



Symbiosis Institute of Business Management  
Hyderabad



Symbiosis International University  
Pune



**Industrial Visit: Cogent Glass Limited**

**22/12/2016**

## 1) Summary:

An Industrial Visit to **Cogent Glass Limited (pharmaceutical glass manufacturing plant)** was organized by OP\$ERA- The Operations Club on 22<sup>th</sup> December 2016. The agenda was to understand the complete plant operations and various aspects along all major areas taking place inside the glass manufacturing industry. The students were accompanied by the faculty **Dr. Rajkumar Pillay**. Cogent Glass Limited production facility is located at village Vemula in Mahbubnagar district, near Hyderabad. The facility is strategically located on Hyderabad – Bangalore highway, in the South India Pharma hub. Cogent Glass operates a state-of-the-art glass manufacturing facility for Type I moulded vials, focusing exclusively on servicing the Pharmaceutical industry.

Cogent Glass Ltd's production facility is spread over 40 acres, strategically located on Hyderabad – Bangalore highway, near source of quartz sand and in the pharma hub of India offering natural advantages. Cogent has state of art glass manufacturing facility for TYPE I moulded vials, with production capacity of 1.0 Mpcs per day and tubular containers 0.5 Mpcs per day, focusing only on serving pharmaceutical industry. Cogent has 100% back-up with DG sets, in addition to 33 KV dedicated power supply line from the government.

We reported at 10:45 AM to the plant and were received by the **Safety Officer, Mr. Nizamuddin** who briefed us about the whole plant in terms of statistics as mentioned above and other available facilities. The plant has helipad, corporate block, VIP guest house with all sort of recreational facilities inside. Then we moved to training hall where we had a 40 minutes presentation and general interactive session with **Mr. Ganpati Satya (VP Quality Assurance) & Mr. Shankar Bose (Head Customer Quality Management)**. Below are the basic organizational details:

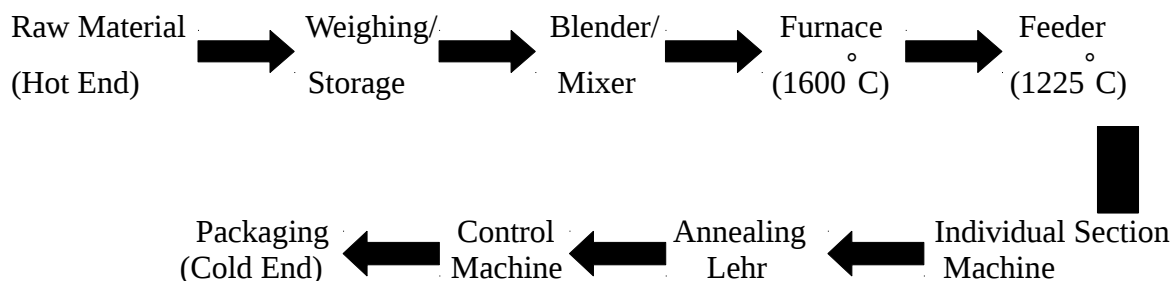
- SGD Pharma became majority shareholder of Cogent Glass in 2015.
- Operational Headquarter of SGD Pharma is in Paris; both functional and administrative heads sit in Paris office.
- SGD Pharma is a global leader in glass pharmaceutical packaging: SGD Pharma produces over 8 million vials and bottles per day at its five manufacturing plants in Europe and Asia. All plants are ISO 15378 certified, and two are entirely new facilities. With 10 sales offices and a wide distribution network, SGD Pharma offers a broad range of sizes and finishes in

- Type I, II, or III, amber and clear glass, as well as innovative added-value services like internal siliconization or protective plastic coatings.
- SGD Pharma has 5 plants in 5 different locations: Saint Quentin (France), Sucy-en-Brie (France), Kipfenberg (Germany), Vemula (India) & Zhanjiang (China)
  - Certifications: ISO 15378:2011 GMP & ISO 9001:2008 QMS
  - **Vision:** To be recognized by all customers as the preferred supplier for pharmaceutical glass primary packaging.
  - **Mission:** High quality glass pharmaceuticals packaging company focusing on:
    - Safety of our employees
    - Continuous improvement of our process and teams
    - Providing value to our customers, teams, community and shareholders
    - Strict quality management system based on ISO 15378
  - **Ambition:** To improve confidence. We commit to patient safety by delivering the best pharmaceutical glass primary packaging in the world.
  - **Five drivers of SGD Pharma:**
    - a) Priority to patient safety
    - b) Customer first
    - c) Integrate pharma and legal environment
    - d) Develop our talents
    - e) Progress towards zero defect
  - **180+ clients** at international level
  - **10+ customer awards** since inception
  - The videos showcasing the whole production can be found through this link:  
<https://www.youtube.com/channel/UCrU1OQNluZKL0zFvHOWizkA/videos>

