



FACULTY OF ENGINEERING

DEPARTMENT OF MECHANICAL AND PRODUCTION ENGINEERING

**BACHELOR OF ENGINEERING IN MECHANICAL AND MANUFACTURING
ENGINEERING
ASSIGNMENT**

TMME 4201: PLASTIC PROCESSING TECHNOLOGY

LECTURER: MR BWENGYE INNOCENT

SUBMITTED

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Different plastic processing industries

No.	Name	Processes used	Products	Region
1	Quality plastics limited	Extrusion, blow moulding	Plastic bottles, films, plant bags	Kampala Central Uganda
2	Nile Plastics Ltd	Injection moulding, extrusion	Packaging materials, household items	Jinja. Eastern Uganda
3	Uganda Plastic Manufacturers Ltd	Extrusion, injection moulding	PVC pipes, household plastics.	Kampala Central Uganda
4	Nice House of Plastics Ltd.	Injection moulding, blow moulding	Plastic containers, household goods, pipes, chairs, jerrycans	Kampala Central Uganda
5	A K plastics	Injection moulding and blow moulding	Plastic chairs, containers, jerrycans, watering cans	Kampala Central Uganda
6	MEC plastics	Extrusion, blow moulding	Water pipes, polythene sheets	Kampala central Uganda

8	Romplast Ltd	Injection moulding, blow moulding	Buckets, basins, jerrycans	Kampala Central Uganda
9	Visa plastics Ltd	Blow moulding, extrusion	Polypropylene bags and ropes, polyethylene roles	Kampala Central Uganda
10	Tic plastics Co Ltd	Film extrusion, blow moulding	Polythene bags and rolls	Kampala Central Uganda
11	Heng Chang plastics Ltd	Blow moulding, injection moulding	Basins, jerrycans, cups, buckets, bottles	Kampala Central Uganda
12	Kiboko Enterprises Ltd.	Extrusion, injection moulding	Roofing sheets, pipes, household items	Wakiso Central Uganda
13	Gentex Enterprises Ltd	Extrusion, blow moulding	Plastic bags, containers, agricultural packaging	Mukono Central Uganda
14	Luuka Plastics Ltd	Extrusion, injection moulding	Packaging bags, films,	Wakiso

15	Cipla Quality Chemicals Ltd.	Injection moulding, blow moulding.	Pharmaceutical containers and packaging	Luzira Central Uganda
16	Crestanks Uganda Ltd	Rotational moulding, injection moulding.	Water tanks, septic tanks, gutters	Kampala Central Uganda
17	Nabukka Plastics Industries Ltd	Blow moulding, injection moulding	Plastic bottles, jerrycans, cosmetics containers	Wakiso Central division
18	Poly Fibre Ltd	Rotational moulding	Water tanks, mobile toilets	Kampala Central Uganda
19	Mukwano Plastics Division	Injection moulding, blow moulding	Household plastics, jerrycans, containers	Kampala Central Uganda
20	Takataka plastics	Injection moulding	Chairs, plastics tiles, face shields	Gulu Northern uganda
21	Crown Beverages (Plastics Division)	Blow moulding, injection moulding	Plastic bottles and caps for beverages	Kampala Central Uganda
22	Afro Plast Enterprises	Extrusion, blow moulding.	Plastic bags, films, packaging items	Kampala Central Uganda

24	Zhuangs Plastic and Parking Company Ltd	Extrusion	Plastic Packaging Materials	Kampala Central Uganda
25	Teefe Plastics Limited	Heating, shredding, extrusion, extrusion	Recycling	Kampala Central Uganda
26	Smile Plast Ltd	Rotational moulding	Plastic water tanks and other plastic products	Kampala Central Uganda
27	Supreme Flexibond (U) Ltd	Extrusion, blow moulding	Plastic flexible packaging materials	Kampala Central Uganda
28	Poly Packaging Limited	Extrusion	pp woven bags and non-woven bags	Kampala Central Uganda
29	Nalukolongo Packaging Industries Ltd	Injection, extrusion, blow moulding, thermofoaming	Non wooven bags, PP bags, disposable cups and plates, paper bags, egg trays	Kampala Central Uganda
30	Namanve Industries ltd	Extrusion	high quality woven polypropylene bags, polypropylene ropes	Kampala Central Uganda
31	Marshal Pack Uganda Ltd		Celltape	Kampala Central Uganda

