



Shri Gajanan Shikshan Sanstha's
SHRI SANT GAJANAN MAHARAJ COLLEGE OF ENGINEERING
SHEGAON – 444203, DIST. BULDHANA (MAHARASHTRA STATE),
INDIA

“Recognized by A.I.C.T.E., New Delhi” Affiliated to Sant Gadge Baba Amravati University, Amravati
“Approved by the D.T.E., M.S. Mumbai”

Ph +918669638081/82
Website- www.ssgmce.ac.in

Email. principal@ssgmce.ac.in,
registrar@ssgmce.ac.in

1.3.2	Percentage of students undertaking project work/field work/ internships (Data for the latest completed academic year)
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**Report of the field work/sample Photographs of the field work / permission letter only
for field work from the competent authority**

SN	Parameter	Department	Link
1	Industry Visit	Electrical Engineering	View Proof
2	Industry Visit	MBA	View Proof
3	Field Work	Mechanical Engineering	View Proof
4	Field Work	Applied Science and Humanities	View Proof



Shri Sant Gajanan Maharaj College of Engineering, Shegaon



Institution's Innovation Council (IIC) Activity Report

Date: 29/11/2022

Promotion in Social Media:

Facebook link:	shorturl.at/krvNO
LinkedIn link:	shorturl.at/dHPW8
Twitter link:	shorturl.at/fhiLU
Instagram link:	shorturl.at/cEQUX

Academic Year: 2022-23

Quarter: I

Program Type: Exposure Visit

Program Theme: R&D and Innovation

Program Driven By: IIC Calendar Activity

Program/Activity Name: Exposure and Field Visit for Problem Identification

Duration of the Activity (in Hours): 1 Day 5 Hours (12.00 PM to 5.00 PM)

Event Coordinator: Mr. R. S. Kankale (Assistant Professor, Department of Electrical Engg.)

Start Date: 28th November 2022

End Date: 28th November 2022

Number of Students Participants: 73

Number of Faculty Participants: 03

Number of External Participants: Nil

Expenditure Amount: Rs. 8968/- (Administrative charges paid at TPS, Paras for the visit of 76 person Rs. 118/- per person including GST)

Mode of Session Delivery: Offline (Visit at Thermal Power Station, Paras)

Objectives (100 words):

The Objectives of this Visit are:

- To give a great learning experience to students.
- To create a new perspective in students about their branch.
- To learn the functioning of a Thermal Power Plant.
- To fill the bridge between technical concepts taught in curriculum and industry applied concepts.
- To understand the best and sustainable practices in running a coal-based power plant.
- To strengthened the understanding of students about the concepts of Power Station Practices.
- To identify the problems (if any) in the sections/processes.

Benefit in terms of Learning/Skill/Knowledge obtained:

- Students get the practical experience of Thermal Power Plant.
- Students get the exposure of different sections and processes of the Thermal Power Plant.
- They learn the actual working of Thermal Power Plant.
- They get familiar with various processes and activities at Thermal Power Plant.
- They get the industry exposure and acquaintance with the work culture at Thermal Power Plant.

Photograph 1:



Photograph 2:



Poster:



Department of Electrical Engineering
Shri Sant Gajanan Maharaj College of Engineering, Shegaon
INSTITUTION'S INNOVATION COUNCIL

*** Organizing ***

EXPOSURE AND FIELD VISIT FOR PROBLEM IDENTIFICATION

At

THERMAL POWER STATION, PARAS



Date: 28th November 2022 (Monday)
Time: 12.00 PM to 5.00 PM

Faculty Coordinator
Mr. R. S. Kankale

Dr. S. R. Paraskar
Head, EED

Mr. P. A. Dalke
Convener IIC

Dr. S. B. Patil
President IIC

Dr. S. B. Somani
Principal



@ssgmceshegaon



@IIC-SSGMCEShegaon



linkedin.com/in/ssgmce



@AlumniSsgmce

Overall Report of the Activity:

Department of Electrical Engineering, Shri Sant Gajanan Maharaj College of Engineering, Shegaon, in association with Institution's Innovation Council & The Institution of Engineers Students' Chapter has organized a one day "Exposure and Field Visit for Problem Identification" at (2x250 MW) Thermal Power Station, Paras on 28th November 2022 for the students and faculty members of Electrical Engineering. The event was coordinated by Mr. R. S. Kankale. Around 73 students of the second year and 3 faculty members visited TPS, Paras.

The visit started with a travelling from SSGMCE, Shegaon campus to Thermal Power Station, Paras by college bus. At the entrance of TPS, Paras the briefing of safety rules was done and safety helmets were given to all visitors. The visit was guided by Mr. Gopal Chopade, Dy. Executive Engineer, MSPGCL. He arranged the visit to the plant and explained the working of different parts/sections of thermal power plant. The visitors guide accompanied students' group and showed them coal handling plant, boiler, turbine, generator, control room, and switchyard of TPS, Paras. The students learn how the coal gets into the boiler and its combustion, exhaustion and Boiler Process and Water-Steam Cycle. Students also learned that how different parameters like Pressure, Temperature, Flow, Conductivity and pH of Water and Steam is measured and maintained at standard required values. In this visit, students learn the role of Control room and how they maintain the frequency of the supply according to variable load requirement and also the specifications of different types of motor etc. It gave a new perspective to the students about their branch and strengthened the concepts of Power Station Practices. The guiding staff of Power Plant was very supportive to all students. This visit helps students in their future practical life and bring a positive change in their thinking and practical behaviour regarding Education and specially Engineering.

All students expressed thanks to the officials for the opportunity given. This trip was highly useful for the students in terms of practical knowledge about the control room i.e., control panels, boilers etc.

Ref:-CE/PRS/TPS/TSC/Ind.Visit/

NO 7 2 8 8 -

Date

25 NOV 2022

To,
The Principal
Shri Sant Gajanan Maharaj
College of Engineering,
Shegaon Dist. Buldhana


Sub: - Industrial Visit to Thermal Power Station Paras.

Ref: - 1. H.O. Letter No.- CGM/HR/Trg/No. -01627 Date 16/02/2017.
2. Y.O. Letter No. Nil Date 19/11/2022.

With reference to above, permission is hereby granted to the students along with coordinator of your college to visit TPS Paras, at their risk & cost with following condition.

Students: - 73 in one batch plus 02 Faculty Members.

1. **Date of Industrial Visit 28 November 2022 at 02:00 PM to 05:00 PM Sharp.**
2. **Students along with coordinator should report first at TSC Paras on Dt. 28.11.2022 at 12:00 Hrs. to complete the Official Formalities.**
3. **They will have to follow all Security and Safety Norms stringently.**
4. Accommodation is not available at TPS Paras.
5. **Photography in any form is strictly prohibited.**
6. **Shoes are necessary,** Chappal & Slippers are not allowed during this visit.
7. Please contact to EE(TSC) through TPS Operator Extension No. 1274.
8. List of students & Coordinators should be submitted & as per company norms Rs. 100/- plus present applicable taxes per head will have to be deposited to TPS Paras Account Office by Cash on working day against Administrative Charges.
9. Please follow the Schedule Strictly.
10. The Covid-19 Protocols will be Strictly followed during the Industrial Visit.


**Chief Engineer
MSPGCL TPS PARAS**

Copy to:-

1. Security Officer TPS Paras.
2. Sr. Manager F&A TPS Paras.

MAHARASHTRA STATE POWER GENERATION CO.
LTD.



Original

RECEIPT/PAYMENT CONFIRMATION:

Date: 28.11.2022

Cash/Money Receipt Number:801309
Accounting Document Number : 0001152298
Cash Journal Document Number : 564386
Cash journal:CJ - PARAS T.P.S.
G/L Account Number(Cash Journal):24460
GSTIN Number : 27AAECM2935R1ZV

DESCRIPTION:

From/to: THE PRINCIPAL SHRI SANT GAJANANA MA
Transaction: MISCELLENEOUS INCOME
Vendor No:
Customer No:
Personnel Number:
Currency: INR

Amount: 7,600.00
SGST: 684.00
CGST: 684.00
IGST: 0
(SGST Output 9% + CGST Output 9%)

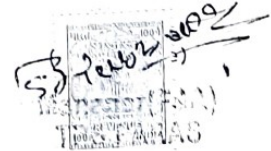
Payment Amount: 8,968.00

In words:INR EIGHT THOUSAND NINE HUNDRED SIXTY EIGHT Rupees ONLY

G/L Acc	Bus.Area	Check No.	Bank Account
62990	B130	000000000000	

Text : SRN 502 INDISTRIAL VIST TO TPS PARAS CASH

For Maharashtra State Power Generation Co. Ltd.



**SHRI SANT GAJANAN MAHARAJ COLLEGE OF ENGINEERING, SHEGAON
DEPARTMENT OF ELECTRICAL ENGINEERING**

Visit at Thermal Power Station, Paras

List of Students

Sr. No.	Name of Student	Signature
1	Ku. Aditi M. Barde	<i>Aditi M. Barde</i>
2	Ku. Amruta S. Patil	<i>Amruta S. Patil</i>
3	Ku. Ankita V. Bharambe	<i>A.V. Bharambe</i>
4	Ku. Anuksha P. Pande	<i>Anuksha P. Pande</i>
5	Ku. Anuradha S. Itkhede	<i>Anuradha S. Itkhede</i>
6	Ku. Aysha R. Jadhav	<i>Aysha R. Jadhav</i>
7	Ku. Dipika D. Sawale	<i>Dipika D. Sawale</i>
8	Ku. Gauri S. Raut	<i>Gauri S. Raut</i>
9	Ku. Gayatri B. Ingle	<i>Gayatri B. Ingle</i>
10	Ku. Jayashri K. Shetye	<i>Jayashri K. Shetye</i>
11	Ku. Kanchan K. Koyakade	<i>Kanchan K. Koyakade</i>
12	Ku. Khushi A. Ganatra	<i>Khushi A. Ganatra</i>
13	Ku. Pooja T. Ingle	<i>Pooja T. Ingle</i>
14	Ku. Pornima K. Lohakare	<i>P.K. Lohakare</i>
15	Ku. Pranali A. Asolkar	<i>Pranali A. Asolkar</i>
16	Ku. Pratiksha B. Ingle	<i>Pratiksha B. Ingle</i>
17	Ku. Prerna K. Wankhade	<i>Prerna K. Wankhade</i>
18	Ku. Reva D. Landge	<i>Reva D. Landge</i>
19	Ku. Rohini D. Deshmukh	<i>Rohini D. Deshmukh</i>
20	Ku. Roshani D. Dhole	<i>Roshani D. Dhole</i>
21	Ku. Sakshi G. Ghodke	<i>Sakshi G. Ghodke</i>
22	Ku. Sampada P. Palaskar	<i>Sampada P. Palaskar</i>
23	Ku. Shreya P. Farkunde	<i>Shreya P. Farkunde</i>
24	Ku. Shruti G. Palhade	<i>Shruti G. Palhade</i>
25	Ku. Shruti S. Bawane	<i>Shruti S. Bawane</i>
26	Ku. Vaishnavi Chanekar	<i>Vaishnavi Chanekar</i>
27	Ku. Vaishnavi G. Bhatkar	<i>Vaishnavi G. Bhatkar</i>
28	Ku. Vaishnavi K. Pesode	<i>Vaishnavi K. Pesode</i>
29	Ku. Vaishnavi M. Thakare	<i>Vaishnavi M. Thakare</i>
30	Abhay S. Nikhate	<i>Abhay S. Nikhate</i>
31	Akshay P. Dawange	<i>Akshay P. Dawange</i>
32	Aniket P. Shingote	<i>Aniket P. Shingote</i>
33	Ankit V. Wagh	<i>Ankit V. Wagh</i>
34	Anuj P. Nikam	<i>Anuj P. Nikam</i>
35	Arpit A. Giratkar	<i>Arpit A. Giratkar</i>
36	Aseer Salim Ahmed	<i>Aseer Salim Ahmed</i>
37	Ashish K. Kasdekar	<i>Ashish K. Kasdekar</i>

38	Ashish T. Gosavi	
39	Chirag A. Tiwari	
40	Darshan P. Lajurkar	
41	Dhruv D. Nishan	
42	Gaurav R. Bendarkar	
43	Manthan M. Kathane	
44	Nirmal V. Shinde	
45	Om N. Nemade	
46	Prajwal A. Khokle	
47	Prajwal S. Chincholkar	
48	Pranav P. Patki	
49	Prathamesh S. Wankhade	
50	Pratik V. Wagh	
51	Rishikesh L. Mishra	
52	Rishikesh M. Kuyate	
53	Rushikesh A. Dhandar	
54	Sadanand V. Bhonge	
55	Sanket P. Fokmare	
56	Shankar P. Bondre	
57	Shivraj G. Patil	
58	Shridutt M. Deshmukh	
59	Shubham J. Bhal	
60	Siddhant P. Deshmukh	
61	Tejas R. Khelkar	
62	Toni S. Vihirkar	
63	Uday N. Lande	
64	Vedant A. Nandekar	
65	Ku. Revati Vilas Lulekar	
66	Ku. Smita K. Watpal	
67	Om A. Adhau	
68	Shriram P. Joshi	
69	Jayesh M. Giri	
70	Ku. Samiksha A. Damdar	
71	Harsh D. Salunke	
72	Abhishek N. Banait	
73	Prasad S. Agrawal	

List of Faculty

Sr. No.	Name of Faculty	Signature
1	Mr. U. A. Jawadekar	
2	Mr. M. R. Chavan	
3	Mr. B. S. Rakhonde	

Mr. R. S. Kankale

Faculty Coordinator/ IIC Member

Dr. S. B. Patil

President IIC

REPORT ON STUDY TOUR CUM INDUSTRIAL VISIT
DEPARTMENT OF BUSINESS ADMINISTRATION AND RESEARCH
SHRI SANT GAJANAN MAHARAJ COLLEGE OF ENGINEERING, SHEGAON

A study tour cum industrial visit including twenty students from MBA I year and three faculty members was organized during 20- 21 December 2022 to the following places-

- 1- Mahatma Gandhi Institute for Rural Industrialization (MGIRI), Wardha
- 2- Center of Science for Villages, Wardha
- 3- Magan Museum, Wardha
- 4- Sevagram Ashram, Sevagram
- 5- Pavnar Ashram, Pavnar

During this visit, the aspirants had an opportunity to meet people, interact, comprehend and experience the functioning at Khadi and Textile Division, Rural Energy and Infrastructure Division, Rural Craft and Engineering Division, Micro processing and Herbal Division at MGIRI. The Senior Scientific Officer Mr. Sachin Raut and his colleagues illustrated the ins and outs of the entire institute's functioning. They further explored the possibilities of internships, projects, trainings and entrepreneurial venture possibilities matching with the Management fraternity and MBA students. A few personnel were also requested for guest talks in the department.

Different places at Sevagram Ashram like Adi Niwas (The First Cottage), Prayer Ground, Bapu Kuti (Gandhi's Cottage), Ba Kuti (Kasturba's Cottage), Akhri Niwas (The Last Abode) and the interactions with the personnel from Ashram added colors to the visit. This was distinguished, special and unique learning experience in the light of Gandhian Philosophy which is also a part of syllabus in the subject Indian Ethos and Business Ethics for MBA I year students.

Mr. Gautam Bajaj elaborated the life, philosophy, work of Vinoba Bhave at Pavnar Ashram and also shared the views on Vinoba Bhave's literature and its contemporary relevance in the context of youth. Students and faculty members participated in the everyday "Vishnusahastranam" prayer at Pavnar Ashram. The visit was also significant in the light of Holistic Approach and NEP (National Education Policy).



Industrial visit at Sevagram Ashram



Wardha, Maharashtra, India

PHQV+J2V, Maganwadi, Wardha, Maharashtra
442001, India

Lat 20.739258°

Long 78.593226°

20/12/22 04:50 PM GMT +05:30

Visit to Magan Museum, Wardha



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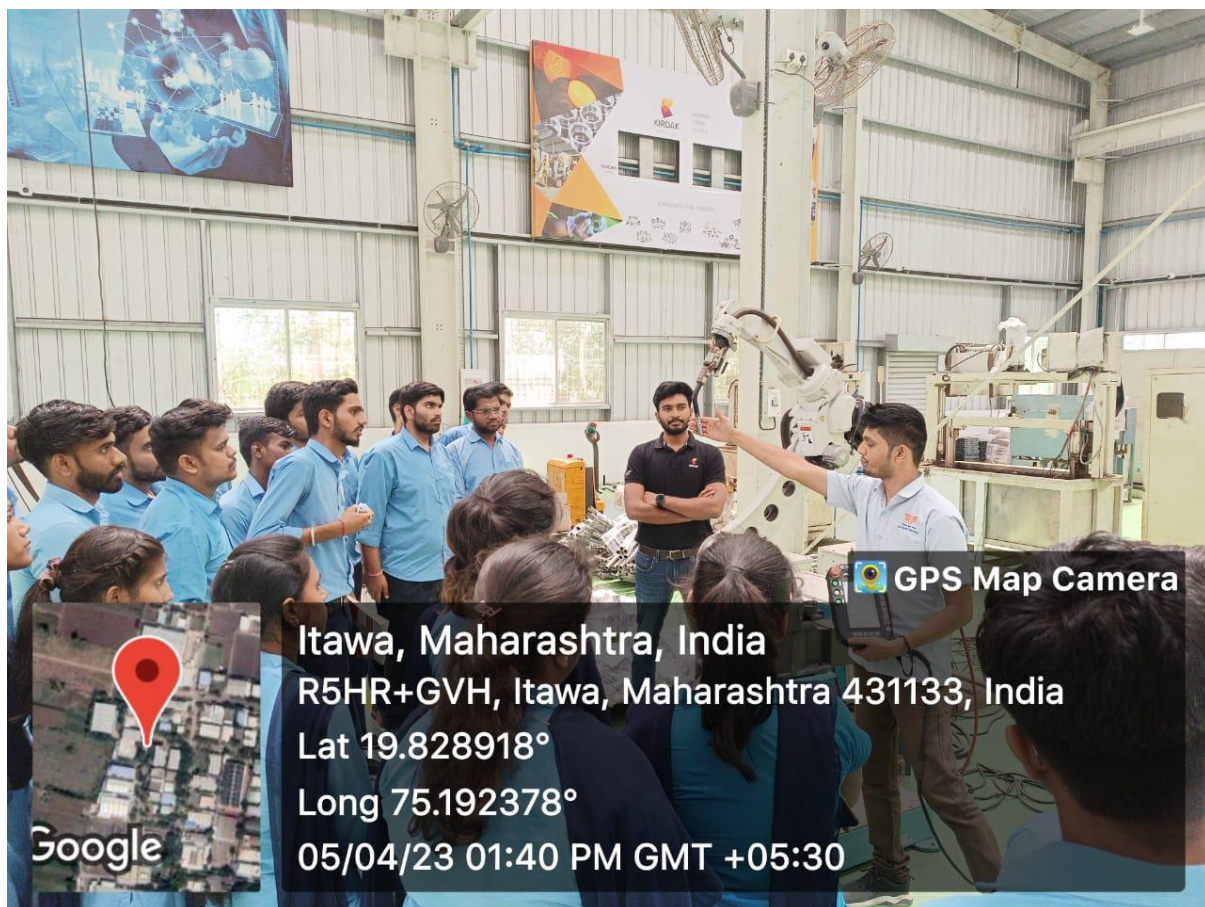
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Field Work

Third-year Mechanical Engineering students embarked on a field trip to Kirdak Pvt. Ltd., located in Aurangabad, to engage in hands-on practical sessions focused on Robotics and Industrial Applications. During their visit, they had the opportunity to immerse themselves in real-world scenarios, gaining insights into the application of theoretical knowledge in a professional setting. This experiential learning experience not only provided them with practical skills but also fostered a deeper understanding of the intricacies of robotics and its integration within industrial processes.



