VISVESVARAYA TECHNOLOGICAL UNIVERSITY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

REPORT ON INDUSTRIAL VISIT

NAME : Manoj m j

USN : 2VX22CB030

PROGRAM : COMPUTER SCIENCE AND BUSINESS SYSTEMS

SEMESTER : 3rd semester

➢ AIM

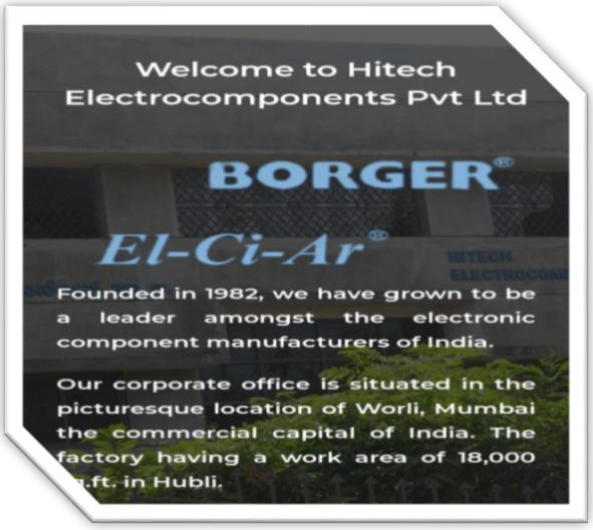
To visit Industry as a part of academic work.

➢ INDUSTRY NAME

Hitech Electrocomponent Pvt Ltd Hubballi, Karnataka 580026.

➢ ABOUT THE COMPANY:

- Hitech Electrocomponents Pvt Ltd was founded in 1982 (as Hitech Products Corporation) in the city of Hubli, located in the state of Karnataka.
- They have since then become one of the premier makers of capacitors under the brand names “El-Ci-Ar” Capacitors ,servicing the electronics industry and “Borger” Ignition Condensers , for the automobile industry.



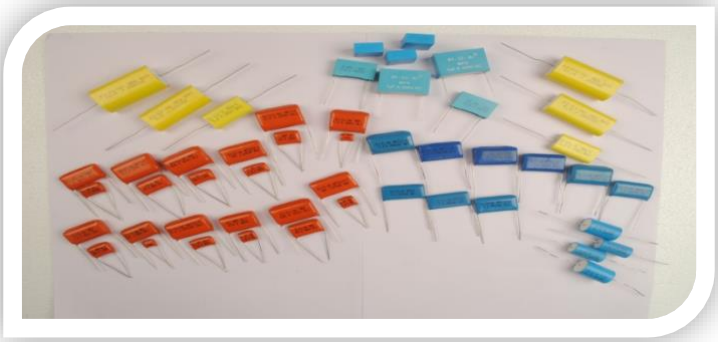
- Borger” is the only brand in India used for the entire two and three wheeler ignition condenser replacement market.
- Their horn capacitors are now being deployed in the entire two and three wheeler market.
- Under the “ElCiAr” brand we currently manufacture plastic film capacitors, metallized dip capacitors, IGBT and snubber capacitors.
- They are continually investing in R&D, innovating rigorously to develop new markets.

➢ OBJECTIVES

To study about different types of capacitors and their working.

- ***TYPES OF CAPACITORS THEY MANUFACTURE:***

  - General Purpose Capacitors
  - Capacitors for Auto Horns
  - CDI Capacitors
  - Fan Regulator Capacitors
  - X2 Interference Capacitors
  - RIS Noise Suppressor -RFI suppresion Automotive application



- ***ADVATAGES OF THEIR CAPACITORS:***

  - Higher dv/dt rating, higher peak current capacity, higher insulation resistance over metallized capacitors.
  - Oil impregnation of film capacitors acts as a coolant at higher temperatures and prevents breakdown.
  - Mode of failure in film capacitors is in short circuit mode versus open circuit mode for metallized capacitors.

- ***TAKE AWAY FROM COMPANY:***

- What do you mean by capacitors ?
  - A Capacitor is a two-terminal electrical device that can store energy in the form of an electric charge.
- There were 9 steps where our demonstrator explained us how the capacitors are manufactured in their company.
- Basic Working and mass manufacturing of Capacitors.
- Organised manufacturing of electrocomponents.

STEPS OF PRODUCTION:

GENERAL STEP:

WINDING:

- In the first step the MPP(Metallized polypropylene) and MPT (Metallized Polymer) are put in the machine to shape that sheets into cylindrical shape.

1. **THERMAL PRESSING:**

- In this step some kind of pressure is given to the capacitors by keeping them in their specified trays in thermal pressing machine.
- By doing this the capacitor changes its shape from cylindrical to rectangle.
- For pressing specified values and time is given.
- The maximum timing is 15 seconds.

2. WRAPPING:

- In this step the capacitors are wrapped by the wrapping paper .
- Purpose of wrapping is for spraying purpose which is the next step for manufacturing the capacitors.

3. SPRAY:

- In this step zinc and tin are sprayed to the capacitors.
- This is sprayed because of electrical continuity.

4. LBCT (LEAD BONDING CLEARING TAPPING):

- In this step first clearing process is done.
- Lead bonding means connecting the leads.
- Tapping is done for arranging the capacitors in a line.

5. LDC ,PDC AND HEATING OVEN:

- LDC(Liquid Dipping Coating) ,PDC (Powder Dipping Coating)
- LDC machine contains wax in it to apply to the tape of capacitors for next process which is PDC (Powder Dipping Coating).
- In between the process of LDC and PDC heating oven comes where the tape of capacitors is kept for heating purpose.
- In PDC the capacitors are dipped in powder to coat the upper layer of capacitor. The maximum time of dipping a capacitor in powder is 3-4 times, if they do it more than 4 the upper body of the capacitor will become thick.
- To prevent from shocks they do powder coating.

6. PRINTING:

- This step is used to print the values on capacitors.

7. HEATING OVEN:

- This step is used to smooth the texture of the capacitor.

8. CAPACITOR VOLTAGE CHECKING MACHINE:

- They check all the capacitors either the capacitors are working or not.
- They use LCR meter for this.
- If any one or more than one capacitor is not working than they will reject it.

9. FINAL TESTING AND QUALITY CONTROL:

- In final testing they check all the standards which is given by the customer or engineers.
- They check capacitors as a sample test according to the standards.
- After final testing the quality controller move the capacitors to the packaging department.

CONCLUSION

This was all about the Industry Visit and We learned quite a lot of things about the organised manufacturing of any kind of product in this case an **Electrocomponent "CAPACITORS"**. We were divided in groups of 15 and were sent inside in turns. We learnt quite a lot of things and this was our last picture at the Industry,

INDUSTRIAL VISIT INSPIRE CREATIVITY AND OUT THE BOX THINKING.....