

Blow-Molded Bottle Manufacturing Project

ABC Company

By

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Manufacturing Objectives

- Set-up a molding plant operation in India to meet captive requirements of plastic bottle and caps of ABC from:
 - Injection blow molding of HDPE bottles
 - Injection molding of PP caps
 - Extrusion blow molding of HDPE bottles

Short Term Goals

0 – 2 Years

- Injection blow molding of 60; 75; 100 and 150 cc bottles (2 – 3 machines)
- Injection molding of 33; 38; 45 and 53 mm strip thread caps (2 – 3 machines)
- Extrusion blow molding of 750 – 2000 cc bottles (1 EBM machine)

Long term goals

3 – 5 Years Span

- Expand molding operation to meet all molded components requirement for ABC including CRC closures
- Add 2 -3 IM and 1 -2 IBM / EBM machines
- Build tools for other IBM – EBM bottle and CRC cap sizes
- Build class 100,000 molding capability
- Gain ISO approval

Molding plant site selection

- Plant location
 - Ease of transportation
 - Industrial Land Availability
 - Zoning and Building Permission
 - Electrical and Water supply
 - Raw material availability
 - Engineering and manufacturing operation labor supply

Building Layout

- Manufacturing Operation
 - Injection molding area
 - Injection blow molding area
 - Extrusion blow molding area
 - Overhead Crain or power lift for tool change
 - Tool Repair / Maintenance Room
 - Mold storage Area
 - Cap lining / assembly room
 - QC Inspection Area
 - Warehouse for raw materials and finish goods
 - Operator change room
 - Lunch room
 - Wash room
 - Supervisor and mold technician offices
 - General administration and sales – marketing offices

IM, IBM and EBM equipment

- How many IM, IBM and EBM machines?
- What sizes?
- Type of machines
 - Hydraulic
 - Electric
- Machine brand or Manufacturer preferences
- Auxiliary equipment availability

Bottle and Cap Tools

- Bottle and Cap tools
 - # of 60 - 200 cc bottle and 33 - 53 mm CT and CRC cap tools
 - Prepare component drawings
 - Tool shops preferences
 - Design and fabrication of tools
 - Mold trials
 - Molding process development
 - Mold qualification
 - Training and technology transfer

Auxiliary Equipment

- Material handling and Hopper loaders
- Portable water circulators - thermolator
- Portable oil circulators for IBM
- Water chiller
- Tower water
- Part removal
- Bottle flame treatment or Corona discharge
- Cap lining – labeling equipment
- QC and molding technician tools
- Mold mechanic tools

Plastics Resins and Colorant availability

- Plastic resins and colorants – current vs. new alternate suppliers
 - HDPE
 - PP
 - Color concentrates
 - Cap Lining materials
 - FDA – USP class VI
 - Outside Lab testing facility

Human Resources

- Capital / Finance director
- Land Developer
- Building contractor / Inspector
- Electrical contractor
- Clean room contractor
- Utility supplier contractor
- Engineering project leader
- Technical design and process engineering
- Manufacturing / QC operation personnel