Case Study / Saint Gobain Gypsum Ltd

Industry: Building Products, Plasterboard



Focussed Improvement Team Saves € 216,000

Challenge

Currently the Site is spending in excess of €300,000 per annum in material yield losses, to ensure the correct product quality is achieved. The Site has also had to provide 100% inspection to the operation to assure the quality of the final product.

Solution

It was found that there was excessive wear in 3 out of the 6 press platen's. The excessive quantity of adhesive material being applied was compensating for this variation in size from the normal specification. The equipment was restored back to the original condition.

Results

- **Equipment in loss area restored**
- **Process parameters redefined**
- **Quality control level reduced to 10%**
- **Savings (annual pro-rata - € 216,000)**
- **Problem solving methodology and knowledge established on site**

Saint Gobain Gypsum Chambery, France.
Wall partitioning system – Component assembly operation.
Material yield improvement project.

The Client

This business is part of the Saint Gobain group. The group is a major blue chip worldwide supplier of materials and construction solutions. In 2007 sales exceeded € 42 billion. It has manufacturing and sales outlets in 54 countries, with a total of 207,000 employees.

The Chambery site produces a number of different products – plaster board 50 Mill. m2 / year, Thermal laminates 3.7 Mill. m2 / year, Ceiling tiles 1.7 Mill. m2 / year and Wall partitioning units 1.6 Mill. m2 / year. It produces these products for the French and European market.

The Challenge

Part of the Wall Partition production assembly process, involves adhesives and hi-pressure compaction operations. The quality of output from this process relies on both the quality and quantity of the adhesive application process and the compaction press process of the components involved. Currently the site is losing excessive amount of adhesive to ensure the correct quality of output is achieved. Because of this risk 100% inspection procedures have also been introduced to avoid quality spills to the customer. The site has set the team a challenge to achieve a reduction in current losses by 60% within a 1 month period.

The Approach

After careful consideration of the losses and anticipated problems it was decided to implement a Major Kaizen project. This type of problem solving methodology is extremely structured, and thorough. It incorporates a step approach learning model which enables the client to embed the knowledge gained and replicate its application in other 'loss' areas of the factory. The project relied on in house knowledge and expertise, due to the original supplier no longer being available, A wide range of personnel was required, from operators and technicians, through to supervisors and engineers. Once the team had been established one of the first actions was to review and where appropriate improve the data quality from the process. Once a robust phenomena was understood. The team set about using the Focused Improvement methodology to understand the systems, principles and parameters of this process.

Photo 1 - Press section of wall partitioning area.

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"Major Kaizen is the process to utilise the knowledge of your people with an understanding of the principles and parameters of your process "

Jean Marc Adam
WCM Facilitator

The Implementation

As the parameters and 'condition' of the system was being investigated a lot of quick wins were achieved through basic restoration and the re-establishment of setting (as compared to similar press operations). Due to the robustness of the initial data the root cause analysis was confined to a number of reasons. These were quickly investigated and verified.

It was apparent that the 'major' cause of quality 'incapability' was the unreliability from 3 out of the 6 levels within the press process. Once the changes had been implemented these were then communicated to the other shifts.

Results

The equipment was over 23 years old. It had limited maintenance over the years. Knowledge of the process and the equipment was weak and sporadic amongst personnel. Generally the press was found to be in poor condition. It was found that there was variation in hydraulic pressure parameters between a similar process and the process under investigation. This was corrected, and had some improvement. The pressure platen for 3 out of the 6 platen where found to be badly worn in a specific area. The changes have resulted in the process capability improving from below 1 to greater than 1.67. The team exceeded their original target and have recorded results, pro-rata per annum of € 216,000. To enable the site to sustain the improvement the team have backed up their improvements with some standards.

The team are now focussed on eliminating the remaining € 84,000 losses using the same problem solving methodology.

Wall Partitioning system

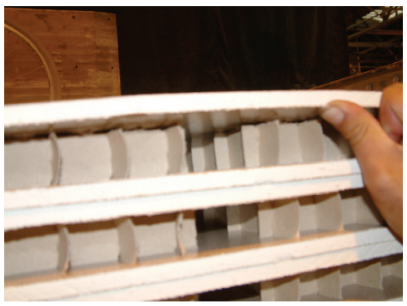

Photo - 2 The quality phenomena the project team investigated. It clearly shows the de-lamination between the board and corrugated section.

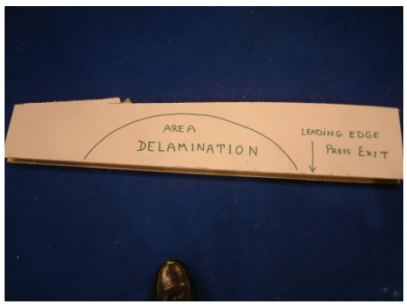

Photo - 3 The affected de-laminated area of the of the board in specific front section of the board.

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