

Field Visit Report: Supreme Industries



Organized by: PDS
Date: 7th February 2026
Time: 8:30 am – 7:30 pm
Participants: 2nd Year Design Students
Venue: Supreme Industries Facility, Kanhe

1. Introduction

The manufacturing facility of Supreme Industries, Kanhe specializes in production and assembly of plastic based industrial parts. They have injection molding and assembly units. Supreme Industries supplies injection molded plastic parts to various leading automotive and other industrial firms like Tata, JCB and Piaggio group.

2. Visit Objectives

To understand industrial manufacturing processes involved in plastic product production.
To gain insight into materials, machinery, and large-scale production methods used in the plastic industry.

3. Observations

Injection molding process:

- Pellets of raw material (like LLDPE) are stored in a drum which gets sucked and dispersed into the injection molding unit from the top.
- The injection unit pushes pellets through the heated barrel, where the material reaches a homogenous state, towards the die.
- Plastic reaches the die through runner gates after moving part of the die is set in position with the stationary part of the die.
- The die is kept closed for a set time period, leaving the mold to solidify by cooling down.
- The die is open and plastic mold is taken out.
- The part is further refined by cutting off excess parts.
- At this point, the product can be deformed easily, thus it will be kept on a separate platform called fixers where it's clamped in its ideal form for 5-10 minutes.
- The part is now packaged and sent for assembly.

Materials:

Manufacturers use materials as per customer requirements.

The production we saw was of a mudguard of a car and the material LLDPE (Linear low density polyethylene) was used.

A set of plastic pellets called color master batch is also used as a coloring agent. It is of 1-5% composition of the whole material.

PC (polycarbonate)

Designing for injection molding:

The designer who designed the product will also have to decide material, material weight, cooling time, packing time, etc.

The product is put through digital simulations to identify physical requirements.

Pre-Production:

Tools and die are developed

The product is tested for months where defects are fixed.

A new die leaves silver marks on molds, this won't happen after the mold has been used for a while.

Quality inspection:

1-2% of molds are expected to have defects.

Quality checks are conducted according to the client's guidelines.

Other observations (injection molding):

A single injection molding unit has a target of producing at least 700 pieces a day.

Defective die parts will be fixed in the workshop itself.

Waste plastic will be turned back into pellets and reused.

A single die has a life of 2-5 lac shots.

Supreme Industries is in the process of making LPG cylinders in plastic.

Industrial Parts assembly:

After molding, various plastic parts get assembled together and shipped to the customer.

Products like dashboard, plastic parts of voting machines and other plastic body parts.

In this facility, there are 3 working fixers and they make around 16 dashboard assemblies a day.

Products go through pre delivery inspections and batches usually have a defect rate of 1-2%.

4. Conclusion

From the visit to Supreme Industries, Kanhe, we learnt about the mass production of plastic products, how they're tested pre-production and how they get assembled together. The visit gave us insights on the production part of product development process and a designer's responsibilities. The facility explained the importance of quality checks, efficient production and meeting deadlines. Overall, the visit was informative and helped us understand practical industrial applications.



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