



Case Study: Plastech Corporation

## **Plastech Reduces Scrap and Rejects by 50% Using Production and Process Monitoring**



# PLASTECH CORPORATION

## Organization

Plastech Corporation provides state-of-the-art custom injection molding services to customers nationwide. They specialize in tight-tolerance, technical, and large tonnage injection molding of engineering-grade thermoplastic resins.

## The Customer

Plastech Corporation is a custom injection molder located in Rush City, Minnesota, and much of the work they do is for the recreational vehicle industry. In particular, they produce molded parts that must have outstanding aesthetic and cosmetic qualities to be used in recreational vehicles and other applications where “looks really do matter.”

## The Challenge

In 2014, Plastech had a dilemma. Eight percent (8%) of their production did not pass the cosmetic examination and had to be scrapped. Production and engineering management were challenged to reduce scrap by 50%, and since Plastech runs 24/7, the potential savings would be significant.

## The Approach

Their solution was to equip each of their 44 molding machines with both production and process monitoring equipment and software, which they did over the course of the following year. The production and process monitors measure scrap, machine cycle time, barrel and cushion pressures and positions. This allows them to compare each measurement against high and low boundary conditions in real time, and if a work center violates a boundary parameter, the monitor system alerts the molding staff who work to resolve the problem.

At the beginning of the project, Plastech focused on jobs that were generating 50% rejected parts. This kept the early focus on the biggest offenders. As the project progressed, and they eliminated the worst offenders, they began to reduce the reject hurdle to 20%, then 15%, then 10%, and then down to eight percent, where it sits currently.

## The Results

Today, Plastech’s scrap rate is less than four percent (<4%). Process status is provided to the staff by monitors placed throughout the plant, and notifications are delivered in real-time via email and analytics by computer-generated reports.

In addition to the scrap and quality management gains delivered by the project, Plastech is now seeing other benefits from automated production monitoring. Finished goods inventory is automatically updated to the ERP system and raw material inventory consumption is tracked and validated against physical inventory counts. In

addition, machine and tooling maintenance schedules are now based upon actual run times and cycle counts, not arbitrary standard day counts. Further gains are made by using the “runs best” feature in their software from IQMS, which identifies which particular combinations of job, machine and tool produce the highest quality and most efficient production.

## The Future

Encouraged by the results to date, Plastech’s leaders are ready to tackle the next step in the project to optimize component scrap, like fasteners and packaging. To optimize material usage, they also will leverage the ERP’s molding industry specific metrics to focus on tracking regrind of sprues (mold flow gates) generated each press cycle as well as the reduced number of non-conforming parts to maximize the use and value of the regrind.