

Objective

The objective of this project is to design an automated device to assist in Corning's current palletization and depalletization process through the placement and removal of pallet toppers and embedded foam layer.

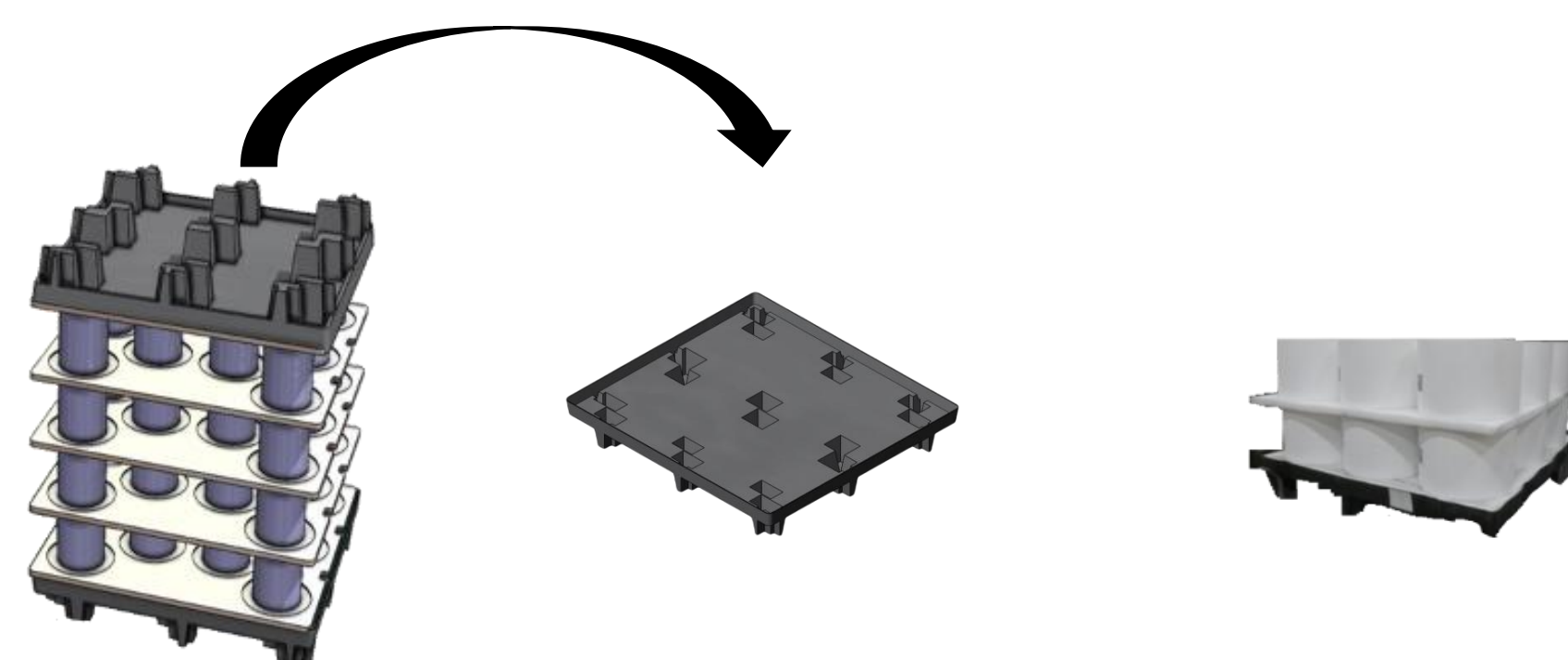
Background

- Corning manufactures ceramic diesel particulate filters
- Currently having issues with the placement and removal of the pallet topper
- Automating this process will remove the need for excessive manual labor

Palletization Process



Depalletization Process



Key Targets

- **Cycle time:** Required to pick up a pallet, move to specific location, place it on the stack, and return to its original position within 120 seconds
- **Carries load:** The system will be able to lift a load of at least 30 pounds in addition to the weight of the tooling

Final Design

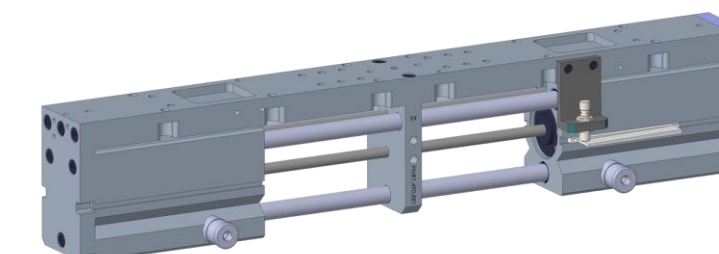
- The system utilizes 2-axis gantry to allow for movement across the two specified cells, as well as the ability to drop down to the 6 conveyer belt positions.
- The Parallel Gripper mechanism performs the opening and closing motion, used to collect and release the pallet topper.

Full Scale

GUDEL 2-Axis Gantry



DESTACO Parallel Gripper



Custom Steel Tooling Extenders

