

Title: **Centrifuge Upgrade Reduces Alcohol Consumption**

Full Scale Implementation OR Pilot Scale/Study

1. Description of the project: What is the issue and how did you fix it?

Reason: A conversion within the alcohol washout process was made in order to reduce cost and conserve alcohol raw material. The decision was made to washout using water instead of pure/reclaimed alcohol to clean the mixing vessel at the end of a mix. The reasoning behind this decision was centered around the lack of “first in first out” regarding utilization of the coatings WIP/washout within the next applicable mix. The area was also not designed to accommodate a large amount of WIP.

Issue: When the costs and the impacts of this conversion were being evaluated the environmental risks were not take into account. Specifically, in reference is the residual waste that that is left over. Any changes made to the discharged water must first be submitted for approval to the North East Ohio Regional Sewer District (NEORS) for evaluation.

Previous status: Centrifuge on discharges water based coating’s washout into city sewer. **Current Status:** North East Ohio Regional Sewer District has approved our request and changes and will allow our alcohol washout to be discharged into the city sewer.

Next Steps: Evaluate and improve the centrifuge room to allow the for the handling and discharge of alcohol washout. **Scope:** Decrease the amount of waste that is sent off site for disposal **Action:** Upgrade centrifuge to allow alcohol washout to be discharged into sewer.

2. Environmental Benefits: Conservation of raw materials or energy, reduction or elimination of emissions, wastes, toxics, water discharges, etc.

Reduce waste Material Consumption and waste disposal.

3. Other Benefits: Productivity, health and safety, employee morale, etc.

The reduction in 2020 in hazardous waste disposal costs was considerable while productivity has also improved as the new process allows the operator to remain at

their station during the wash cycle and pump out. Operators can quickly start another batch sequence with very little interruption.

4. Cost Savings: Capital cost, operating cost, ROI or other pertinent cost information.

As well as the environmental benefits and operational improvements, the developments have realized annual savings of between £80,000 - £110,000 depending on alcohol-based coatings production / sales.

5. Applicability to other foundries and additional Comments

6. Applicable Environmental Categories and Foundry Processes. Select all that apply.

Environmental Categories

- Carbon (GHG) Emissions Measurement and Reduction
- Air Quality Water Use and Discharge Waste Management
- Beneficial Use Stormwater Material and Resource Conservation
- Community Engagement

Foundry Process(es) Impacted

- Melt Pour Mold Core sand system/reclaim
- Shakeout Heat Treat Quench Finishing Shipping
- Maintenance Pattern Shop Casting Design
- Management Systems and Metrics
- Other, explain:

7. Add photos to enhance your application, if applicable.