**Practical Conduction of Robotics and Industrial Application at Kirdak Pvt Ltd
Aurangabad**

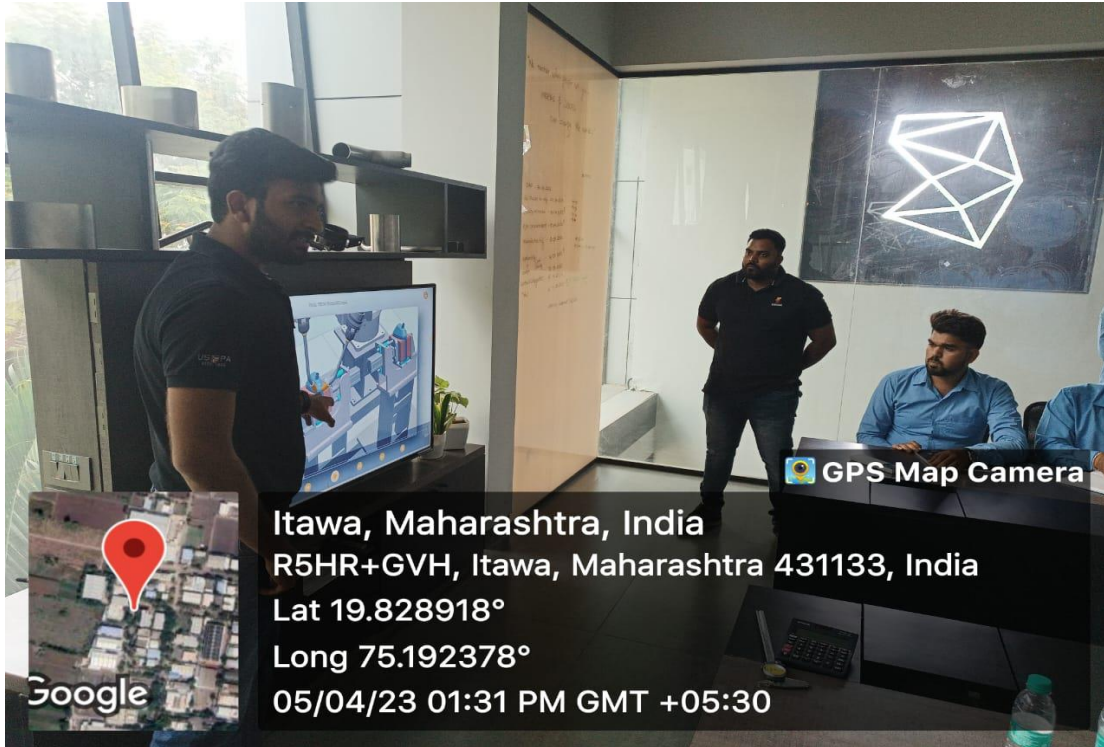


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Presentation by Experts



Shri Gajanan Shikshan Sanstha's
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Visit to Kirdak Pvt Ltd Aurangabad



Shri Gajanan Shikshan Sanstha's
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SHEGAON - 444203, DIST. BULDHANA (MAHARASHTRA STATE),
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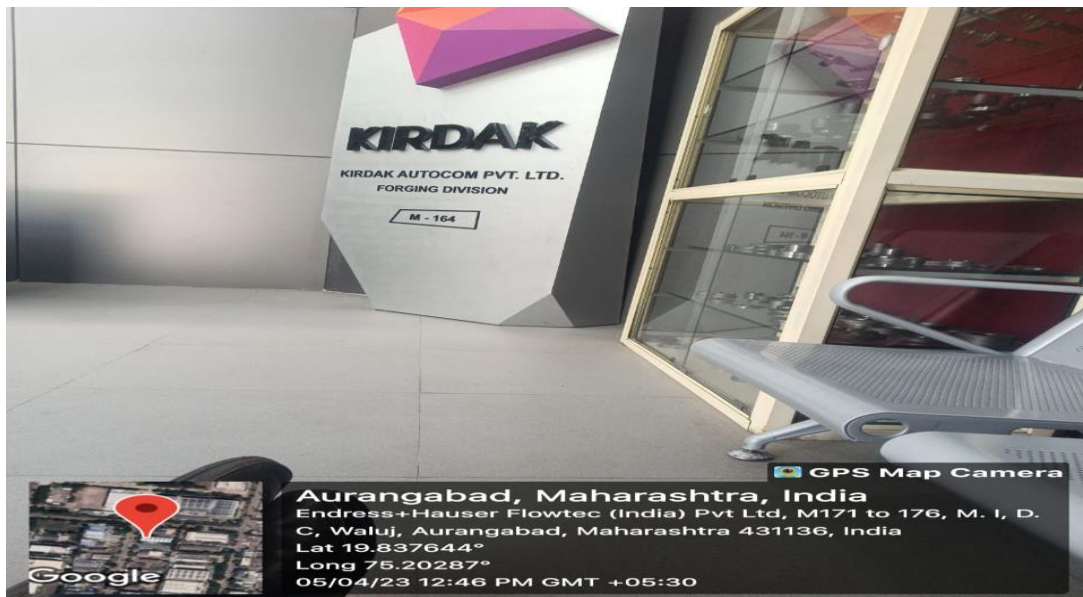
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Demonstration of Robotics Application



Kirdak Pvt Ltd

INDUSTRY VISIT PRESENTATION

ABHAY HOISTS, SHEGAON



NAME : Anushka Shyam Unhale

CLASS :1M

BRANCH : Mechanical Engineering

STUDENT ID : 307544

ROLL NO : 1

Process of making a chain

- Wire draw
- Pin cutting
- Bending
- Polishing
- Welding
- Hardening
- Tempering
- Calibration
- Proof load
- ROW
- Packing
- Dispatch

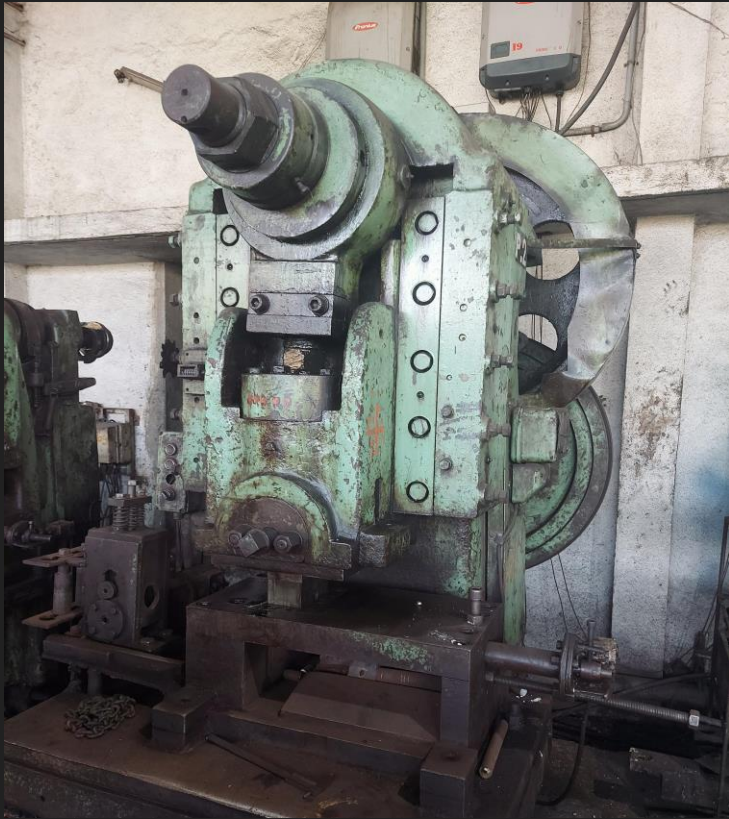


WIRE DRAW

- Draws or pulls metal wire or rod.
- To reduce cross-section area of wire.
- Size of die is predetermined



PIN CUTTING



- Machine used for cutting the rod.
- In the gives specific dimensions.

BENDING

- In this process metal is heated and then bended into the shape.
- It is heated at 300°C.



OUR TEAM





INDUSTRY VISIT.

NAME :- ASHWINI SUNIL HARAULE

ROLL NO :- 02

STUDENT ID :- 307926

BRANCH :- 1M

TO ,
A . V . PATIL SIR
(ENGINEERING CHEMISTRY)

Babuji Oil Industries.

MIDC Khamgaon

- Babuji Oil Industries is located in MIDC area Khamgaon.

- This industry established in 2021.

- Owner of industry :- Satish Rathi

- Manager :- Vinod Purohit

- There are 80 workers working in this industry.

- After going to the company we met Sanjay Tathe sir and he guided us, told us about the industry.



Date of Industry Visit :- 28/01/2023



◀ COTTON SEED OIL -

- ➔ Cottonseed has a similar structure to other oilseeds such as sunflower seed, having an oil-bearing kernel surrounded by a hard outer hull. In processing, the oil is extracted from the kernel.
- ➔ Cottonseed oil is used for salad oil, mayonnaise, salad dressing, and similar products because of its flavor stability.
- ➔ In 2019, world production of cottonseed oil was 4.45 million tonnes, led by China and India with 56% combined of the total.

Oil Manufacturing Process

Drying of cotton seed



Drying the cotton seeds for preparation of oil

Cleaning of seeds



Elevator

This elevator is used for Elevation Process. In this elevation process cotton seeds are pulled upwards in the above container. In this container presence of magnetic separator for removing tiny metallic materials, and the winnower can get rid of dust and other light impurities. Later, clean seeds are forward to next process.



Elevator



The temperature and moisture of the flakes are adjusted in the cooker and moisture measure machine to reduce gossypol content and improve crude oil quality.

Digital Moisture Machine

The cotton seeds are collecting in extracting machine after splitting. In this machine the seeds are turns round speedly, after the cotton seed grinded, machines pushed the seeds down and press with heavy pressure.



Extracting Machine

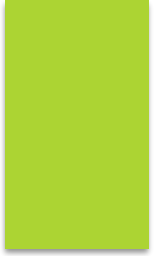


Grinding of seeds

After this process, there are two products are formed

- 1) crude oil
- 2) cotton seed cake





In this industry only crude oil are from. Industry send this crude oil to other industries for refinend it.

50 to 60 tons cotton seed cake are from per day in this industry.

The packing of oil cake is 60kg per storage bag.

There are two bag are provide

- 1) Plastic bag (Polyethylene)
- 2) jute



MAHARASHTRA ENGINEERING INDUSTRY

DIVYA SUNIL CHANDLE

ROLL NO = 03

STUDENT ID = 307740

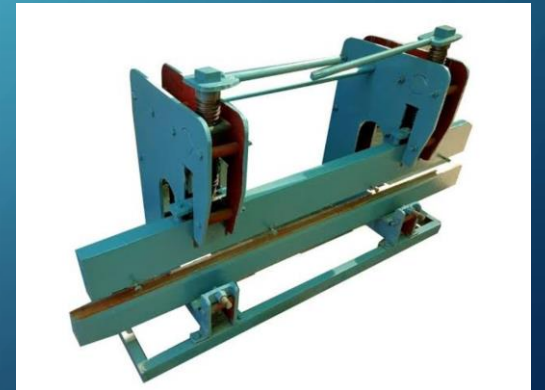
INTRODUCTION OF INDUSTRY

- Maharashtra Engineering Industry established in 2008.
- The Industry is work on Manufacturer and supplier of reversible plough, chaff cutter ,wood chipper.
- The owner of this industry is Shrikrisna chavan.



METAL SHEET BENDING MACHINE

- The sheet bending machine is mainly For the purpose of Creating a bend inside the metal sheets.
- The nature of this bending machine is Found due to an Unknown Fact which is that they are manufactured by using a Very high grade raw material.
- A sheet folding machine is referred to as an Instrument which is used to bend the objects at an any particular angle.



HOW SHEET METAL BENDING WORKS

- Sheet metal bending is the manufacturing process by which most enclosures, electrical boxes, brackets and compounds are formed through the use of a machine known as a CNC press brake.
- A bending machine can also be used, although its operation is outside the scope of these features.

INDUSTRY VISIT

Name of the industry : Babuji Oil Industries

Date of industry visit : 26-01-2023

Roll no. : 13

Year : BE 1st year

Branch : Mechanical

Class : 1M



Babuji Oil Industry is the industry is engaged in offering best grade oil to all over India. This industry was established 1 year ago. The main product of the industry is oil and oil cake.



Owner of the industry : Satish Rathi

Total no. of workers : 50

Name of the guider : Sanjay Tathe

Cotton Seeds

Cotton seeds are used in the industry for preparation of oil and oil cake for cattles. Cotton seeds is the main product used in this industry.



Conveyer and Elevator



In the elevation process the cotton seeds are bought in the upward direction . In the above container there is a presence of magnet by which the dust is removed and clean cotton seeds are forwarded for further process.



The cotton seeds are collected in a mill after splitting. This mill turns round and pushes the the cotton seeds down. Thenafter the cotton seeds are grinded and two types of product are formed .





Cotton Seed Oil and Cotton Seed Cake/ Oil Cake



Storage bags, one made up of jute and another of plastic (polyethylene)

Industrial Visit

SHREE ABHAY HOIST & ENGINEERING PVT .LTD .

Sharvari Deshmukh

Student ID-307970

Date of visit : 29th January 2023



Roll No.14

Introduction

- ▶ Shree Abhay Hoist Engineering pvt.Ltd offers Chains, Cranes, Gantry Cranes, Chain Pulley Blocks, Hoists and many more...
- ▶ Established on 4th September 1982 for foray into the business of fabricating material handling equipment
- ▶ A total of 500 employees work here
- ▶ The Chains formed here are supplied all over India especially in Indian army and also for other common purpose

Chain Block

- ▶ The Chain Block is a mechanism used to raise or lower heavy loads with relative ease



Chain block gives you the ability to lift huge loads up to 50 tonnes with ease by using mechanical advantage



Manufacturing of Chains

- ▶ Mainly the chain is made form two types of raw material



This is round bundle of iron rods
12mm -22mm of pin beeded bundle



Straight iron roads
22mm and more

Step 1

- ▶ The round bundles of iron is opened
- ▶ Then these opened bundles are straightend throug this machine where the the angle is set using dies



Bundle
Beeding
Stand



This is wire draw process



Step 2&3



- ▶ In Pin cutting process the rods are cut into small rods as such

These small rod then goes for bending process

Then these rods go for bending and welding
Welding is done with resistance welding machine
(Process shown in the video)

Material having diameter more than 22mm goes for hot bending and less than goes for cold bending

The name of welding Machine is resistance welding machine works on hydraulic Circuit

Step 4

The next process is hardening process done for the chain processed under hot welding

- ▶ In the hardening process mainly consists of passing of the formed chain through water and the chains are ready
- ▶ The hardness range is between range 44ppm to 48ppm
- ▶ After hardening process the material then goes for tempering process In which the temperature varies material wise



Step 5

- ▶ After All these processes the chain goes for electroplating Is done to prevent rusting of the material as per customer need



Step 6

- ▶ Now the chains are checked according to their size, it is checked that there are no other materials present and all the chains are joint correctly (Process shown in the video)
- ▶ Then all the chain goes for polishing and are packed to ship
- ▶ All the chains are packed in metal drums to prevent more contact of the chains with atmosphere



INDUSTRIAL VISIT PRESENTATION

NAME : SHRAVANI ANANT JOSHI
BRANCH : MECHANICAL
SUBJECT : CHEMISRTY
STUDENT ID : 307956
ROLL.NO.: 15

SHREE ABHAY HOISTS AND ENGINEERING PVT. LTD.

- ◎ IT WAS ESTABLISHED ON 4 SEP. IN 1982.
- ◎ DIRECTORS AND SIGNATORIES :
MR.DINESH PALDIWAL .
- ◎ CEO OF THE COMPANY : MR. ANIRUDH
PALDIWAL .

