Retrofit of Foam Mold Injection Fixture and 5S program for Foam Mold Injection Workspace

Overview
The problem presented by the sponsor was a lack of standardization across the plant, with the initial focus being their scheduling procedure. After further analysis of the production process, the team determined the heart of the problem was the lack of standardization of, along with excess setup time and variability within, the foam mold injection workspace of the production line. To improve the setup time and variability of the foam mold injection workspace, and thus improve the standardization of their scheduling procedure, the team constructed a retrofit to attach to the foam mold injection fixture, and also created a 5S program for the workspace. The results of the team’s work produced a reduction in setup time and improved variability of the foam mold injection process, thus improving standardization of both the workspace and the scheduling process.

Objectives
- Increase efficiency of foam mold injection area through reducing setup time
- Improve scheduling of foam mold injection workspace through reducing variability of setup process

Approach
- Data regarding the setup time was collected via time studies of fixture 300A/B, along with pictures of the workspace for the 5S program
- Measurements of said fixture were taken to assist in initial design of retrofit for fixture
- Time study data was analysed to determine most problematic area of setup process of foam mold injection fixture
- With focus being on the clamping of the fixture during setup, the team developed potential solutions for the retrofit and 5S program
- SolidWorks model of the retrofit was designed, and a costed bill of materials was generated to provide sponsor with required materials to build retrofit in the future
- 5S program was developed and implemented at the plant, providing the workers with a cleaner, more organized work space and a daily cleaning checklist and 5S audit to assure that the program is sustainable

Outcomes
Finally, list the outcomes for this project making sure to clearly convey their implications for the sponsoring company:
- The setup time was reduced by 6 minutes per fixture, which results in roughly 4 hours of work per day saved (from retrofit alone)
- Project improved variability of setup of fixture
- Organization and safety of workspace significantly improved