CQM Group

SUSTAINABLE WATER TREATMENT SOLUTIONS

MAXIMIZING SAVINGS, MINIMIZING ENVIROMENTAL IMPACT

Tarkim Ethanol Plant. Bursa, Turkey

SRCT systems for water conditioning. Year of installation: 2016



Location: Tarkim Ethanol Plant, Bursa Turkey
Old tower was replaced with a new one, where SRCT system was installed in January 2016
Cooling Tower: 8.9 MW, working 350 days/year.
Cooling system: Several plate heat exchangers and one chiller used in summer months

Water quality before and after CQM

CQM does not affect Water quality. Cooling tower values are exactly the feed water values times the Cycles of Concentration. Dissolved matter remains in the water, causing the water to be less corrosive.
The only exception to the above is the value of the Temporary Hardness. CQM was found to reduce the temporary hardness, or the part that causes scaling by 60 – 91%, about 80% on the average.
Scale accumulates on the cathode, and is periodically cleaned by a mechanical self cleaning mechanism. Scale scrubbed from the cathodes is trapped in the sand filter of the system, and discarded during backwash.

Make-up Water quality

pH	7.9 - 8.1
Conductivity	~1100
Hardness	520 ppm

Cooling water parameters using SRCT

pH	8.3
Conductivity	~4300
Hardness	~2,000ppm

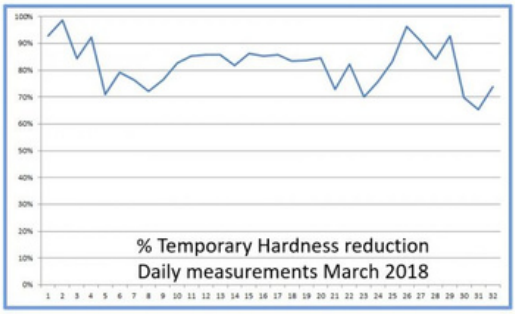






Case study results

➔No scale observed in the fillings of the cooling tower or in the plate heat exchangers despite the very high water hardness (as the scale forming temporary hardness is taken out by SRCT)
➔23,000 m3 / yr of blow down water saved due to high CoC
➔No chemicals except additional biocide used due to incoming waters biological load
➔No serious malfunctions
➔ROI: ~ 2 years



Measurements performed by the customer