33	Kekereza Power Source (U) Ltd	Injection moulding	Manufacturing of moulds and toys (plastic)	Kampala Central Uganda
34	AZ Packages Ltd	Extrusion and film blow moulding	Polythene bags	Kampala Central Uganda
35	Balteck Construction and Trading Co. Ltd	Blow moulding	Plastic bottles	Kampala Central Uganda
36	Balaji Packaging Ltd	Blow moulding	Plastic bottles	Kampala Central Uganda
37	Blowplast (U) Ltd	Injection blow moulding	Jerrycans, chairs, bottles	Kampala Central Uganda
38	Huaji Investment Co. Ltd	Extrusion, injection moulding	Plastic slippers, shoes, PVC	Kampala Central Uganda
39	GNS Industries Limited	Extrusion moulding	plastic mats	Kampala Central Uganda
40	Groupe Industrielle of Plastique (U) Ltd	Injection moulding	Plastic chairs	Kampala Central Uganda
41	Lintex Express Ltd	Extrusion moulding	PPR and HDPE water pipes	Kampala Central Uganda

42	Medipoint Industries Ltd	Extrusion film blow moulding	Polythene, Packaging Material, Garbage and Bio Waste Collection bags, Shopping Bags, Security Bags, BOPP and PP Bags and rolls	Kampala Central Uganda
43	Multiple Industries Ltd	Extrusion	HDPE, PVC, PPR pipes and fittings, rain water gutters, etc	Kampala Central Uganda
44	Motion Ventures Limited	Extrusion, blow moulding	polypropylene (PP), plastic straws	Kampala Central Uganda
45	Simba Polybags Ltd	Extrusion, film blow moulding	Tubing, carrier bags	Kampala Central Uganda
46	Prince's Plastic Industries Ltd	Injection and blow moulding	Carrier bags, jerrycans	Kampala Central Uganda
47	R.F. Super Bags Investments Ltd	Film blow moulding	Polythene bags	Kampala Central Uganda
48	Pipeline Design and Foam Industries Ltd	Blow moulding, extrusion	Carrier bags, plastic liner, foam products, irrigation and electrical conducts	Kampala Central Uganda
49	Poa Products Ltd	Rotational moulding	water tanks	Kampala Central Uganda
50	V6 Limited	Injection, stretch blow moulding	PET preform and bottling	Kampala

Focus industry

Nice house of plastics

This is a plastic product manufacturing company in Bugolobi Kampala Uganda making basins, chairs, tooth brushes, Plastic containers, household goods, pipes among others

Processing techniques used

1. Injection moulding

This technique involves injecting molten plastic into a mold to create a wide variety of plastic products, from containers to automotive parts. it starts with the pellets being poured into the hopper, the pellets are then heated and melted in the cylinder in preparation for injection.

The material is then forced through the nozzle of the injection unit before being delivered through a sprue and then through branched runners into the mold cavity. After the material cools and hardens, the

2. Extrusion

This technique is used to create continuous plastic products like pipes, sheets, or profiles. Plastic is melted and pushed through a die to produce the desired cross-sectional shape. This is similar to the injection moulding process just is that extrusion moulding produces a long continuous shape rather than a single unit like in injection moulding. The die is designed to have the required profile to create the final form of the plastic.

They use this to make the pipes

3. Blow Moulding:

This technique is used primarily for producing hollow plastic objects like bottles and containers. This technique involves inflating a hot plastic tube inside a mould to form the desired shape. An extruded parison tube of heated thermoplastics is positioned between two halves

List of the products

- Plastics chairs
- Buckets
- Basins
- Crates
- Water bottles
- Cups
- Tooth brushes
- Watering can
- Plastic tables
- Jerrycans

Challenges Nice house of plastics faces and the mitigation for them

1. Cost of raw materials

The cost of raw materials like resins and polymers is high since most times they are imported and their prices can fluctuate

Mitigation:

local sourcing where they can partner with local suppliers for raw materials

Recycling initiatives which expands the use to recycled materials instead of buying new materials every time

2. Competition from imported goods

There are cheaper imported plastics products from Asia which many people can decide to buy instead of purchase the local products

Mitigation

Focus on higher quality products to differentiate from low cost imports

3. Environmental regulations and waste management

Increased pressure to adhere to environmental standards especially concerning plastic waste and pollution

Mitigation

Investing in eco-friendly production like biodegradable plastics and reducing plastic waste in the manufacturing processes

Engaging in environmental clean-up efforts and promote recycling initiatives to align with environmental regulations

4. High energy costs

High energy costs in Uganda can increase the overall cost of production

Mitigation

Investing in energy efficient machinery and production techniques

5. Labour shorts

This is due to the advancement of machinery that requires very skilled labour as the technologies are modern

Mitigation

Investing in training and development programmes

Partnering with institutions like universities to develop specialised training programmes in plastics manufacturing

6. Inconsistent policy and bureaucratic delays

Uganda's environmental policies keep changing and also delays involving acquisition of permits

Mitigation

Engage the government and keep close ties with the agencies and participate in the reforms to keep aware of the new regulations