Research & Development of Material Tracking System for Fabricated Parts
AMETEK_MT – Fall 2019- Senior Design II

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Project Objective
To develop and implement a material flow process to improve the material traceability of Ametek CSI’s (CSI) fabrication facility.

Project Overview
CSI’s current receiving process is manually labor-intensive making it prone to documentation errors and longer processing times.
The new process includes a semi-automated data collection system to provide detailed tracking information and other process analysis opportunities.

Project Specifications
• Maintain/Reduce the amount of inventory needed.
• Increase production efficiency.
• Decrease total number of touchpoints for parts.
• Decrease the amount of lost/wasted material due to improper tracking or storage of parts.
• Decrease the amount of errors during the fabrication process.

Process Flow

System Design

Receiving Document
Links CSI’s SQL server with Dymo Software to print labels for material tracing.

Receiving Steps
1. Receive PO
   • Enter the PO Number in the highlighted field
2. Enter LN
   • Input the Line Item number located on the PO
   • Enter the number of Heat Numbers located on the PO
3. Enter Heat Numbers
   • Enter the Heat Numbers that correspond with the Line Item from the PO
4. Print Labels
   • Select print LN
   • Collect Barcodes & Place on Material

Software Utilized
• SQL Server
• DYM O SDK
• Macro-enabled Excel (VBA)
• DYM O Label Software v.8

Impact
CSI will be able to begin integrating other technologies throughout their operations, taking them one step closer to a paperless environment.