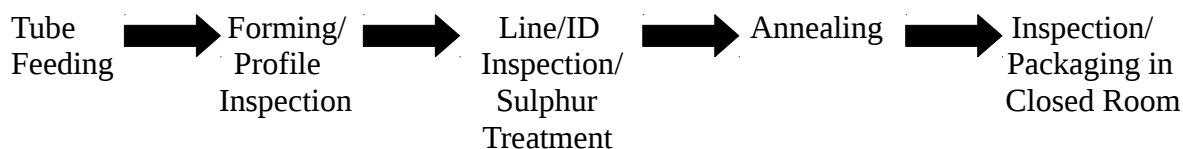
Now more on the **Vemula, India** plant i.e., few excerpts from the session: The India plant is fully dedicated to Type I, moulded & tubular glass. This is a brand new operation facility, completed in 2013. **Mr. Akshay Singh** is the **CEO** and **Mr. Bihag Singh** is **VP SCM Operations**. It is actually dedicated to parenteral application: Small Volume Parenteral (SVP) & Large Volume Parenteral (LVP). Moulded glasses employ continuous manufacturing: Glass rods are bought from suppliers and then made to undergo the process of heat cutting. Whereas, tubular glasses employ batch manufacturing: Minerals are heated and then given a certain shape.

We were shown the whole manufacturing process for both moulded and tubular vials from end-to-end by **Mr. Kishore (Unit Manager)**:

**a) For Moulded Vials:**



**b) For Tubular Vials:**



Also we were briefed by **Mr. V.G. Reddy (Coordinator)** about the following rooms/units on the production floor within the plant:

- **Raw Material Storehouse:** Following raw materials are used for manufacturing: Dry Sand, Borax Pent hydrate, Alumina Oxide, Barium Carbonate, Sodium Chloride, Sodium Silica Fluoride, Soda Ash, Sodium Nitrate, Alumina Hydrate, Limestone and Potassium Nitrate. The bags are marked with coloured tags: Yellow tag shows that chemical purification is pending whereas green tag shows that sampling is done. The colour of raw materials are same, in case there is a mismatch then one week's production is gone which is almost equivalent to a loss of one crore.
- **Packaging Material Storehouse:** There were glass tubes, cardboards and packaging material.
- **Raw Material System (RMS):** The raw material is managed automatically and under continuous surveillance.
- **Feeding Management System:** Again automated; if one tonne of glass is to be made, monthly plan has to be made for RMS.
- **Individual Section (IS) Maintenance & Control Room**
- **Furnace Control Room**
- **Conversion Room:** Big glass rods are converted into small 30 ml tubular vials.

**Machinery and equipments used:** The Company has sourced all its equipments and technology from reputed European suppliers considered the best in the global glass industry:

- Batch Plant from Germany
- Glass melting from Italy
- IS machines for moulded vials from Sweden
- Annealing Lehrs from Italy
- Cold End Transport from Italy
- Inspection Machines from France
- Tube Line from Italy
- Tubular containers conversion machines from Italy

After learning about the whole process we had lunch and along with a healthy discussion with the above mentioned officials. We discussed about our observations and learning inside the plant. We gave them our views regarding the production process, which were highly appreciated by them.

We left the plant at 03.00 PM having experienced something that how to use the theoretical knowledge. Overall it was a fruitful and enriching experience for all the students.

**2) Learnings:**

<b>Concepts/Processes Studied</b>	<b>Observations</b>
<b>QTS: Quality &amp; Technical Specifications</b>	How they specify and match the same
<b>Focus On Quality:</b> Daily meetings with respective heads	Daily meetings regarding: Quality, production & quality review
<b>Quality KPIs</b>	Claims accepted (in ppm), customers claims (in ppm & in figures), claims answered (in days), internal non-quality issues (in ppm)
<b>CAPA (Corrective and preventive action) Treatment</b>	Customers audit the plant, the organization submits the audit compliance report to customers. Around 50,000 out of 1 million products are put on hold at the production level as they don't match the specification level (Rejected by the quality department and sent for

	rework).
<b>GMP:</b> Good Manufacturing Practice	Saraswati Training Programme for the employees: Focus on safety, quality and process
<b>GDocP:</b> Good Documentation Practices & six sigma deployment	Process capability monitoring is done and reported to the organization as a sigma level. GDocP are followed manually. The document should be error less, with no overwriting or scribbling and verified with signatures from time to time.
<b>Cross Functional Working:</b> War Rooms for quicker response oriented meetings	Problems are discussed and solutions are given regarding every department in the whole plant. Thorough root cause analysis is done here. Process capability is also monitored here: Maximum sigma level: 2.21 & Minimum sigma level: 1.54
<b>Robust Production Process Approval</b>	Line clearance is done before start of the inspection. ISO 14644 norms are followed for cleaning. Quality assurance plan is deployed here.
<b>Focused Elimination of Critical Defects</b>	Customized critical defect alarm (audio-visual based communication system) is used for quick response; regularly form is filled regarding same.
<b>Clean Room Implementation</b>	Highly maintained room, even humidity and temperature are controlled
<b>My Area</b>	The plant is divided into 19 zones and employees are made the in-charges for the same. Then they are rated in a spider web chart taking the 5S framework into consideration
<b>Action List for Reducing Swabbing Carbon</b>	The organization has kept 23 different action tasks for same; they use DMAIC process for same.

### 3) Names of Company Officials Met:

Name	Designation
Mr. Nizammudin	Safety Officer
Mr. Ganpati Satya	VP Quality Assurance
Mr. Shankar Bose	Head Customer Quality Management
Mr. Kishore	Unit Manager
Mr. V.G. Reddy	Coordinator

4) **Pictures:**