INDUSTRIAL PROFILE

- ◎ SHREE ABHAY HOIST AND ENGINEERING PVT. LTD FORAYED INTO THE BUSINESS OF FABRICATION MATERIAL HANDLING EQUIPMENT IN THE YEAR 1982.
- ◎ THIS INDUSTRY HAVE BEEN SERVING FOR THREE DECADES.
- ◎ THE TOTAL NUMBER OF WORKERS WORK HERE ARE MORE THAN 500.
- ◎ THIS CRANES ARE EASY TO INSTALL , USE AND RELOCATE IN ENVIRONMENT.

PROCESS OF MAKING CHAINS

- ◎ WIRE DRAW
- ◎ PIN CUTTING
- ◎ POLISHING
- ◎ WELDING
- ◎ HARDENING

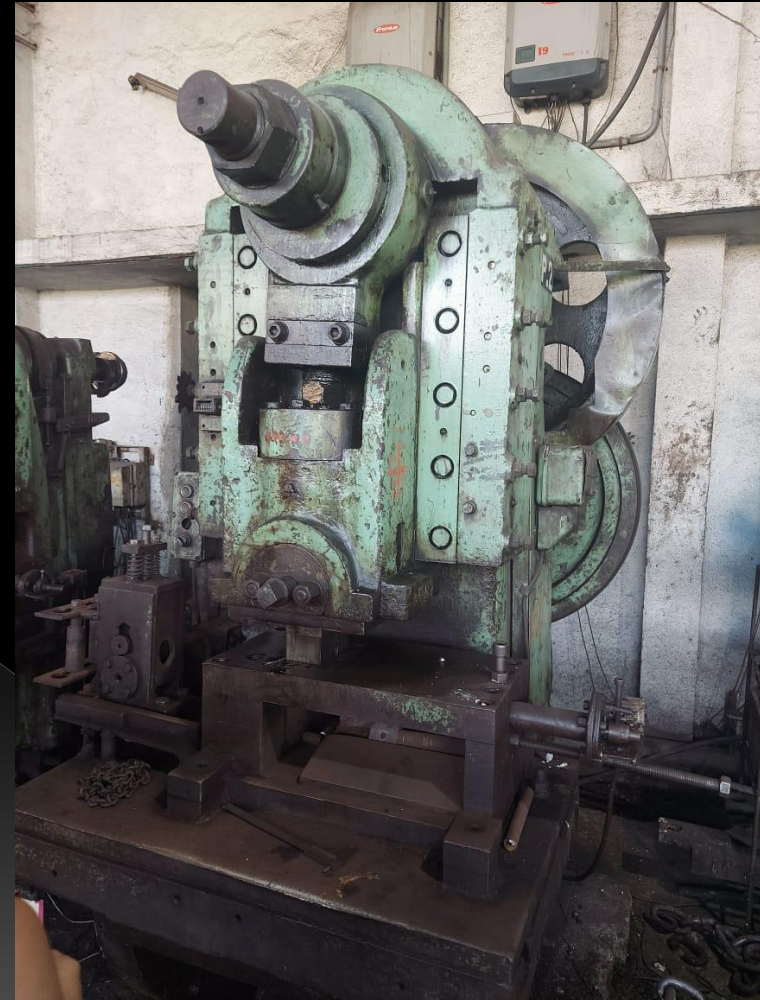
WIRE DRAW

DRAWS OR PULLS METAL WIRE OR ROD. TO REDUCE CROSS-SECTION AREA OF WIRE . SIZE OF DIE IS PREDETERMINE



PIN CUTTING

◎ MACHINE USED FOR CUTTING THE RODS .
IN THIS IT GIVES SPECIFIC DIMENSIONS.



WHAT DO I LEARN FROM INDUSTRIAL VISIT .

- ◎ IT GIVES ME AN EXPOSURE TO CURRENT WORK PRACTICES AS OPPOSED TO THEORETICAL KNOWLEDGE.
- ◎ IT PROVIDES THE OPPORTUNITY TO LEARN PRACTICALLY THROUGH INTERACTION, WORKING METHODS AND EMPLOYMENT PRACTICES.

Sneha Gite

- Class : 1 M
- Roll No. : 17
- Student id : 307556
- Subject : Industrial visit

Shree Abhay Hoists And Engineering Pvt . Ltd.

- Established year :
4 September 1982
- Directors and signatories : Mr. Dinesh Paldiwal
Mrs. Archana Paldiwal
- CEO Of Company : Mr. Anirudh Paldiwal



INDUSTRIAL PROFILE

- Shree Abhay Hoist And Engineering Pvt. Ltd forayed into the business of fabrication Material handling equipment in the year 1982.
- The industry have been serving the industry for over three decades , with sales , services and manufacturing facilities in Shegaon , Maharashtra .
- This cranes are easy to install , use, and even relocate in the work environment . The range is highly demanded by material handling equipment manufacturing/trade , material handlers, and any industry which needs overhead or any industrial cranes for material handling in house as well as outdoor.
- The total number of employees work here is 500 and more.

Process for making chains

1. BENDING



A machine tool to shape spatial workpiece from flat or rod shaped initial material without cutting
EG: Metal plates, strips ,rods , tubes.

2. WIRE DRAW



The wire drawing machine, manufacture wire drawing . Part of the steel wire rod as raw material and reduce diameter as much as want.

3. ELECTRO PLATING



Electro Plating Machine is use to improve the surface quality of object---such as corrosion.



4. Resistance welding machine

It is use for joining two metal .It consists of a welding head, which hold the metal between its electrodes and applied pressure , and a welding power supply which applies electric current to the metal to be welded.

5. TEMPERING



The process of improve the characteristics of metal ,especially steel by heating it to a high temperature , through below the melting points air then cooling it , usually in air.

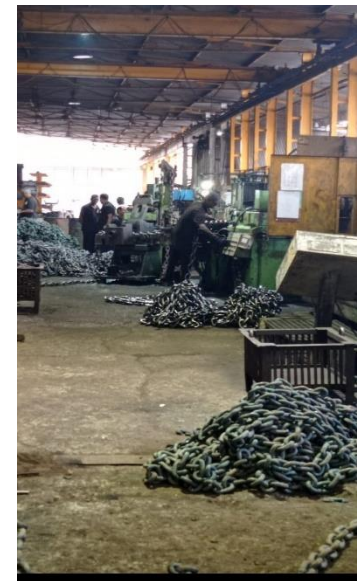
6. HOT BENDING AND COLL BINDING



7. PORT LOAD



8. PACKING AND DISTPACH



SOLAR PLANT

- THE PLUS POINT OF THIS INDUSTRY IS THIS INDUSTRY MOSTLY WORK ON SOLAR PLANT
- IT SAVE THE LOTS OF ELECTRICITY AND EVEN IT SUPPLY ELECTRICTY TO MSCB



THANK YOU



MAHARASTRA ENGINEERING INDUSTRY

SONAL.D.DONGRE

ROLL.NO : 18

STUDENT ID : 307741

DATE OF VISIT : 26 JANUARY

CLASS : 1 ST YEAR ; BRANCH: MECHANICAL



Edit with WPS Office

INTRODUCTION TO INDUSTRY



- ✘ Maharashtra Engineering Industry established in the year 2008 . The industry works on the manufacturer and supplier of reversible plough, chaff cutter, wood chipper. The owner of this industry is Shrikrisna Chavan .



WELDING MACHINE

- ⊠ An arc welding machine is a device used for fusing metals . The machine emits an electrical arc from an electrode which melts or supplies filler into a joint between two pieces of metal .
- ⊠ To produce the temperatures up to 3,600 C needed to fuse metals , arc welding machines consume significant quantities of energy .



HOW IS WELDING USED IN INDUSTRY

- ⊠ Welding is an essential component of many industries such as the automotive industry , the construction industry , and more
- ⊠ Without this form of metal work , so many things , including many buldings , gates , and fences , small kitchen appliances , vehicles and even space travel would not exist .



Thank you



Edit with WPS Office

MAHARASTRA ENGINEERING INDUSTRY

TEJSHVINI .U.SANGOLE
ROLL NO =21
STUDENT ID=307936

Introduction of Industry

- Maharashtra engineering industry established in the year 2008 . The industry is work manufacturer and supplier of reversible plough , chaff cutter ,wood chipper. The owner of this industry is krisna chavan.



Metal cutting chop saw

- ⦿ A chop saw is a machine tool with rotating abrasive wheel fixed on a hinged arm that is brought down on a fixed workpiece to make the cut .
- ⦿ This power saw is mainly used to cut off workpieces into the size and hence it is also called cut off



How to use a chop saw ?

- The cutting tool used on a chop saw is an abrasive disc that is fixed on a swing arm. Switch on the cutting blade using the trigger on the handel and pull the head down.

MAHARASHTRA ENGINEERING INDUSTRY REPORT

vaishnavi .A. Deshmukh

Roll no = 23

student ID = 307939

Information About The Factory

- The name of the factory Maharashtra Engineering Industry . Which is established (2000) . The owner of the factory is Shrikrishna chavhan . In this factory 30-40 workers are work .



Function of air compressor .

- An air compressor is a pneumatic device .
- That converts power (using an electric motor, diesel or gasoline engine power.
- Into potential energy stored in pressurized air (compressed air)
- By one of several methods, an air compressor forces more and more air into a storage tank, to increase the pressure .



Positive displacement

- Positive displacement compressor compresses the air by the displacement of a mechanical linkage . So volume is reduced and pressure is increases .

Dynamics or steady flow

- Dynamics compressor are rotary and continuous flow machines in which the rapidly rotating element accelerates the air as it passes through the element .
- Converting the velocity head into pressure, partially in rotor and rest in diffuser .

A photograph of an industrial facility, likely a refinery or chemical plant, with a complex network of pipes, scaffolding, and large storage tanks. The scene is captured from a low angle, looking down a long, straight walkway that leads towards the center of the plant. The sky is a clear, bright blue with some light, wispy clouds. The overall lighting is bright and sunny, creating a warm, golden glow in the lower half of the image.

INDUSTRIAL VISIT REPORT MAHARASHTRA ENGINEERING WORKS

VISITOR :VAISHNVI SHIVHARI MIRGE


ROLL NO. : 25

SPECIAL GUIDENCE,

PROF.A.V.PATIL SIR

VISIT DAY: 26 JANUARY 2023

STUDENT ID : 307886



INDUSTRIAL VISIT PRESENTATION

TEC



ROLL NO:26

STUDENT ID NO : 307618

BRANCH: MECHANICAL (1M)

PROF.A V PATIL SIR



IN INDUSTRY



- START
- BAR CUTTING
- BAR HEATING

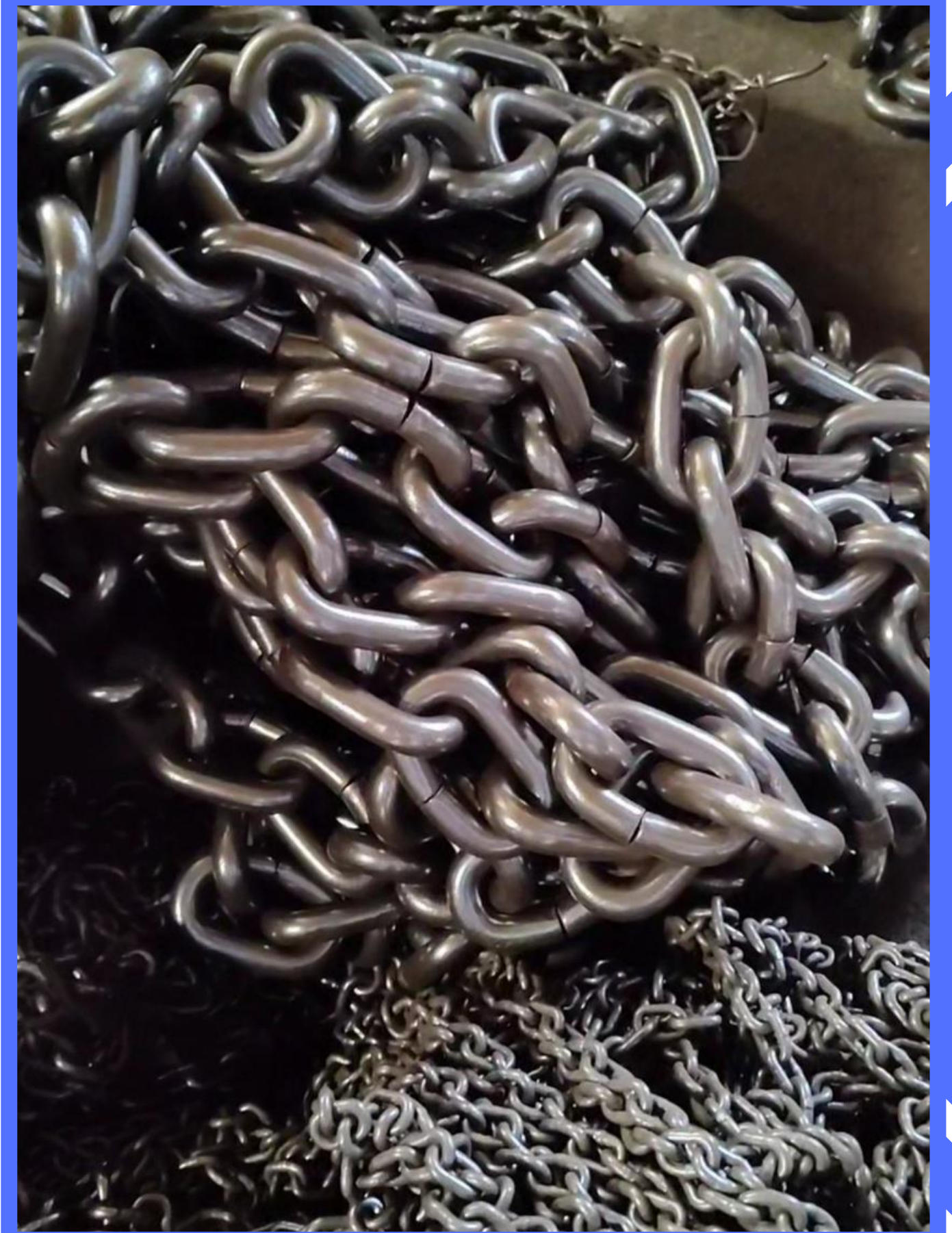
- DESCALING
- CHAIN MAKING
- INTERMEDIATE INSPECTION

- STUD WELDING
- HEAT TREATMENT
- PROOF LOAD TEST
- FINAL INSPECTION
- PACKAGING.

INTRO

WORLD QUALITY CHAINS ARE BORN FROM THE HIGH-LEVEL QUALITY MANAGEMENT SYSTEM OF SHREE ABHAY HOISTS & ENGG. PVT. LTD.

Below is the introduction of the manufacturing process.



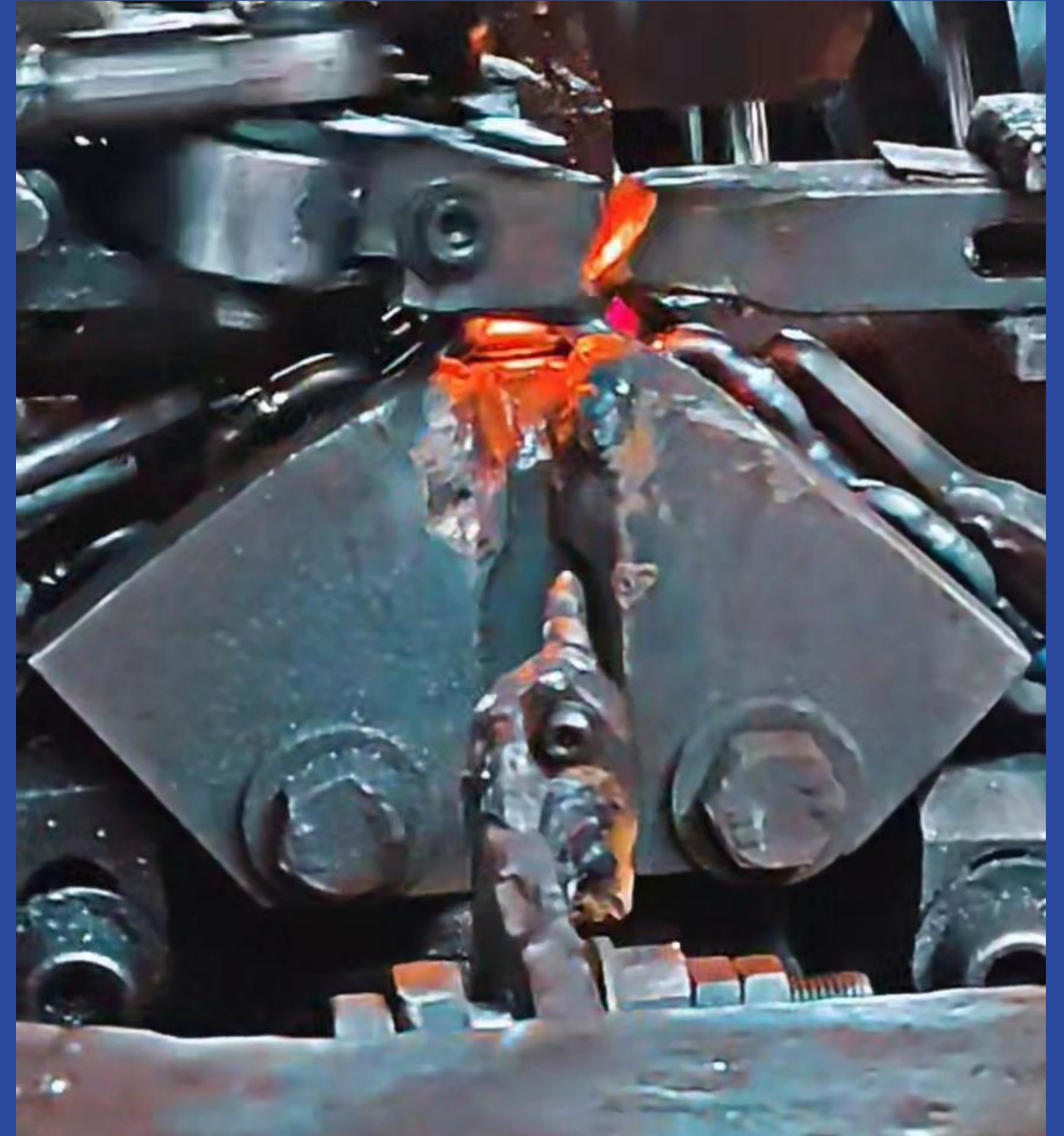
BAR CUTTING

Round steel bars for chains that just arrived from a steel manufacturer are cut to required lengths.



