



Fluid Dynamics

Hard water solutions since 1973

CASE HISTORY

COTTO[■]

COTTO Tiles
Thai Ceramic Co. Ltd. (TCC)
Treating Evaporative Condensers





Fluid Dynamics

Hard water solutions since 1973

The Customer

COTTO[■]

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Cotto Tiles, part of TCC is one of Thailand's biggest companies manufacturing a range of building products including ceramic tiles for use in the construction industry.





The Problem



The manufacturing process requires cooling water to be delivered to the molds where the tiles are cast. The water that is used is local towns mains water and has high levels of hardness. Part of the problem was the low flow rate in the pipe line due to heavily scale pipe.

On the left is a picture of the pipe before any treatment took place.





The Problem



The existing system was already treated by chemicals and a range of other wrap-around and electronic water conditioners had been tried but they had failed to solve the problem.





The Problem



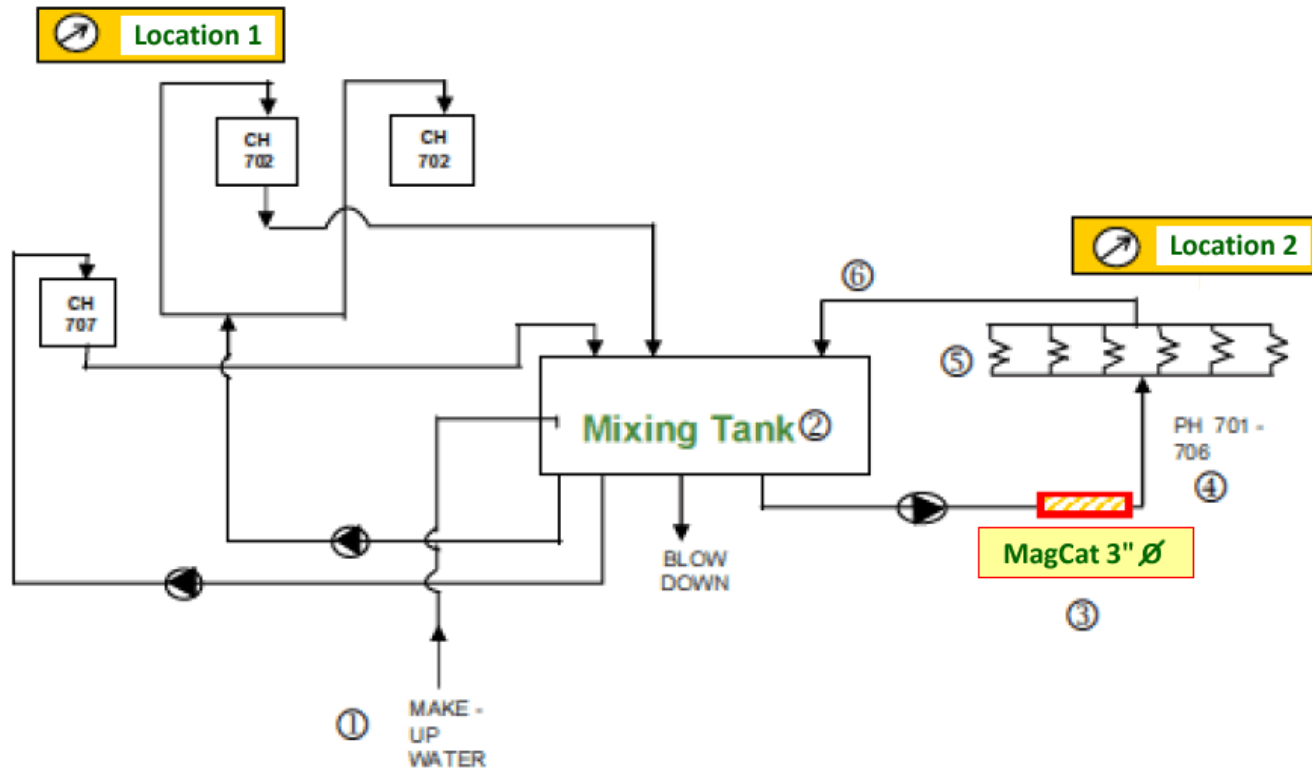
The thickness of scale inside the pipe was an average of 10mm decreasing the flow. The scale had also increased the weight of the pipe and, with much of it being installed on the ceiling, there were concerns that it could become unstable with the potential danger of it collapsing.





Installation

The System





The Installation



A proto type MagCat that combines Magstream and Colloid-A-Tron technology was installed due to the presence of oil in the system which could pose a problem for the Colloid-A-Tron.



The Installation



This MagCat uses very powerful magnets that are encased in poleheads manufactured out of the Colloid-A-Tron metal that is found inside the core.





The Installation



The MagCat was installed after the pump and was treating pipework 1/2 km in length.

The MagCat is installed using stainless steel flanges and was installed on a 4" pipe.





Results



The MagCat was installed on a trial basis for 137 days and was removed for inspection under supervision the the head engineer of TCC.

This was the first time that the pipe had been inspected since the unit had been installed.





Results



The MagCat was removed and inspected for fouling. There was no build up of any solids, just a coating of oil inside the unit.

This proved the water is heavily soiled with oil.



Results



Once the MagCat was removed it was clear that the MagCat was having a considerable effect on the system. The scale thickness had decreased from 10mm to 3mm, a drop of 7mm.

Already in some places the bare metal has been revealed showing the considerable benefit since installation.





Summary:



Needless to say that TCC were very impressed by the results achieved by the MagCat and have re-installed the unit on a permanent basis and have ordered units for other areas of the plant with a view to installing them across their various sites around south east Asia.