on biocides, along with the associated transport and delivery costs. Since installing AOT installation, chemical usage has been reduced by 80%. The performance of the AOT units has shown a consistent reduction in Pseudomonas, with several samples indicating a 100% kill rate of detectable bacteria.

Apart from reducing the need for chemicals, maintenance requirements have also been cut, as water does not need to be changed so frequently in order to keep the system clean, demonstrating even greater environmental benefits.

**Dominic Lawton, Process Engineer at the factory said:** "AOT has exceeded our expectations in terms of how much chemical usage was reduced, with the added benefit of reducing maintenance requirements. An excellent result all round."

**WALLENIUS**  **LOW WATER**

In partnership with

**GUARDIAN**



- 80% reduction in chemical
- Reduced maintenance
- Improved environmental performance
- 100% Pseudomonas reduction

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