



# STEEL MILL SAVES \$210,000 IN CLOSED LOOP TREATMENT WITH CETAMINE® TECHNOLOGY

## BACKGROUND

One of the largest integrated iron and steel factories in Mediterranean Region established a new blast furnace with a capacity of 660,430 gallons and casting capacity of over 18.7 million pounds a day.



The plant requested a proposal for the flushing of the new closed loop system with a total volume of 396,258 gallons. The challenge was the blow down management during the flushing operation as it will be discharged directly to the sea. The customer was expecting an efficient solution that minimizes the volume of blow down and the consumption of chemicals.

Looking for a reliable partner, the customer turned to Kurita for a comprehensive and efficient solution for his flushing operation.

## SOLUTION

Kurita developed an innovative flushing program for closed loop based on one Cetamine® product for both the cleaning and the treatment of the system.

During this specific flushing program, we offered shock dosage of a Cetamine product to achieve a dispersing effect of filming amines on organic and inorganic suspended solids.



*Figure 1: Cleaning effect of Cetamine® in closed loop*

A close follow up was done by Kurita's engineers from the start up of the treatment. Regular on-site advanced water analyses and treatment controls were carried out e.g. turbidity, iron levels, and corrosion rates.

The results were evaluated by Kurita, the customer and the blast furnace manufacturer.

## RESULTS

In 10 days' time, flushing of the new blast furnace was completed and a smooth transition to treatment of the closed system had been started.

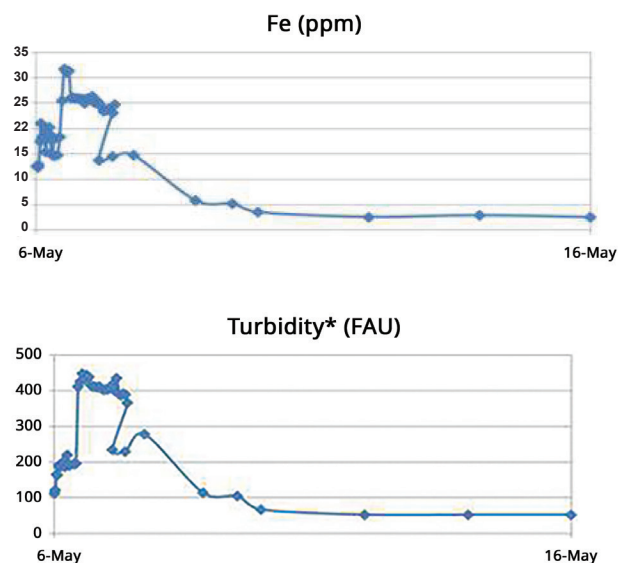
With our Cetamine program, the following significant results were accomplished:

- This application provided **neutral** flushing process compared to conventional flushing which includes an acidic pickling step.
- **Less product** consumption compared to the conventional flushing process which required at least 220,462 pounds of commodity chemicals.
- **One product** (Cetamine) is used for the cleaning and the treatment of the same system.

Thanks to Cetamine technology, the customer calculated that he obtained net savings of \$210,000 in the flushing operation compared to previous traditional treatment.

In addition, corrosion rates were measured <0.2 mpy for both copper and carbon steel materials with Cetamine application during normal treatment program.

Cetamine Filming Amine technology provided an efficient, economic and reliable flushing program to the customer. Such a successful solution enabled Kurita to gain both customer and system manufacturer satisfaction and reference.



*Figure 2: Iron and Turbidity variation during Cetamine flushing program.*