Trelleborg Sealing Solutions - PFW Senior Design Project Proposal for Spring 2021

Title: Molding Press Platen Heat Transfer

Industry Sponsor: Trelleborg Sealing Solutions (TSS) – Steve O'Shaughnessey

PFW Students: 3-4 Mechanical Engineering

Budget : $1000

Project Description and Scope:

Trelleborg's elastomer molding process converts uncured rubber compound into various elastomer seals. The molding process entails placing uncured rubber preforms in a heated cavity plate and compressing the preform into the mold cavity shape. Utilizing the appropriate pressure, time, and temperature parameters, a cured elastomer seal is formed. Heat Transfer from the electrically heated press platens into the mold plates is a critical process.

Typical temperature differential between the mold platen and the mold plates is 15 to 20 degrees F. The goal of this project is to reduce the temperature differential from the electrical heating elements to the metal press platen and the metal mold plates. A proto type scaled system can be designed and built for testing to demonstrate a temperature differential of 5 degrees or less. All materials supplied by Trelleborg.