BAR HEATING

They are heated to be processed into the shape of chain links. Rotation is applied while heating, so that steel is heated uniformly.



CHAIN MAKING

Long chains are manufactured by implementing the processes in the order of: BENDING → WELDING → TRIMMING → ALIGNMENT & STUD SETTING → / BENDING→



BENDING

Heated steel bars are bent into the shape of chain link. During the first process workpieces are bent into the shape of the letter J, during the second process ? into the shape of a C. When being bent into the C-shape, the link is connected to the previous chain link.



Bending process

FLASH BUTT WELDING

We conduct flash butt welding, one of our special processes, on the end surface of a link bent into the C shape. In this process, a flash is generated at the end surface and heat is applied, then once the whole piece is in a molten state, the welding is finished by pushing the ends together. Various parameters of each link such as voltage, current, time, etc. are controlled by a computer.



HEAT TREATMENT

We perform vertical continuous heat treatment, which is our special process. QUENCHING and TEMPERING are done continuously by passing chain links through a vertical furnace. By making this a continuous process, it is possible to apply heat treatment of uniform quality to the entire chain. This process determines the strength and toughness of the chain, so it is a very important process.



Hardening process

FINAL INSPECTION

Visual confirmation, non-destructive tests and size measurement to all chain items underwent the proof load testing for any flaw as the final inspection



Checking strength of chain

SHIPPING

Chains that have gone through all inspections are painted and shipped.



INDUSTRIAL VISIT

DATE OF VISIT :- 02/Feb/2023

HORIZON PACKS PVT LTD, KHAMGAON

- NAME –ABHISHEK NIMBALKAR
- BRANCH- 1M[2022-2023]
- STUDENT ID- 307743
- ROLL NO- 28

➤TO :- A.V.PATIL SIR



On 02-Feb-2023 I went for industrial visit, at Horizon Packs Pvt. Ltd.



HORIZON PACKS

Are the leading players in the field of CORRUGATED BOX PACKAGING in India. with corrugated box factories at 10 location all over India, & Backing over 30 yrs of experience in the feild. HPPL meet the challenging demand of their customers effectively. HPPL currently convert (1,80,000) tons of paper per annum. Horizon pack has one factory in Khamgaon MIDC. It is started in 1997 with the semi-automatic machines. But now they have upgraded plant with fully automatic machines.

*BOILER

Machine name:- Boiler

Make:- Thermax works Pune.

Capacity:- 2 ton (steam)

Fuel:-Wood / Briquette

Function:- To generate steam to run the corrugation plant.



3/5 PLY AUTOMATIC MACHINE CORRUGATION PLANT

Make:- JS machine

Capacity:- 100 meter per min
to make corrugated board.



COLOUR PRINTING MACHINE

3 colour Printing machine with die cutter & slotter with auto stacker.

Dongfang Topra 1228

Capacity:- 8000 to 15000 box per hour depend upon box size

Board size:-

1200 mm width

2800 mm length



*AUTO STACKER

Box Conveyer & Stacker.



FINAL PRODUCT



Pears box are importing to Australia and Newzealand

QUALITY CONTROL :-

Checking online & fine tuning of box dimension on daily basis.

- 100% Rejection free supplies of boxes
- Fully equipped QC lab
- GSM tester (Gram Square Meter)
- Caliper Tester



ESTEEMED CUSTOMER:-

- Hindustan Unilever Limited(HUL)
- Colgate - Palmolive
- Johnson & Johnson Ltd



ETP PLANT

Sewage Water / Ink / Starch
Purification to give pure water.



MAN POWER:-

- *Employment to 150 workers
- *Trained man power available
- *Local training given at factory level.



FLOW CHART

Boiler (Thermax Pune)



Automatic board plant



4 Colour printer slotter , die cutter
with stacker (Dongfang Topra 1228)

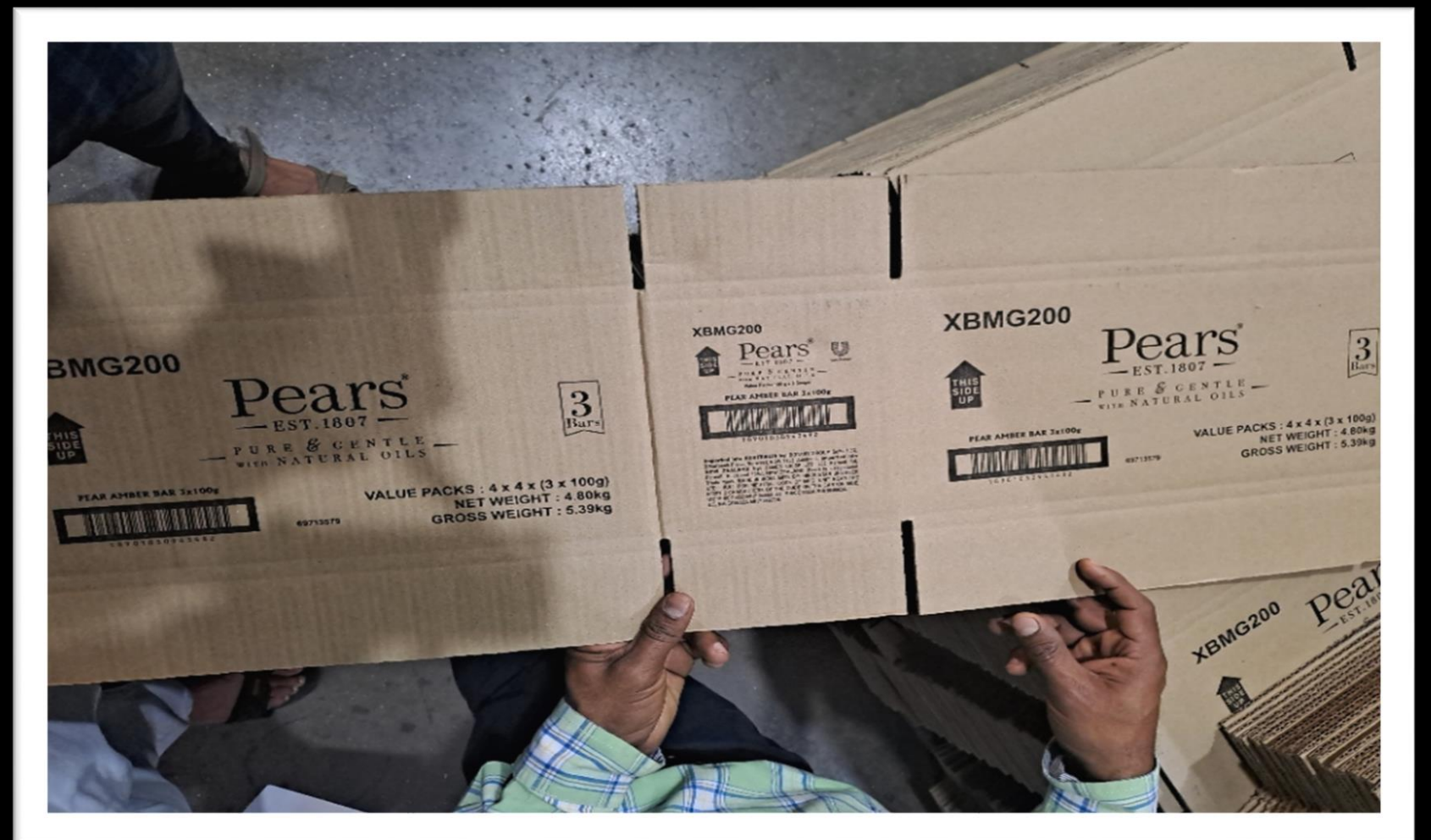


Auto stapling cum gluer (Insun)

Auto Bundling machine (Transpack)



FINAL PRODUCT



**NAME OF INDUSTRY : UTTAM INDUSTRIES
PVT. LTD.**

Date of visit : 30 JANUARY 2023

Name : ABHISHEK RAJESH SHELKE

Branch : IM 2022-2023

Student ID : 307539

Roll no. : 29

Directed by : Prof. A.V. PATIL SIR

UTTAM INDUSTRIES PVT. LTD.



➤ INTRODUCTION

- Industry started in 2006.
- CEO of industry : Mr. Kunal Deshmukh.
- Location of industry : MIDC Phase-3 and Phase-4, Akola.
- This industry belongs to manufacturing sector.
- Production per day : 50-100 coolers.
- Work force of the industry : 55.
- Turn over of industry : 50 million.

❖ STEP 1 : RAW MATERIAL

- Raw material is imported from *TATA Steel* and *Jindal Steel*.
- Dimensions : length-100 m
Width – 1m
Thickness- 0.5 mm



❖ STEP 2 : WASHING OF RAW MATERIAL

- Raw material is washed in washing tub by dilute acid solution like H_2SO_4 and HCL .
- Material is washed for 10-15 mins.



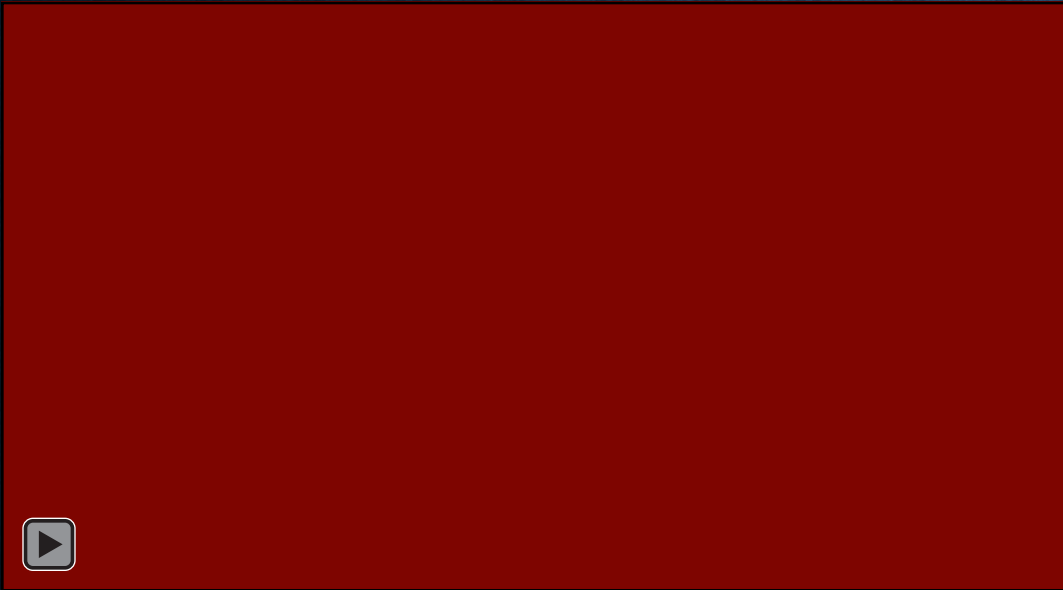
❖ STEP 3 : CUTTING OF RAW MATERIAL BY CNC MACHINE

- Machine is imported from Gujarat.
 - Cost of machine : 7.5 lakhs.
- Capacity of machine : 200-250 parts per day.



❖ STEP 4 : MOULDING OF MATERIAL

Manual Machine



Semi Automatic Machine



❖ STEP 5 : MAKING STRUCTURE OF COOLING PAD



❖ STEP 6 : WELDING THE COMPLETE STRUCTURE OF COOLING PAD



❖ STEP 7 : COLOURING OF COOLING PAD



STEP 8 : FILLING WOOD WOOL IN THE COOLING PAD



CONCLUSION

- How an industry works.
- We learn that how the air cooler is made.
- First the raw material is cleaned and cutted into required shapes.
- Then material is moulded to form a primary structure of cooler.
- Then the welding and colouring of cooler parts.
- Then colouring the structure of cooler by powder coating and heating, to get a perfect colour coating.
- Then after feating and fixture, the final product is ready to sale.

Thank you



INDUSTRY VISIT

SHREE ABHAY GROUPS OF COMPANIES



NAME : ADINATH MANGESH GOGATE
Roll no : 30
Student id : 307540
Class: 1M (1ST YEAR Mechanical)



Faculty: A.V. PATIL

Introduction to Industry

On 31st Jan we visited **Abhay Industry**

- It's a Manufacturer traders company
Also a supplier of Mild steel chains,
stainless steel chains, Alloy steel chains
Grade 80/ Grade 100 Etc.
- That increase the value And
effectiveness of clients business.
- 100-150 workers work here.
- They produce 2.5 tons of chains if all
machines are working.



Steps To Make A Chain

- 16mm to 32 mm

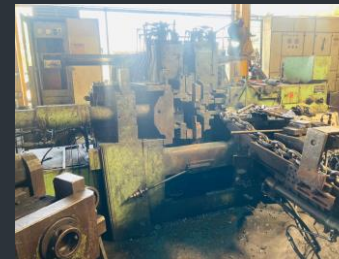
- 1) Wiredraw
- 2) Cutting
- 3) Bending
- 4) Polishing
- 5) Welding
- 6) Hardening
- 7) Tempering
- 8) Caliberation
- 9) P.L (Proof Load)
- 10) Row (Manual Checking)
- 11) Packing
- 12) Dispatch



Raw Material



Wiredraw



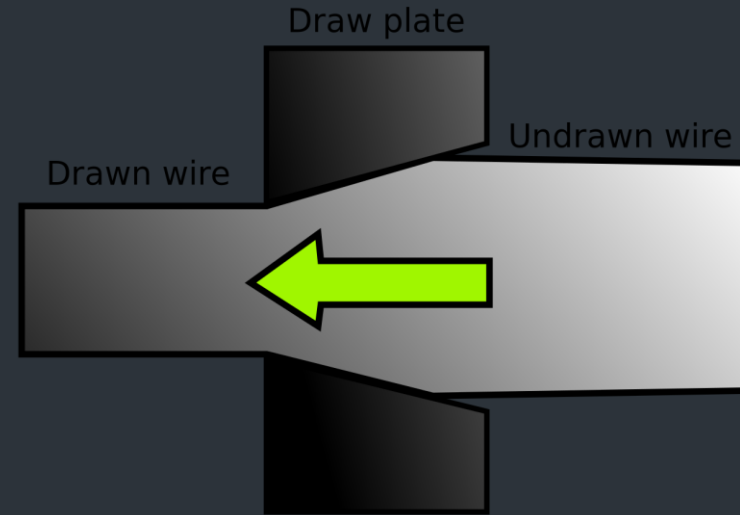
Welding



Cutting

WIREDRAW

- The wire-drawing process consists of **pointing the rod, threading the pointed end through a die, and attaching the end to a drawing block.**
- The block, made to revolve by an electric motor, pulls the lubricated rod through the die, reducing it in diameter and increasing its length.



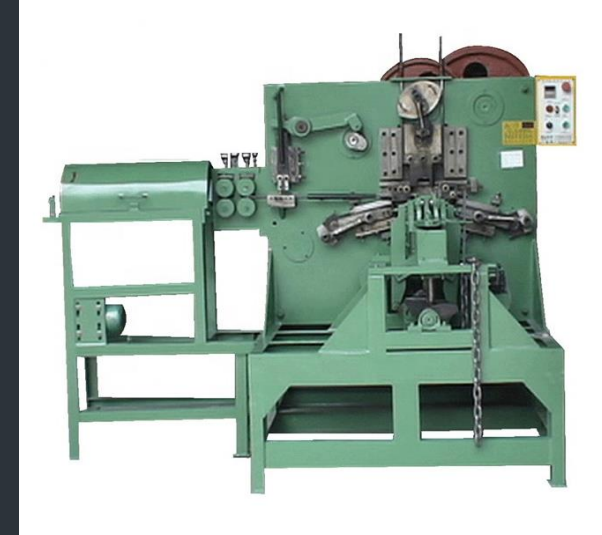
PIN CUTTING

- Pin manufacturing involves **the use of machines and tools to cut, shape and polish metal pins to their final form.**
- After cutting pins are sent to bending machine for next step of making a chain.



BENDING

- The link chain bending machine is used for making **dimensionally accurate and evenly bent chain** in continuous operation.
- The machines used in **Abhay Cranes** cost over 5lakh INR.



POLISHING

- Polishing is the process of creating a smooth and shiny surface by rubbing it or by applying a chemical treatment, leaving a clean surface with a significant specular reflection.
- Polishing is often used to **enhance the appearance** of an item, **prevent contamination** of instruments, **remove oxidation**, create a reflective surface, or **prevent corrosion** in pipes.

WELDING

- After going through the bending machine, the unwelded chain passes through the welding machine.
- Chain Welding Machine is used to weld the bending round ring, which will make the chain can **not separate** from the gauge.
- KSA-23 AND KSA-250



KSA 250

HARDENING

- After going through the welding process the welded chain goes through a process called **hardening**.
- The hardening process consists of heating the components above the critical (normalizing) temperature and cooling at a rate fast enough to allow the material to transform to a much harder, stronger structure, and then tempering.



