

# GIDC Degree Engineering College



Industrial visit

in

**SONA EXTRUSION PVT. LTD.**



**SONA** Extrusion Pvt. Ltd.

Faculty Members:

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Time: 11:00 am

Total No. of students visited: 28 (6<sup>th</sup> Sem. Mech.)



## **Introduction to SONA Extrusion**

“Sona Extrusion Pvt Ltd is one of the leading manufacturers of aluminium collapsible tubes and containers in India, duly ISO 15378 (Primary Packaging materials for medicinal products) & 9001 certified & US DMF Registered Company. With over 30 years in business, they have achieved pioneers in meeting schedule targets for massive volume orders with consistent high-quality products. This is enabled with the help of our well-defined single roof infrastructure, high quality & reliable German machinery, and skilled and experienced work force. They understand the nature and criticality of our products and therefore we take pride in our high standards of hygiene and our strict adherence to cGMP. Our strong dedication to commitments, higher quality standards and persistent customer support acts as a strong differentiating factor against their competitors, they are appreciated for the same nationally as well as globally.”

### **Products made**

- Aluminium Collapsible Tubes
- Aluminium Flask And Bottles
- Aluminium Tablet Canisters

The company has two department

- Manual operation
- Auto operation

In manual operation the company has 4 manual extrusion machine, 1 annealing oven (gas operated), 2 lacquer machine with electrically operated oven, 4 manual printing machine with limitation of 4 colour at a time.

In auto department all the maximum work is done by the machine which has 2 automatic extrusion machine, 2 lacquer machine with gas operated oven 2 automatic printing machine

## **Process of making Aluminium Collapsible Tubes**

### **1. Rumbling Department**

Slag (raw material in circular shape) is placed in the rumbling machine in the rumbling the powder coating of zinc sterite (50kg per mix) for the lubrication of the slag in further process the excess powder is removed by the shaking of the conveyer.

### **2. Extrusion Department**

#### **Extrusion process**

Extrusion process held in the extrusion machine. The raw material is inserted through hopper with the help of die and punch extrusion process is done the extruded product always more in length

#### **Trimming process**

Removal of excess material happens in this machine and the threads for the cap are made

#### **Inspection**

The inspection of the tubes is done every hour and the tubes are alternately taken for the inspection the thickness, length, and other parameters are inspected. Leak test is performed at 4 bar pressure.

### **3. Lacquer department**

#### **Annealing machine**

The annealing process is generally done to make the tubes soft. The annealing machine is one type of oven which is operated with gas at temperature range of about 200-300 °C.

#### **Inspection**

Every hour the quality control test are performed the crash test is performed and the reading are matched with the data limit.

### **Lacquer machine**

In this machine the spray of lacquer is done. It is a chemically stable liquid which prevent the chemical reaction of aluminium with the substance filled inside the tubes. After the application of lacquer, the tubes are sent to oven (electrically operated) at temperature 250-300 °C this may vary depending open the type of tube.

### **Inspection**

#### **Porosity test**

Test is performed with a special instrument in which the tubes are filled with a chemical and then the electric current is supplied to it which give the result of porosity.

#### **Copper deposition**

The tube is cut the upper part is removed and formed in a shape of boat and the chemical liquid is poured in it then the electric waves is provided with a wire to obtain the results.

#### **Aceton test**

Acetone liquid is rubbed 20 times in same direction to the internal surface of the tubes to check whether the lacquer is properly applied to the tube

## **4. Printing department**

### **Printing process**

First application of white coating alkaline is provided before the printing after that it is passed to the printing machine to print the machine has a limitation of only 4 different colour per product at a time after that it is passed to oven to bake the tubes so that the colour is properly printed

### **Inspection**

Visual inspection is done by comparing the sample after that the products are send for final testing in the quality control lab where the test is performed again and the product which are passed are sent for dispatch