

## LIFE 2 IMPROVE – PERFORMANCE OPTIMIZATION BOOK YOUR PERFORMANCE COACH

### CASE STUDY

Case Study: Optimization of Wet Grinding (GCC - Ground Calcium Carbonate)



### Task and Problem Description

At a customer site in China, a wet grinding system for „GCC - Ground Calcium Carbonate“ was installed. During commissioning, it became apparent that the raw product did not meet the agreed quality standards and was too coarse-grained. Consequently, the agreed performance data of the grinding process could not be achieved.

- The customer had not performed any maintenance on the system.
- A significant loss of grinding balls was observed.
- The raw product did not meet the specifications.
- The desired end product fineness could not be achieved.
- Misunderstandings were caused by inadequately trained operating personnel.

### Consequences and Effects



HIGH OPERATING COSTS DUE TO THE  
LOSS OF GRINDING BALLS



ISSUES WITH THE SURFACE  
QUALITY OF THE PAPER



REDUCED THROUGHPUT OF THE SYSTEM, RESULTING  
IN INCREASED ENERGY CONSUMPTION PER TON  
AND AFFECTING THE PRODUCTION SPEED OF THE  
PAPER MACHINE



FREQUENT SYSTEM SHUTDOWNS AND PRODUCTION  
LOSSES DUE TO MAINTENANCE AND OPERATING  
ERRORS



## Solution Approach:

In close collaboration between the GAW Performance Coach and the technicians and operating personnel on site, a set of measures was developed.

Additionally, since there was potential for machine-side optimization, the GAW design and R&D team was involved.

## Implementation of Measures:

- 1 Development of an optimized grinding disc set that allowed for a larger ball filling volume with reduced upward flow.
- 2 Optimization of the feed pump's start-up curve to minimize ball loss and increase throughput.
- 3 Conducting maintenance work to prevent consequential damage.
- 4 Training of operating and maintenance personnel.

## Customer Benefits (Figures, Data, Facts)

The implemented measures enabled the production of the desired end product in the required quantity and quality.

The loss of grinding balls was successfully reduced to the guaranteed level.

Additionally, training the personnel led to a significant increase in system availability, and the paper quality now meets the high standards of end users.



SAVINGS:

BALL SAVINGS: € 116,640 / YEAR



COST SAVINGS: € 66,515 / YEAR



TOTAL: AROUND € 180,000 / YEAR