TEMPERING

- After going through the hardening process, the hardened chain passes through tempering in order to reduce the strength so that we can adjust length of the chain.
- Tempering is **a process whereby a metal is precisely heated to below the critical temperature, often in air, a vacuum, or inert atmospheres.**
- This process determines the strength and toughness of the chain, so it is a very important process.

CALIBRATION

- After tempering, calibration process is done.
- The goal of calibration is **to minimise any measurement uncertainty by ensuring the accuracy of test equipment.**



P.L (PROOF LOAD)

- In this step the chains are sent in a machine which applies load on it to test the strength of the chain.
- Proof loads are **the tension the anchor chain is pulled to “proof” or certify the actual strength of any given chain, usually up to twice the normal working loads.**
- If the chain breaks its sent back to manufacturing process.



ROW

- It is same as caliberation but its done manually by workers.
- Workers manually check for any faults or issues like broken pins or damaged/inaccurate chains.
- If found its sent back to respective machines for repairing depending on the damage.

PACKING

- After tempering, caliberation process is done.
- The goal of calibration is **to minimise any measurement uncertainty by ensuring the accuracy of test equipment.**



DISPATCH

- It is same as caliberation but its done manually by workers.
- Workers manually check for any faults or issues like broken pins or damaged/inaccurate chains.
- If found its sent back to respective machines for repairing depending on the damage.



INDUSTRIAL VISIT

SHREE ABHAY HOIST & ENGINEERING PVT. LTD

VISIT DATE :- 28/01/2023

GUIDED BY :- ABHIJEET SAVATRE

NAME :- AKASH SURALKAR

ROLL NO :- 32

BRANCH & YEAR :- 1M 2022-23

STUDENT ID :- 307824



INTRODUCTION

Established :- 1982

Business type :-Manufacturer, Exporter, Trader and Supplier

Sales Volume:- 20 Crore

Turn over :- 500 crore

No. of Staff :- 40

CEO :- Mr. Anirudh Paldiwal

Vice President :- Mr. Bharat Paldiwal

Major Clients :- Hercules Hoists Ltd ,Tractel Tirfor India Pvt. Ltd , JSW Steel Ltd.

Address :- S.NO-343, 5, Khamgaon road, SBI colony,
Shegaon, Maharashtra 444203.

Raw Materials

1) Stainless Steel

form of steel containing chromium, resistant to tarnishing and rust.

2) Mild Steel

The simplest steels are iron (Fe) alloyed with carbon (C) (about 0.1% to 1%, depending on type)

3) Alloy Steel

Alloy steel is steel that is alloyed with a variety of element in total amounts between 1.0% and 50% by weight to improve its mechanical properties

Raw Materials Type

1) Bar Type

More than 15mm Diameter steel are present in bar type (20-32)mm

2) Coil Type

10 to 18mm radius steel are present in coil type.

Removal of Corrosion

Why it is necessary to remove corrosion of raw material ?

Corrosion degrades the useful properties of materials and structures, including strength, appearance, and permeability to liquids and gases. Corrosion is electrochemical in nature because corrosive chemical reactions involve a transfer of charge.

→Used Machine :-Wire draw

→Capacity :-60-80 rod per minute

→One rod :-10 meter

Cutting Section

Used Machine :-Hydrolic Press Cutting Machine
made in Germany by Hans-Leeffer Pvt.

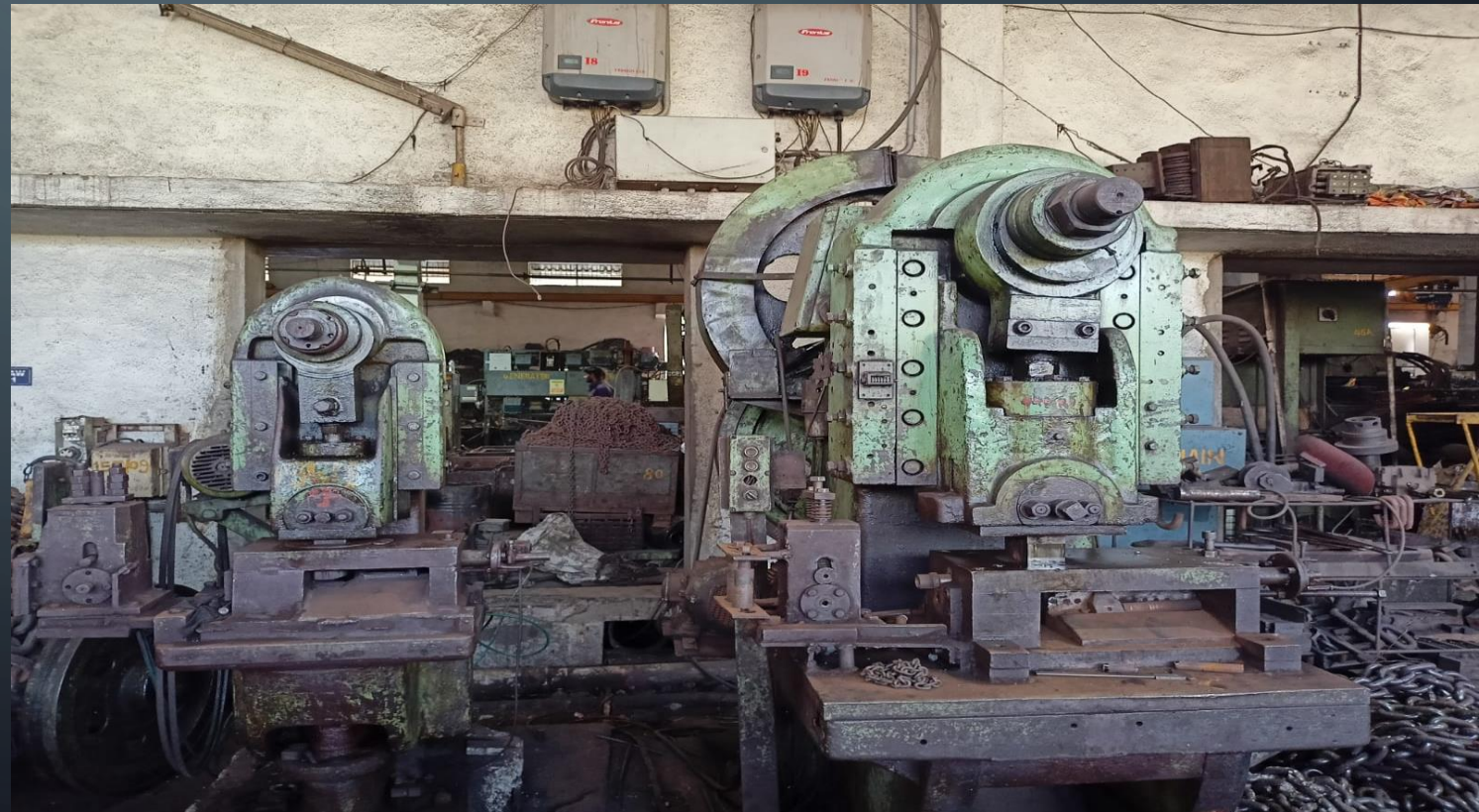
Ltd

No. of Person required :-2 persons min

Capacity :- 50kg per Hour

Length of Rod :-50kg per hour

Size of Rod :-30mm to 22mm.



Bending Section

Hot Bending :-

It is process by which in the form of tubes, pipes, bar, or rods is softened by heat to allow the material shape to be altered to exact specification. It is also known as induction bending and incremental bending ,this technique relies on high heat to create bends.

It is Semi Automatic machine which is used for bending the metal rods of 10 to 20 mm

It required minimum 3 people for operating the machine



Cold Bending

It is also known as roll bending because of the process most commonly used to bend metal that hasn't been heated. Roll bending is accomplished using mechanical jig that uses three rollers to bend metal into circular arc.

It is operated by CAM process

It is semi-automatic machine used for bending 20-30mm diameter material .

It required minimum two people to operate the machine.



Welding

Used machine :-resistance weld machine fully hydrolic made in germany by meyer roth and pastor

It is used for welding 20-30mm steel or metal rod

Hardening

Used machine :-Inducto heat made in Madison heights united states.

It is fully automatic machine and it uses water as a coolent .

It required minimum one person to operate the machine



Tempering

Used machine :-Under ground furnance

It works in maximum temperature 0-600 degree celcius .

It requires minimum time of 3-9 hours .

It reduces hardness and plasticity and elasticity increases.

Calibration

Hear metal chains are checked and often they are calibrazed as per requirement.

used machine :-calibrazor made in Germany and introced in 2001.

It require minimum 2 person to operate the machine .

the minimum diameter is 16-30mm .



Electroplating

It is a process for producing a metal coating on a solid substrate through the reduction of that metal by means of a direct electric current.

Here electroplating occurs which protects our metal from environment also from corrosion.

Used machine :- Electro plating lines

Used chemical :- HCL, nitric acid.



Testing And Row

Here testing at the final product are occurs.

Here we can find 1)Hardening 2)melability
3)Breakpoint 4)Plasticity
5)Elasticity

Roll on Wheel Test :-

Here manually final product are checked such as welding damage, sharp edge/corner, rusting.



Rotatory Drum

Here Rotatory drum are used for polishing the final product.

Machine used:- Rotatory drum, wood dust, leather.

Minimum time required :-1-2 hour

It is fully automatic machine.

Capacity:-200-300 kg at a time.



Packing

Here chains are packed as their different types from 6 to 32mm diameter. Chains are packed in wooden box and also in oil drum. Before rusting oil are apply to the chains for prevent from rusting.



INDUSTRY VISIT

SHREE ABHAY GROUPS OF COMPANIES



NAME : Aman Rameshwar Ramagade
Roll no : 33
Student id : 307979
Class: 1M (1ST YEAR Mechanical)



Faculty: A.V. PATIL

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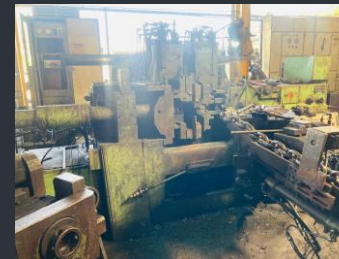
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Raw Material



Wiredraw



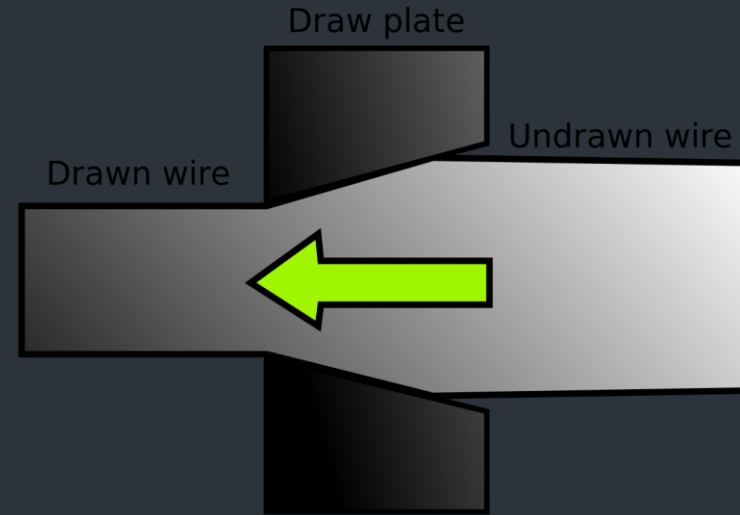
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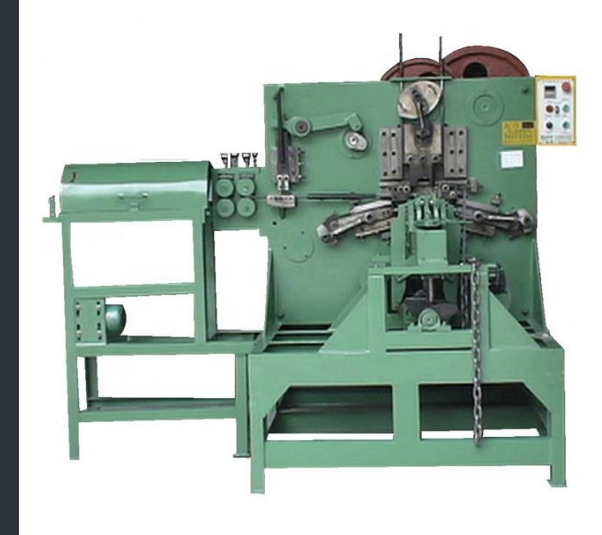
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TEMPERING

- After going through the hardening process, the hardened chain passes through tempering in order to reduce the strength so that we can adjust length of the chain.
- Tempering is **a process whereby a metal is precisely heated to below the critical temperature, often in air, a vacuum, or inert atmospheres.**
- This process determines the strength and toughness of the chain, so it is a very important process.

CALIBRATION

- After tempering, calibration process is done.
- The goal of calibration is **to minimise any measurement uncertainty by ensuring the accuracy of test equipment.**



P.L (PROOF LOAD)

- In this step the chains are sent in a machine which applies load on it to test the strength of the chain.
- Proof loads are **the tension the anchor chain is pulled to “proof” or certify the actual strength of any given chain, usually up to twice the normal working loads.**
- If the chain breaks its sent back to manufacturing process.



ROW

- It is same as caliberation but its done manually by workers.
- Workers manually check for any faults or issues like broken pins or damaged/inaccurate chains.
- If found its sent back to respective machines for repairing depending on the damage.

PACKING

- After tempering, caliberation process is done.
- The goal of calibration is **to minimise any measurement uncertainty by ensuring the accuracy of test equipment.**



DISPATCH

- It is same as caliberation but its done manually by workers.
- Workers manually check for any faults or issues like broken pins or damaged/inaccurate chains.
- If found its sent back to respective machines for repairing depending on the damage.





INDUSTRY NAME :- UTTAM INDUSTRY PVT.LMT, AKOLA

NAME :- AMIT WANKHADE

BRANCH :- MECH 1ST YEAR

ROLL NO:- 34

STUDENT ID :- 307626

DIRECTED BY:- PROF A.V PATIL

INTRODUCTION OF COMPANY



- Company started in 2006
- Founder of this company is Mr. Kunal Deshmukh
- This industry belongs manufacturing sector .
- Industry area is 3 Acer.
- Production per day is 30 but based on order..
- Manpower of industry 50..
- Turnover of industry is 5cr..

UTTAM INDUSTRY PVT. LMT



RAW MATERIAL SECTION..



(Stainless steel sheet)

- ❖ This stainless steel sheets import from tata steel , Gujrat..
- ❖ Size :- length 100m, thickness :-0.5mm.

CUTTING SHEET IN SHEETCUTTER...



MAKINGH PROCESS ..



CUT SHEETS



GAS WELDING MACHINE



SPIRAL SEPRATPORS..

USES OF SPIRAL SEPERATER

- THIS SPIRAL SEPARTER IS USES IN FARMING WORKS ...
- SPIRAL SEPARATOR ARE USED IN THE SEED INDUSTRY FOR SEPRATING GOOD SOYABEANS FROM SPLIT OR WOOD SEED ..
- SPIRAL SEPRATOR ARE OFTEN USE IN INDUSTRY APPLICATIONS LIKE , SEPARATING METALS ,METAL SHOTS ,CREMIC BEADS ETC....

CUSTOMER ...

- GOVERNMENT OF MAHARSTRA ..



CONCLUSION..

- HOW TO INDUSTRY WORK AND
- HOW TO MAKE SPIRAL SEPARTER ...

..ASHA POLYMERS INDUSTRY..

STUDENT ID:-307530

CLASS :- 1 MECHANICAL



❖ INTRODUCTION:-

❖ NAME OF THE INDUSTRY:-ASHA POLYMERS (MAT INDUSTRY)

❖ OWNER NAME:- PRASAD KOLI.

❖ AREA OF INDUSTRY:- 2 Acre.

❖ INCOME:- 5 LAKH

❖ NO. OF WORKERS:- 20 DAY, 10 NIGHT

❖ DISTRIBUTER:- NAGPUR,AURANGABAD,RAIGAD,PUNE

❖ SURAT ETC.....

❖ PRODUCTION:- DAILY 70 PIECE OF MAT...

❖ PROCESS OF MAKING MAT..

1.GRINDING :-

2.STUTER MACHINE:-

3.AGLO MACHINE:-

4.CUTTING:-

5.TAPING:-

6.FINISHING:-

7.BUNDLE PACKING:-

8.READY TO SALE:-

Aglo machine



Stuter Machine



..Cutting..



.Taping.



.. Finishing ..

..Packing..



Ready To Sell



➤ WASTAGE..

WASTAGE OF CUTTING IS INSERTED IN AGLO MACHINE ,THEN AGLO MACHINE FORMS A SEED ..

THIS SEED IS AGAN INSERTED IN STUTER MACHINE AND THEN PROCESS IS CONTINUED.....



INDUSTRIAL VISIT

SUB:ENGINEERING CHEMISTRY

NAME: GOPAL LIMBAJI KOLKAR

STUDENT ID : 307850

BRANCH : MECH

ROLL NO : 43

INDUSTRIAL NAME: SHREE ABAY HOISTS & ENGINEERING PVT .LTD.

