



Enhancing Industrial Efficiency and Rust Reduction

Case Study

Applying technical expertise to solve diverse industry challenges

Fluid Management Solutions.

Discover how one of our valued clients harnessed the power of our innovative fluid management and fluid retention solutions to achieve remarkable results. In this case study, we will uncover how they leveraged our expertise to enhance safety, boost profitability, and maximize productivity within their business.

Client Profile

A leading manufacturer in the industrial sector specializing in precision bearings faced a significant challenge with rust.

Our Goal

We aim to work within existing processes and thoroughly understand your production goals, ultimately helping you perform at your highest possible level.

Challenge

The client faced a persistent challenge in managing chemicals and fluids essential for their manufacturing processes. The multi-generational work instructions they relied upon were outdated and undocumented, leading to inefficiencies and inconsistent manufacturing. Additionally, they faced rust issues that disrupted operations. Rust not only resulted in significant financial losses but also jeopardized on-time deliveries.

Our Approach

Our Fluid Management experts worked to address these challenges and elevate the client's performance. Here's how we did it:

- 1. Assessment and Documentation:** We began by understanding how the client used chemicals and fluids in their processes. We meticulously documented each manufacturing process step to develop a comprehensive understanding of the business and work process.
- 2. Work Instructions Updating:** Recognizing the importance of work instructions, we set out to revamp them. By comparing the existing instructions with the current processes, we edited and updated them, creating a modified set of work instructions to accurately represent the current workflow process.
- 3. Engineering Review:** After implementing the updated work instructions, our expert engineers recorded data to create an accurate benchmark for future analysis.
- 4. Data Analysis:** We mapped the client's manufacturing processes and conducted thorough data analysis to identify opportunities for improvement.
- 5. Customer Goals Alignment:** We reviewed the goals with the client before implementing any changes. We assessed their general objectives, ensuring our solutions were aligned with their vision.
- 6. Sequential Implementation:** We implemented changes incrementally, one at a time, to accurately track their impact on workflow and efficiency.

Client Goals

Reducing rust on inventory: Our client, like many in the metal components manufacturing industry, faced an issue with inventory rusting, resulting in inaccurate inventory, excess waste, and delivery delays.

Solutions

Our services and solutions were designed to address the core challenges faced by the client:

- **Rust Reduction:** Our root cause analysis revealed that high chlorides in the water negatively interacted with the steel used in bearing production. We recommended a different coolant optimized for the client's shop environment, considering factors like swarf (metal sawdust) disposal, water properties, and coolant management. We also, emphasized the value of clean coolant, and addressed filtration methods to ensure the coolant's purity was maintained.
- **Coolant Optimization:** We implemented guidelines and controls to reduce coolant consumption during manufacturing by efficiently controlling the coolant flow, reducing costs.

Results

The outcomes of our efforts were transformative for our client:

- **Rust Reduction:** In just six months, our rust reduction solution led to savings of \$312,000 from reducing inventory waste caused by rust. Additionally, this solution yielded an additional \$132,000 in reduced coolant consumption costs.
- **Inventory Preservation:** The reduction in rust-related losses led to fewer instances of scrap and rework, significantly boosting profit, and ensuring on-time deliveries.
- **Coolant Efficiency:** By providing the correct coolant for the client's operations, and switching them to a new coolant, we facilitated over \$120,000 in annual cost savings.
- **Enhanced Workflow:** The updated work instruction documentation led to a more effective workflow, optimizing overall productivity.



Conclusion

Through detailed analysis, strategic recommendations, and incremental improvements, we solved our client's immediate rust challenges and provided long-term benefits, resulting in over half a million dollars in savings. Our commitment to working within existing processes ensured a seamless transition and demonstrated our dedication to helping clients improve and optimize their operations.



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