

Project Title: [Extrusion Brake Device](#)

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Sponsored By: [Trelleborg Sealing Solutions](#)

The purpose of this project is to design an external braking device for an existing extrusion process done by Trelleborg Sealing Solutions (TSS) to control the amount of compression and backpressure within the die for a round shaped product.

The process takes raw PTFE powder and the connecting ram rods push the powder into six dies. The rams push the powder into the dies at a specific pressure. The pressure being used to push is solely based on the friction between the PTFE and the walls of the die. As the PTFE is being forced through the die, heat is applied to sinter the material. The product is pushed through the die to reveal a finished product.

This project overall is to design a braking system that will be attached to the bottom of the extrusion die to increase the amount of pressure being applied by the rams. The braking system must also be able to compensate for varying die sizes. When the ram pressure is increased the backpressure of the device is increased allowing for a more desirable product.