CEO:MR.ANIRUDH PALDIWAL

INDUSTRY OPENING YEAR:1982

DATE OF VISIT: 2/1/2023



श्री अभय हॉइस्ट
& इंजीनियरिंग प्रा. लि. शेगांव.
GSTIN.27AAFCS2820Q1ZY

ABHAY
Since-1982

PROCESSING

ROW MATERIAL

SPECIFICATION OF
ROW MATERIAL

CATting OF IRON ROD
(ROD CATting
MACHINE)

BENDING OF IRON
(BENDING MACHINE)

WELDING (WELDING
MACHINE)

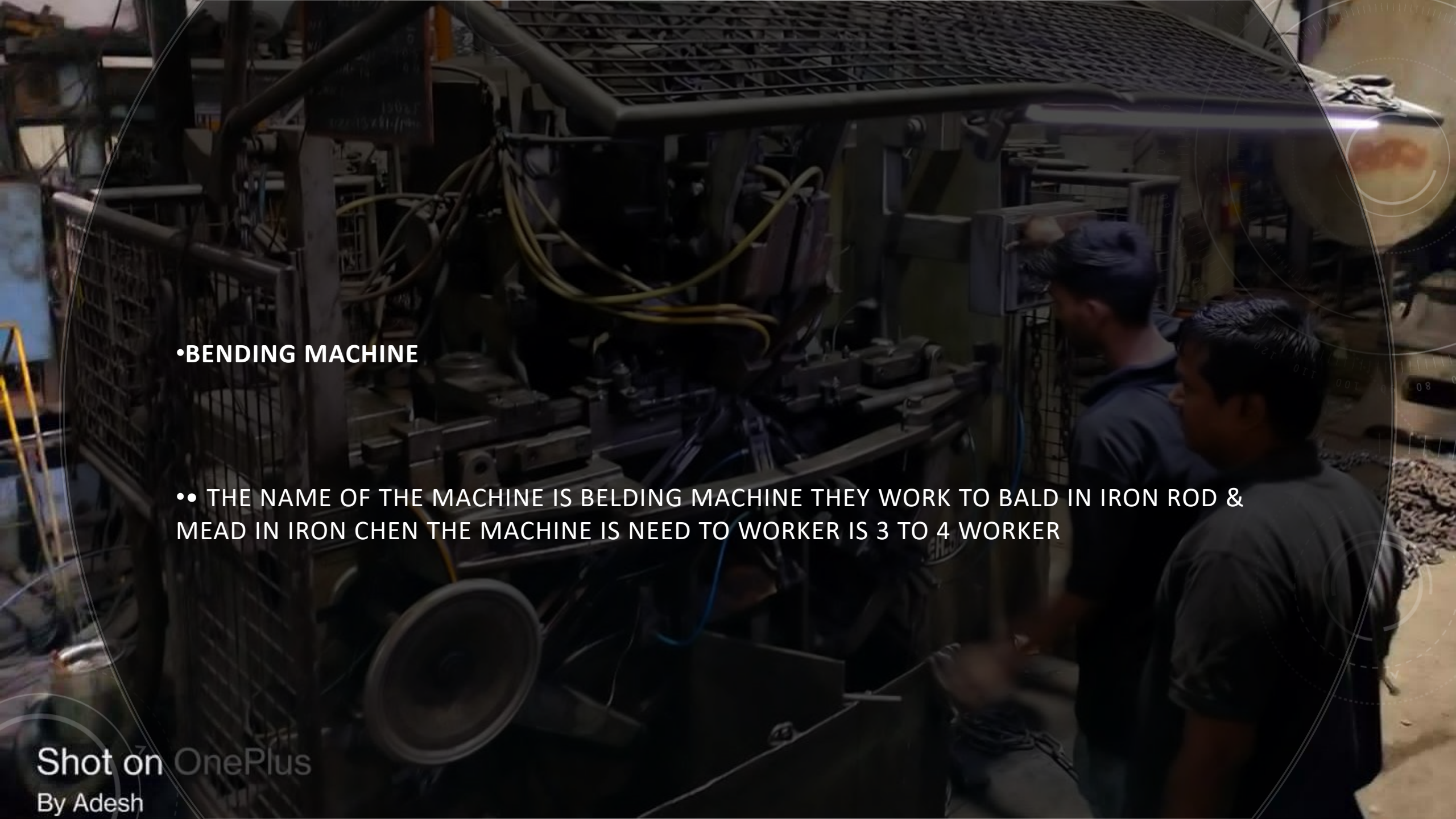
PACKING

ROW MATERIAL (IRON ROAD)

The row material is long line iron rod as depend is size

The size one two types One is 4 mm to 10 mm & 10 mm to

32 mm



• **BENDING MACHINE**

- THE NAME OF THE MACHINE IS BELDING MACHINE THEY WORK TO BALD IN IRON ROD & MEAD IN IRON CHEN THE MACHINE IS NEED TO WORKER IS 3 TO 4 WORKER

WELDING MACHINE

The name of machine is welding machine The joined iron ring Chen They are run in electricity & worker need is 2 to 3 worker

Welding



Industrial Visit Report

Gunjan Dhage

Details

- Name of Student – Gunjan Mahendra Dhage.
- Roll Number - 44
- Name of Collage – Shri Santa Gajanan Maharaj Collage of Engineering shegaon Maharashtra.
- Department: - Mechanical Engineering.
- Industry Visited- Uttam Galva Steels Wardha.
- Date: 27 January 2023.

Industry Profile:-

- Uttam Galva Steels Ltd is one of the largest manufacturers cold rolled steel (CR) and galvanized steel (GP) in Western India. The company procures hot rolled steel and processes it into CR and further into GP and color-coated coils
- Uttam Galva group also runs two more plants in India: Uttam Galva Metallic Limited and Uttam Value Steels Limited (previously known as Lloyds Steel Industries Limited) both at Wardha Maharashtra
- Uttam group are going to double its Wardha plant's capacity. Also it is going to set up a new integrated steel plant in Satarda, Maharashtra.¹

Aim of The Industrial Visit

- 1) To find the industrial work.
- 2) To experience the working environment in industry.
- 3) To find the important department in industrial.

Photos

- 1) Steels heating and rolling process.



- 2) Steels Roll lifting process



Photos

- 3) steel roll striating process.



- 4) 4) Outer Industrial photo



**NAME OF INDUSTRY : UTTAM INDUSTRIES
PVT. LTD.**

Date of visit : 30 JANUARY 2023

Name : HRUTIK SANTRAM KUSHWAHA

Branch : IM 2022-2023

Student ID : 307670

Roll no. : 46

Directed by : Prof. A.V. PATIL SIR

UTTAM INDUSTRIES PVT. LTD.



➤ INTRODUCTION

- Industry started in 2006.
- CEO of industry : Mr. Kunal Deshmukh.
- Location of industry : MIDC Phase-3 and Phase-4, Akola.
- This industry belongs to manufacturing sector.
- Production per day : 50-100 coolers.
- Work force of the industry : 55.
- Turn over of industry : 50 million.

❖ STEP 9 : FEATING THE PARTS OF COOLER



STEP 10 : COLOURING THE COOLER

OIL PAINTING



POWDER COATING



❖ SOME INFORMATION ABOUT POWDER COATING

- It is made up of thermoplastic and thermoset polymer.
- It is electrostatically applied on metal parts.
- It is cheaper, durable, Eco-friendly, corrosion proof and it's maintenance cost is also low.
- It is mainly used to colour coat metal parts eg. Household appliances, automobiles, bicycles, etc.



❖ **STEP 11 : HEATING OF COOLER STRUCTURE
AT 150-200°C IN BIG OVEN**



STEP 12 : FEATING AND FIXTURING OF PARTS

STEP 13 : THE FINAL PRODUCT

- Making cost of 1 cooler :
Rs.3800-4500.
- Coolers are supplied to
Akola, Shegaon, Buldhana,
Parbhani, etc.



CONCLUSION

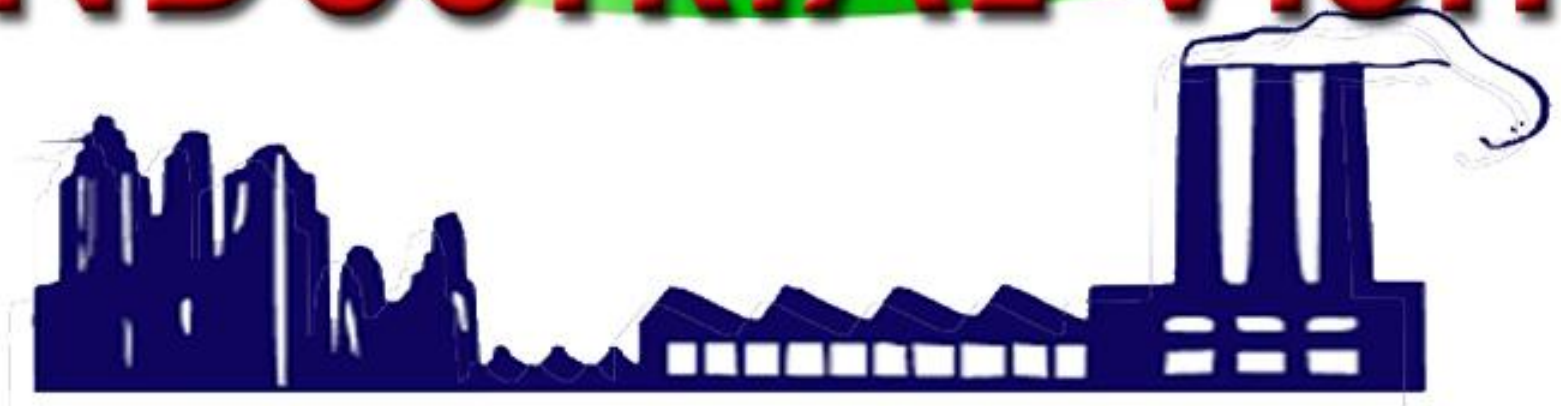
- How an industry works.
- We learn that how the air cooler is made.
- First the raw material is cleaned and cutted into required shapes.
- Then material is moulded to form a primary structure of cooler.
- Then the welding and colouring of cooler parts.
- Then colouring the structure of cooler by powder coating and heating, to get a perfect colour coating.
- Then after feating and fixture, the final product is ready to sale.

Thank you



A 3D illustration of an industrial plant with several tall chimneys and buildings, set against a blue sky with white clouds and two birds. The plant is situated on a green hill.

INDUSTRIAL VISIT



NAME OF INDUSTRY :- ALF ENGINEERING PVT. LTD.

VISIT DATE :- 3 JANUARY 2023

NAME :- NIKHIL SUNIL GURAV

BRANCH :- 1 M (MECH)

STUDENT ID :- 307579

ROLL NO:- 47

DIRECTED BY :- A.V. PATIL

INDUSTRY ADDRESS :-ALF ENGINEERING
PVT.LTD , E-60,61,62 AMBAD MIDC NASHIK



ALF ENGINEERING PVT. LTD.

Corporate Office Plot No:E 60/61/62 (Plant-I) M.I.D.C.,Ambad,Nashik-422010
Ph.:(0253) 6628843, Fax : 2386820 / Web Site:www.alfengineering.com
CIN NO.:U28900MH2006PTC160179

03rd January, 2023

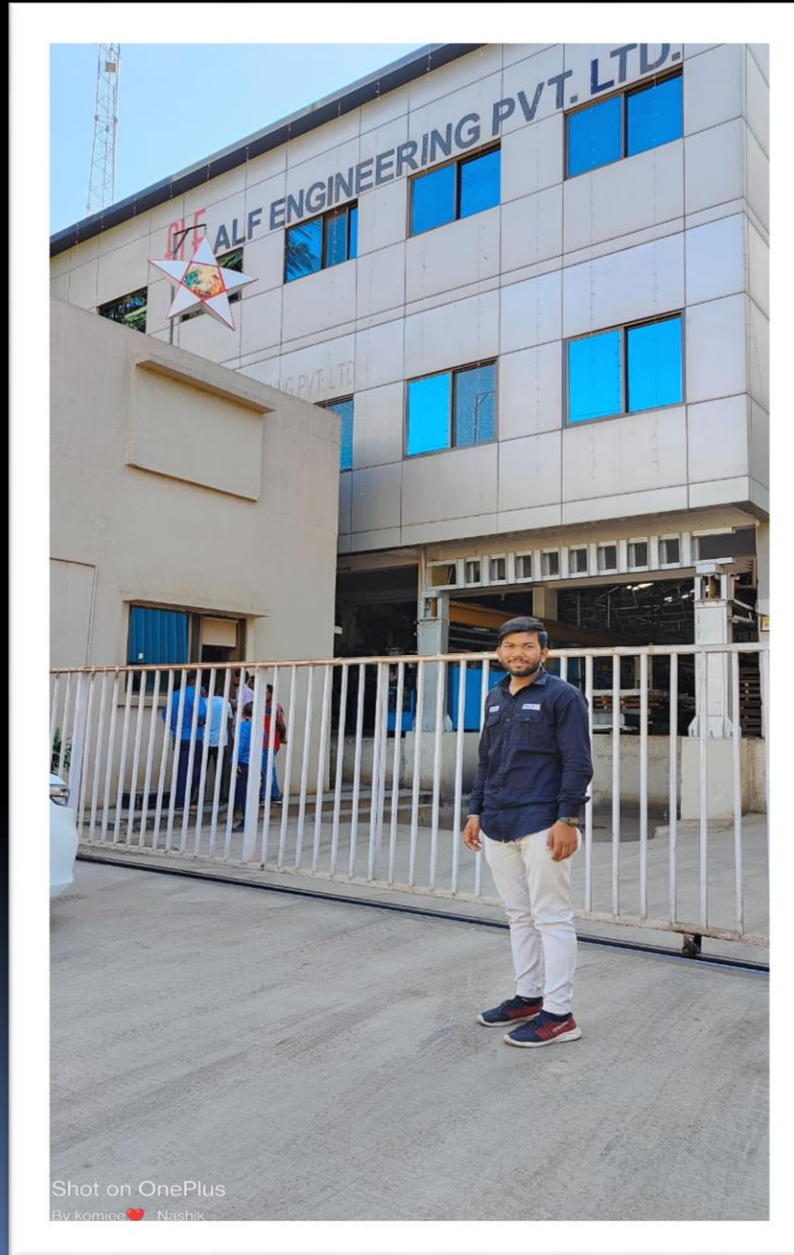
CERTIFICATE

This is to certify that Mr. Nikhil Sunil Gurav, a student of BE in Mechanical Engineering for academic year 2022-2023 studying in Sant Gajanan Maharaj College of Engineering, Shegaon has visited our organisation and completed his "Industrial Visit" and has collected the necessary information.

For ALF ENGINEERING PVT. LTD.

Ramesh Nair
(Head - HR & Admin)

ALF ENGINEERING PVT.LTD.



Casting die two types :- 1)hot-chamber die casting.
2)cold-chamber die casting.

Mechanical press :- 1)800 ton booster plate.
2)630 ton booster plate.
3)400 ton booster plate.

Car name parts :-1) Mahindra thar.





2) Mahindra xuv 700

3) Mahindra xuv 300



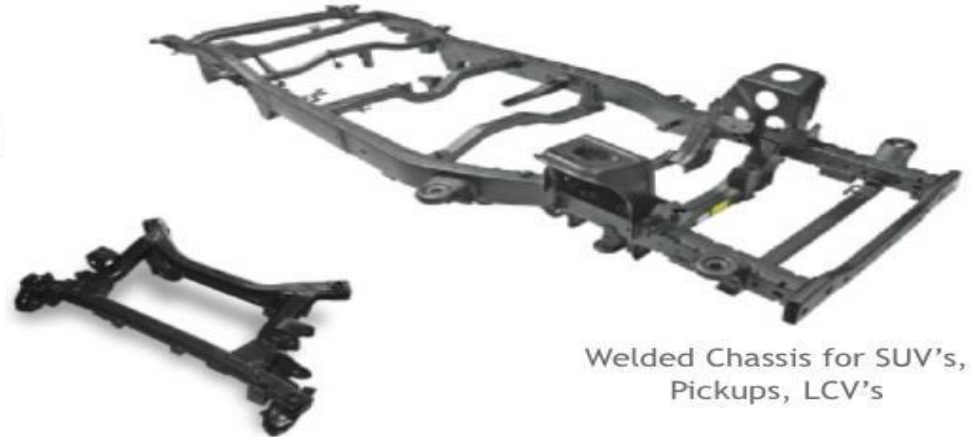
4) Mahindra scorpio



5) Mahindra xyo



Bolted & Riveted Chassis for LCV's



Welded Chassis for SUV's, Pickups, LCV's



Hydroformed Engine Cradles for SUV's

Hydroformed Rear Cradles for SUV's



Spaceframe for Electric Car



Load Bodies



Cross Car Beams



Hydroformed Trailing Arms for Cars



ABC Pedal Assemblies



Mechanical Press

A mechanical press is a machine that's used for forming manufacturing sheet metal and metal extrusion. Press machines are the perfect and normal machine tools that can be separated into a hydraulic press and mechanical press.

The press working is an essential recent metal invention method across industries. The mechanical press isn't just utilized for sheet metals but also utilized for manufacturing plastic items and a variety of machining tasks, such as broaching.

Machine **Power Press Manufacturers** including mechanical press and hydraulic press all require lots of power to complete the metalwork, for example, to damage a significant piece of metal. Variety of power sources, the manner and nature where the machine press will transfer the energy vary, determine the efficiency as well as the output the machine tool can provide.

In a vertical mechanical press machine, the power vector works higher and down relative to gravity.

In different cases, the equal machine type is mounted horizontally where the working force is applied to the path perpendicular to the direction of gravity. The working principle of the mechanical press is however the same no matter whether the power is applied vertically, horizontally or at the central point.





SEW-SXP-2-250 T
(DOUBLE COLUMN TWO
POINT CRANK POWER
PRESS) TO TIER 1
VENDOR OF M/S.
MARUTI SUZUKI INDIA
LTD. IN NORTH INDIA.

We are pleased to inform you that recently,
we have supplied **SEW-SXP-2-250 T
(DOUBLE COLUMN TWO POINT CRANK
POWER PRESS)** to Tier 1 Vendor of M/s.
Maruti Suzuki India Ltd. in North India.

With your kind permission, we take privilege
to share some glimpse of this Press.
You can also preview video on below link:



Robot



Speed

KUKA robots weld at a typical speed of 1.5 s per spot or faster.



High availability

Standardized products with short delivery times and proven technology ensure maximum availability.

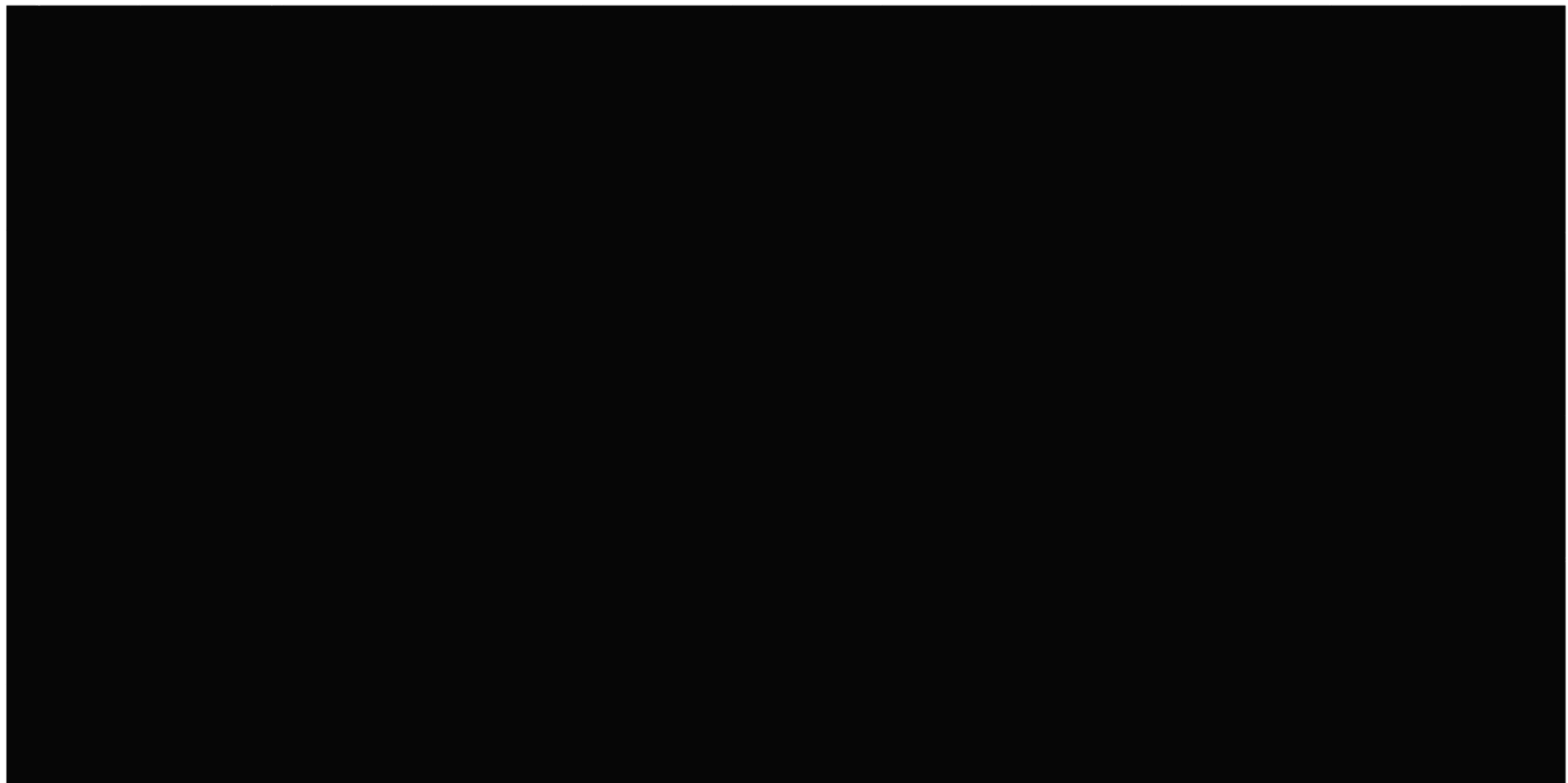


Perfectly matched components

KUKA offers perfectly combined technologies such as welding software, positioners and linear units.



Video play



INDUSTRIAL VISIT TO SHRIKRUPA LOGISTICS, SHEGAON

TEC CHEMISTRY
RSPT A.V.PATIL SIR

NAME –OM ANIL DHAGE

ROLL NUMBER-48

STUDENT ID -307914

BRANCH –MECHANICAL ENGINEERING (1M)

INTRODUCTION

Establishment year-2015

MD –Ram Patil

093070 30247

Industry mainly manufactures various assemblies with the help of

CNC(computer numerical control)and VMC machines(Vertical Machining control)

Company has- 10 CNC machines

- 4 VMC machines

Company runs with MSEB supply which is of 430 V

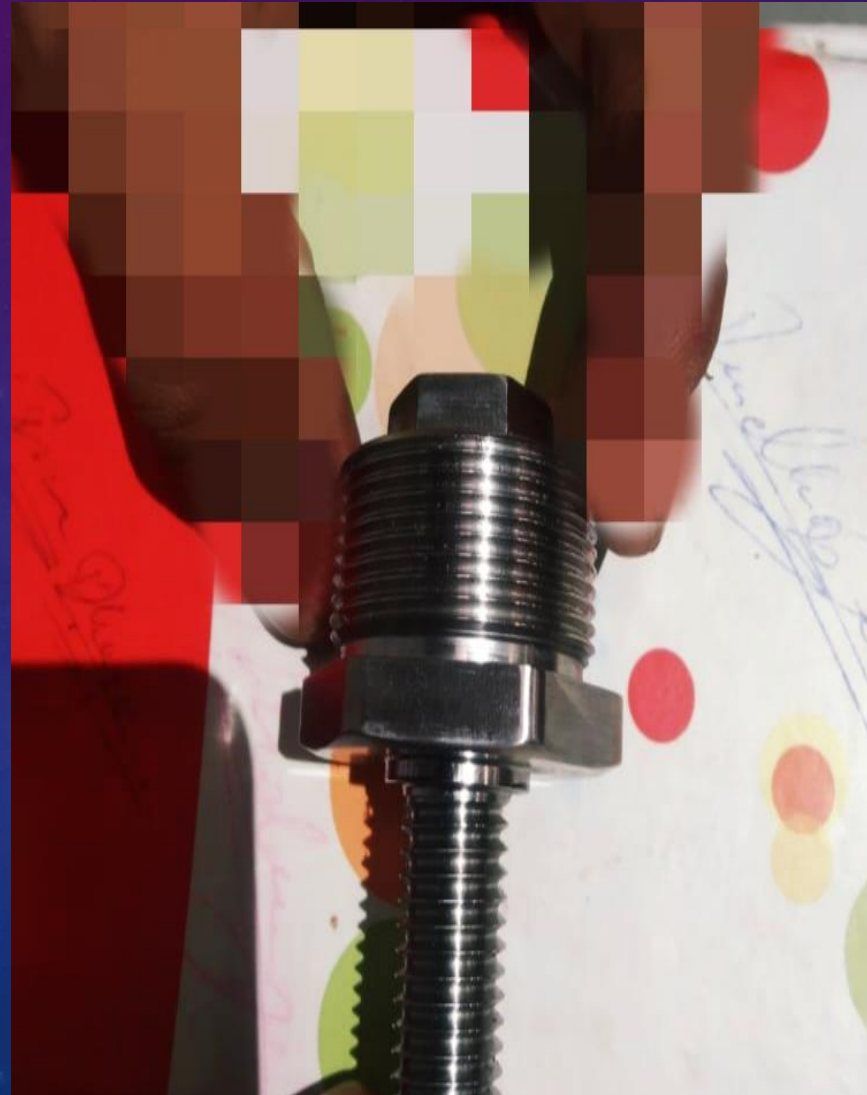
They Have their separate transformer.

Company has invested more than 4crores on machines .

Material use for various assemblies is mainly stainless steel,aluminium,etc



WE HAVE TO MAKE A ASSEMBLY



1. CUTTING MACHINE

- This is the 1st process
- A long rod with different diameters is converted into required length pieces.
- For this job/required assembly we will cut 40mm diameter stainless steel rod into 67 mm length rod pieces .
- 5hp motor is used in this machine
- Continuously coolant(oil water mixture)is poured on the cutting metal which prevent over heating and breakage of material

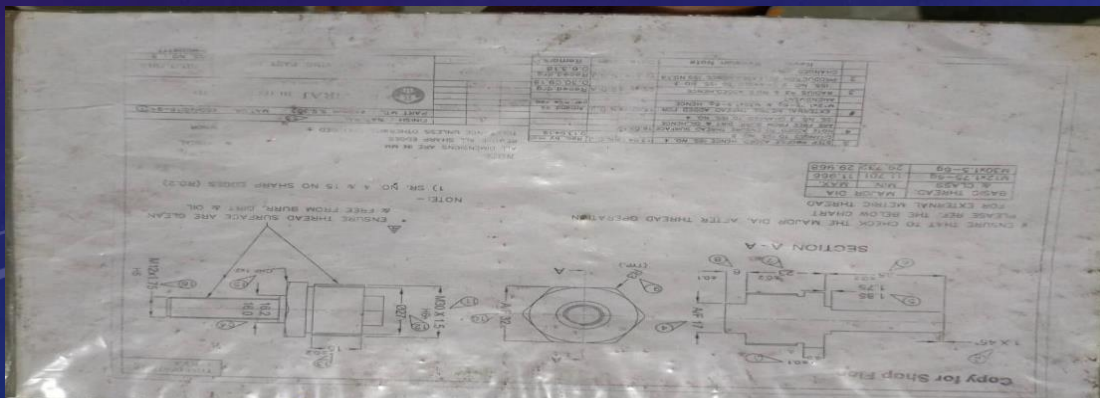


2. SETUP 1 ON CNC MACHINE

- CNC JE06LM
- Controlling system is of FANUC ind. Pvt . Lmt
- Drawing is given to operator according to that we have to perform operation on the job
- Coolant(water+oil) is used in this machine
- Machine runs on 3 phase supply i.e.415 V
- There are total 5 motors used in this machine
 1. 1 motor- 5000 RPM (5 hp)
 2. 1 motor -Half hp motor-500 RPM
 3. 3 motors -1 hp



OPPO A9 2020 • ©mr. abhya..
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CNC

1. RAW CUTTING

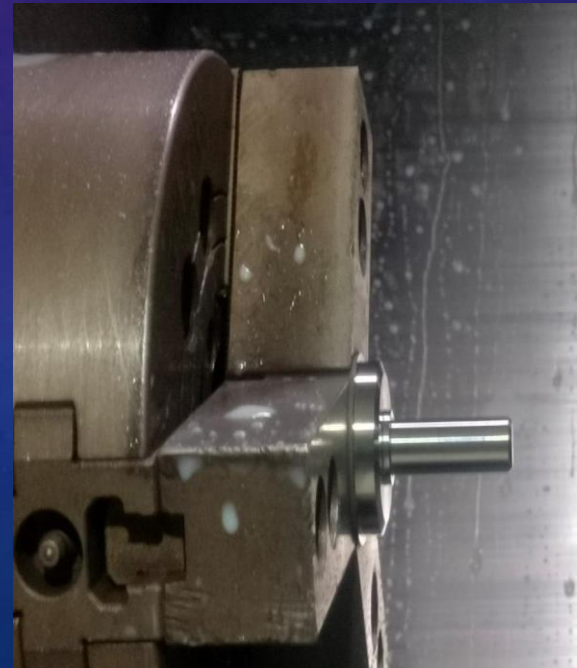
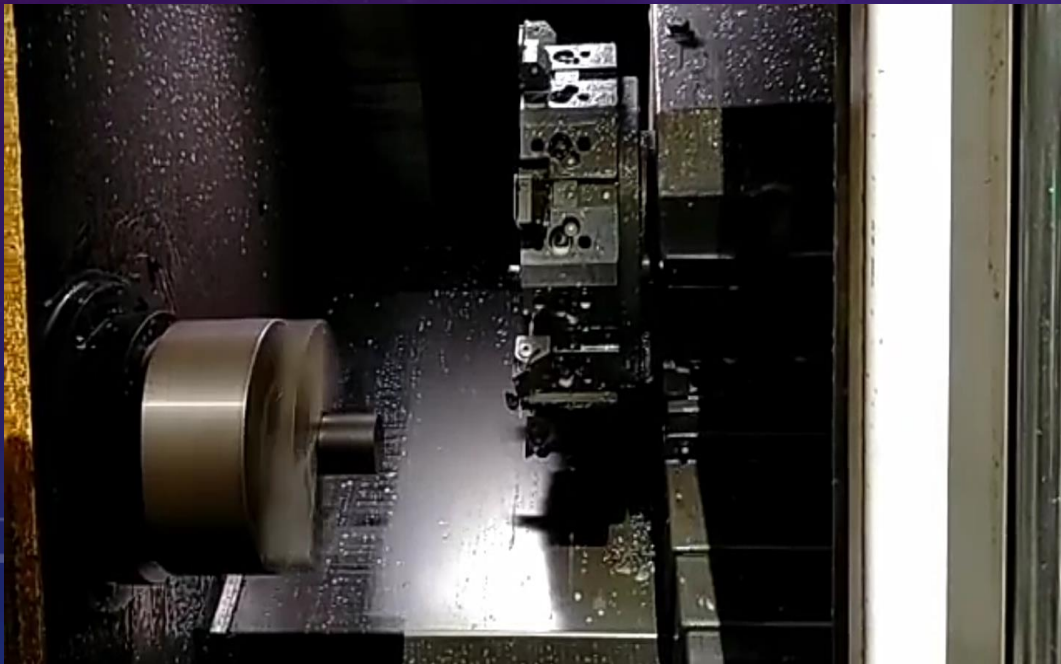
MAXIMUM PORTION IS REMOVED THIS PROCESS

2. FINISHING OR TURNING

AGAIN THE LITTLE MATERIAL WHICH WAS LEFT OVER IS REMOVED

3. THREADING

THREADS ARE GIVEN TO THE FINISHED PORTION.



03. 2ND SETUP ON CNC MACHINE

1. RAW CUTTING

Max portion is removed in this process only

2. FINISHING

Final finished is given to the material removed portion



3. **THREADING**

Threads are given to the portion with greater diameter

4. **GROVING**

Grove is the cavity between hex milling and the major diameter threads



03. VMC MACHINE

- THIS MACHINE IS MAINLY USED TO GIVE HEX MILLING



4. QUALITY DEPARTMENT

- Here the of a job is checked wheather it is of right dimension or not.
- Each an every job is checked carefully with the help **of Dial werner caliper** and **micrometer**



5. DISPATCH



MAJOR CUSTOMER

*RAVIRAJ HIGH-TECH, PUNE

#SUMMARY



INDUSTRY VISIT

PRESENTED TO

A.V.PATIL SIR

PRESENTED BY

PRASHANT P DHAMODE

STUDENT ID :- 307548

ROLL.NO :- 49

CLASS :- 1M

DATE OF VISIT :- 28th January 2023

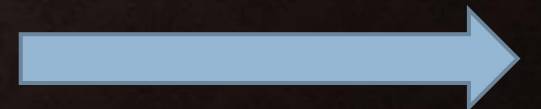
ABOUT THIS IDUSTRY

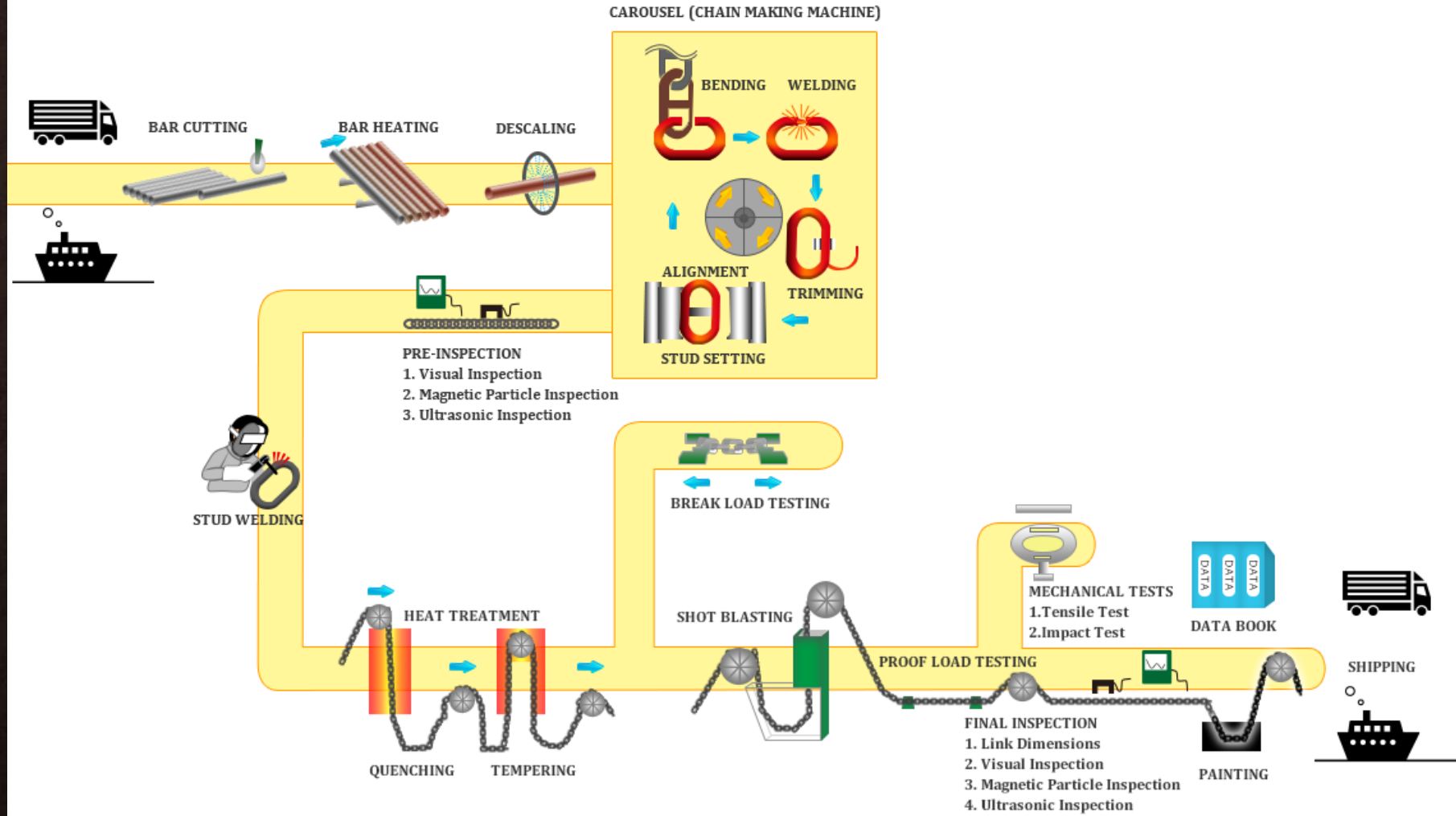
1. This industry was established in 1982.
2. This industry is serving from three decades.
3. It is specialized in manufacturing mild steel, stainless steel and alloy steel chains.
4. This industry has net worth of 50 crores.
5. Mr Dinesh M Paldiwal acts as directore of this industry.



PROCESSING

- 1. *ROW MATERIAL SELECTION***
- 2. CUTTING AND STRAGHTNING**
- 3. BENDING**
- 4. WELDING**
- 5. HARDNING**
- 6. TEMPERING**
- 7. CALIBRATING**
- 8. ELECTROPLATING**
- 9. DRYING**
- 10. PACKING**





RAW MATERIAL



SHREE ABHAY HOISTS &
ENGG. PVT. LTD.
* COLOUR CODE *

● WHITE	SAE-15B25
● GREEN	20Mn2
● PINK	En-353
● RED	SAE-8620/8622
● GREY	C-45/En-8
○ BLACK	STAINLESS STEEL ALL GRADES.
● YELLOW	MILD STEEL ALL GRADES.

INCOMING
R.M.



CUTTING SECTION

Used machine :-

Hydraulic press, cutting machine made in Germany by Hans Loeffler private limited.

Number of person required :- 2

Capacity work :- 50 kg per hour.

Rod size :- 22 mm – 30mm



BENDING MACHINE



Hot bending

1. Operated by CAM process (computer aid manufacturing)
2. Semi automatic.
3. Used for bending in 16-20 mm.
4. The minimum 3 people are required.



Cold bending

1. Operated by CAM process.
2. Semi automatic.
3. Used for bending 20-30 mm.
4. The minimum 2 people required.

Capacity :- 500 kg per hour.

(Need 15 min to get hot)

WELDING

Used machine :- Resistance weld machine, fully hydraulic.

Made in :- Germany by Meger Rath and Postor.

Model No :- KAS 250

Used for :- For welding 22-30 mm steel.

(Here welding occurs in two types)



HARDENING

Used machine :- Inducto heat

Made in :- Madison Heights United States

Introduced in :- 2001 (fully automatic)

Coolant :- Water is used.

(Minimum 1 person required)



TEMPERING

Used machine :- Under ground furnace.

Max temperature :- 0-600 C

Min time :- 3-4 hour

Slot contains :- 500 kg (1 slot)

Hardness ↓ Plasticity and elasticity ↑

M/S. SHREE ABHAY HOISTS & ENGINEERING PVT. LTD., SHEGAON
Document No. CH1 / 13 Rev. No. 3 Date - 15/11/2022

TEMPERING IN VR FURNACE

Raw Material Specification	Temperature (° C)	Soaking Time (Hrs.) (Min)	Hardness (HRC)
15025	340 - 380	2 Hrs.	37 - 40
SAE 8620	350 - 380	2.5 Hrs.	37 - 40
En - 353	250 - 300	2.5 Hrs.	39 - 41

PREPARED BY: APPROVED BY: WKS/F/05/0



CALIBRATION

Here metal chains are checked and often they are calibrated as per requirement.

Used machine :- Calibrator made in Germany. (Introduced in 2001)

Model :- Cal – 150

People required :- 2 minimum.

Capacity :- 500 kg per hour.

Min diameter :- 16-30 mm.

ELECTROPLATING

It protect metal from corrosion.

Used machine :- Electroplating lines.

Used chemical :- HCl and nitric acid.

Made in :- India.



ROTARY DRUM

These are used in polishing the final product.

Machine name :- Rotary drum (Wood dust and leather)

Min time :- 1 – 2 hour.

Fully automatic.

Capacity :- 200 – 300 kg at a time.

TESTING

Testing of product occurs in such ways :

1. Hardening
2. Meliability
3. Elasticity
4. Break point
5. Plasticity

PACKING

1. Here chains are packed as their different types from 6 – 32 mm diameter.
2. Chains are packed in wooden carton also in oil drum.
3. **Before packing oil is applied over the chains to prevent it from rusting**

SUMMARY

- After completing my industry visit, I found many new tools and machineries which are used in processing and production on large scale.
- As mentioned before there are various process to prepare it.
- There is final product ready after going through all this processes.



INDUSTRIAL VISIT

SUB:ENGINEERING

CHEMISTRY

NAME: Pratik kailas kalaskar

STUDENT ID : 307655

BRANCH : MECH


ROLL NO : 50

INDUSTRIAL NAME: SHREE ABAY HOISTS & ENGINEERING PVT .LTD.

CEO:MR.ANIRUDH PALDIWAL

INDUSTRY OPENING YEAR:1982

DATE OF VISIT: 2/1/2023



श्री अभय हॉल्स
& इंजीनियरिंग प्रा. लि. शेगांव.
GSTIN.27AAFCS2820Q1ZY

ABHAY
Since-1982

PROCESSING

RAW MATERIAL

SPECIFICATION OF RAW MATERIAL

CUTTING OF IRON ROD (ROD CUTTING MACHINE)

BENDING OF IRON (BENDING MACHINE)

WELDING (WELDING MACHINE)

PACKING

ROW MATERIAL (IRON ROAD)

The row material is long line iron rod as depend is size

The size one two types One is 4 mm to 10 mm & 10 mm to

32 mm

A large industrial bending machine in a factory setting. The machine is complex, with various rollers, gears, and cables. Two workers in dark blue shirts are standing to the right of the machine, looking at it. The background shows a typical industrial environment with metal structures and equipment.

• BENDING MACHINE

•• THE NAME OF THE MACHINE IS BELDING MACHINE THEY WORK TO BALD IN IRON ROD & MEAD IN IRON CHEN THE MACHINE IS NEED TO WORKER IS 3 TO 4 WORKER

Shot on OnePlus

By Adesh



WELDING MACHINE

The name of machine is welding machine The joined iron ring Chen They are run in electricity & worker need is 2 to 3 worker

Welding



- **PACKING**

- ● The primary purpose of packaging is to protect its contents from any damage that could happen during transport, handling and storage.
- Packaging is a crucial part of brand consistency. It as an extension of your brand from its digital channels, right through to the tangible experience the customer has when they receive the product



Industrial Visit

- ▶ Roll no: 52
- ▶ Student ID: 307757



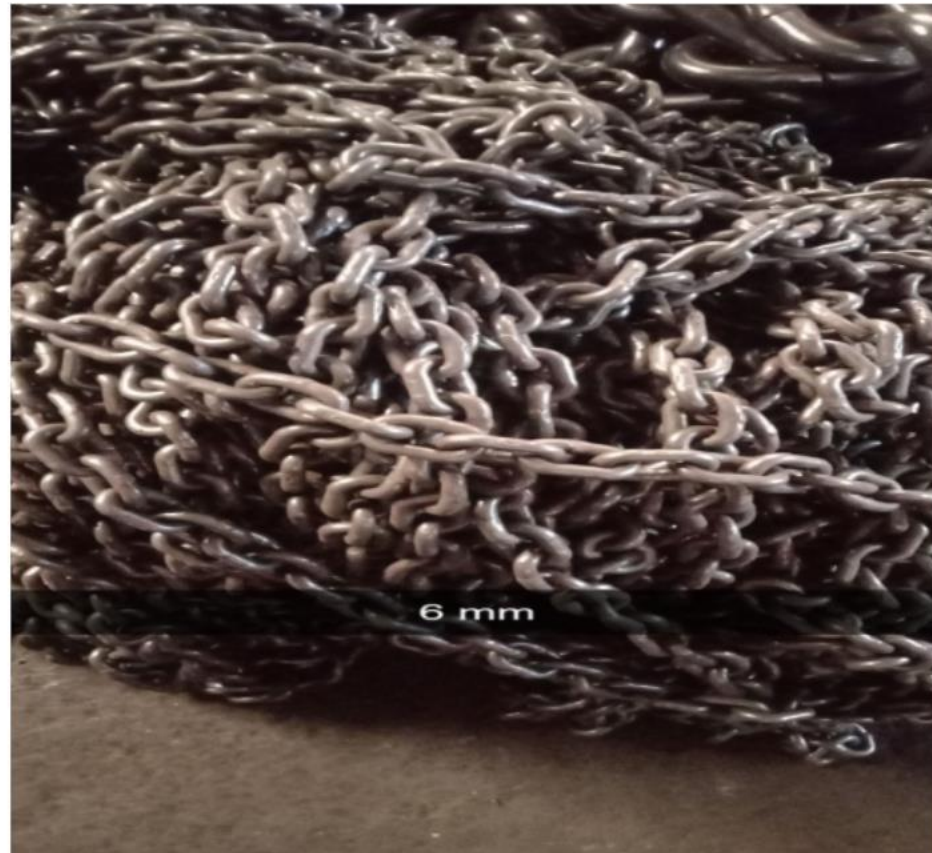
About:

- ▶ Name. : SHREE ABHAY HOIST ENGINEERING PVT.LTD.
- ▶ Date of incorporation: 12 Feb 1987.
- ▶ Buisn Buldhana : Chain making and cranes making
- ▶ Company class. : Private
- ▶ Directors. : Rajesh Paldiwal Muktilal and Madhu Dinesh
Paldiwal
- ▶ Location. : Shegaon,buldhana Maharashtra

View



Chain :- 6 mm dia



Raw material

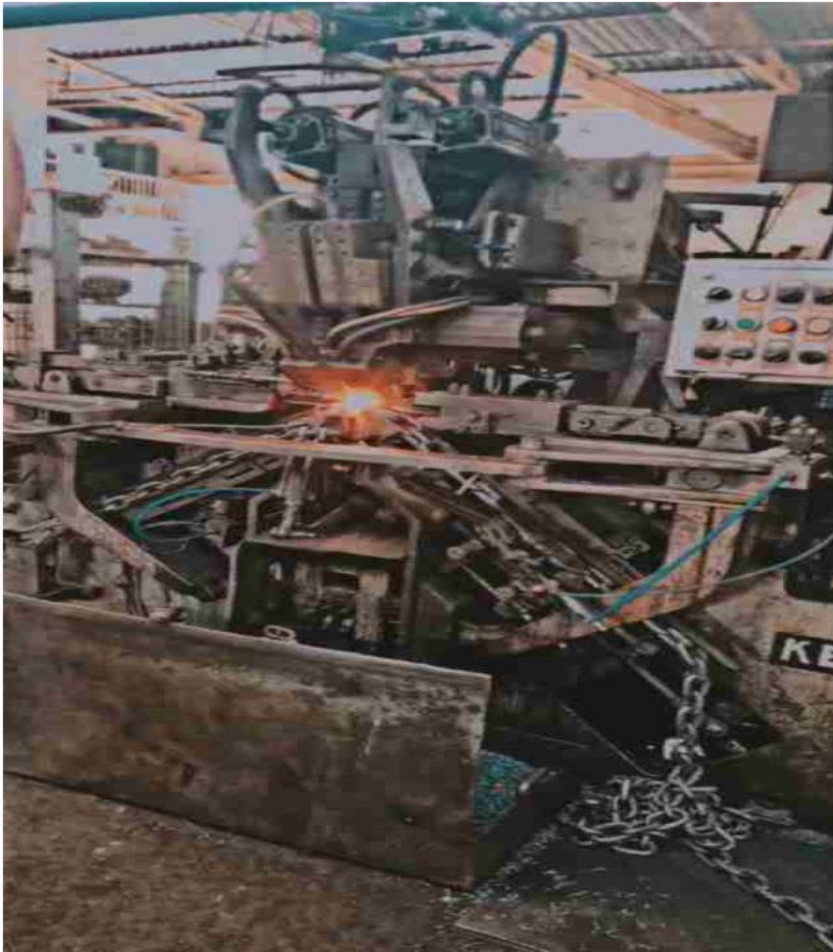
- ▶ The raw material which produced has sold to scrap





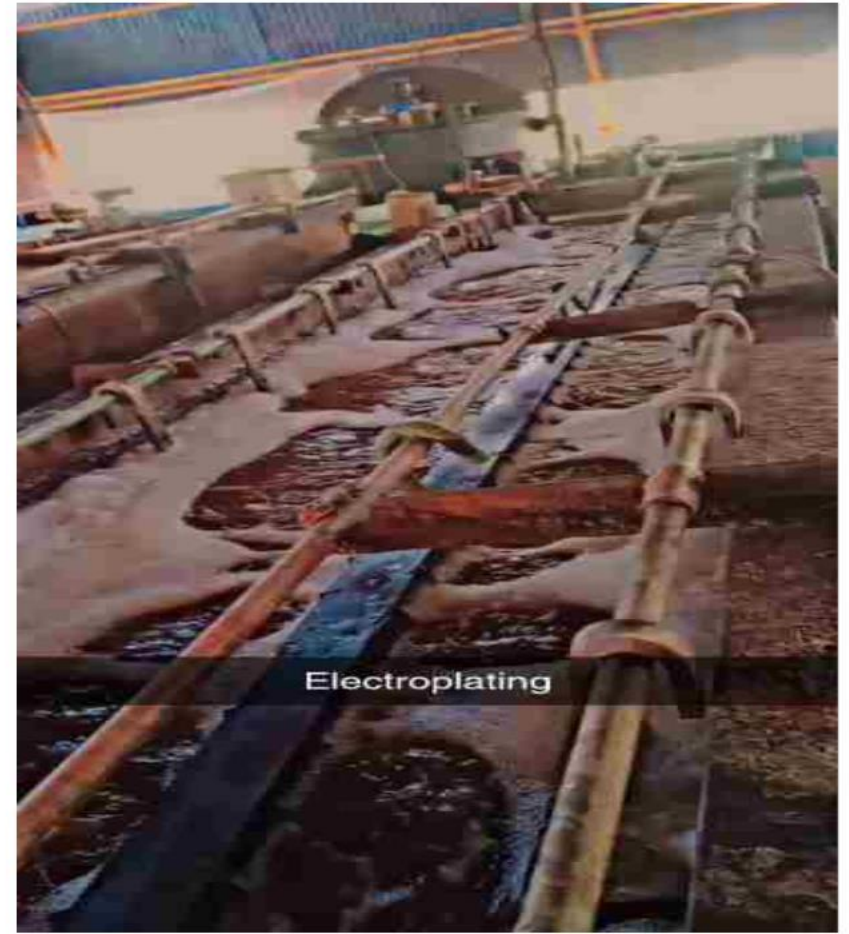
Bending machine

Welding machine



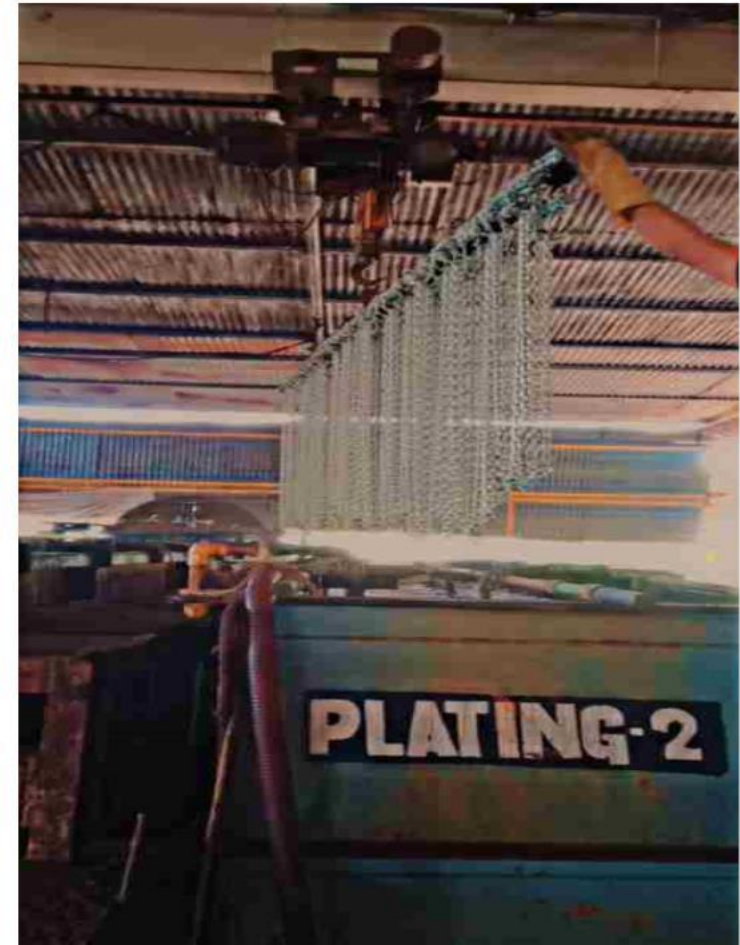
Electroplating process

- ▶ For electroplating they use
The solution mixture of hcl
and zn



Plated chains

- ▶ After the electroplating the chains looks like this



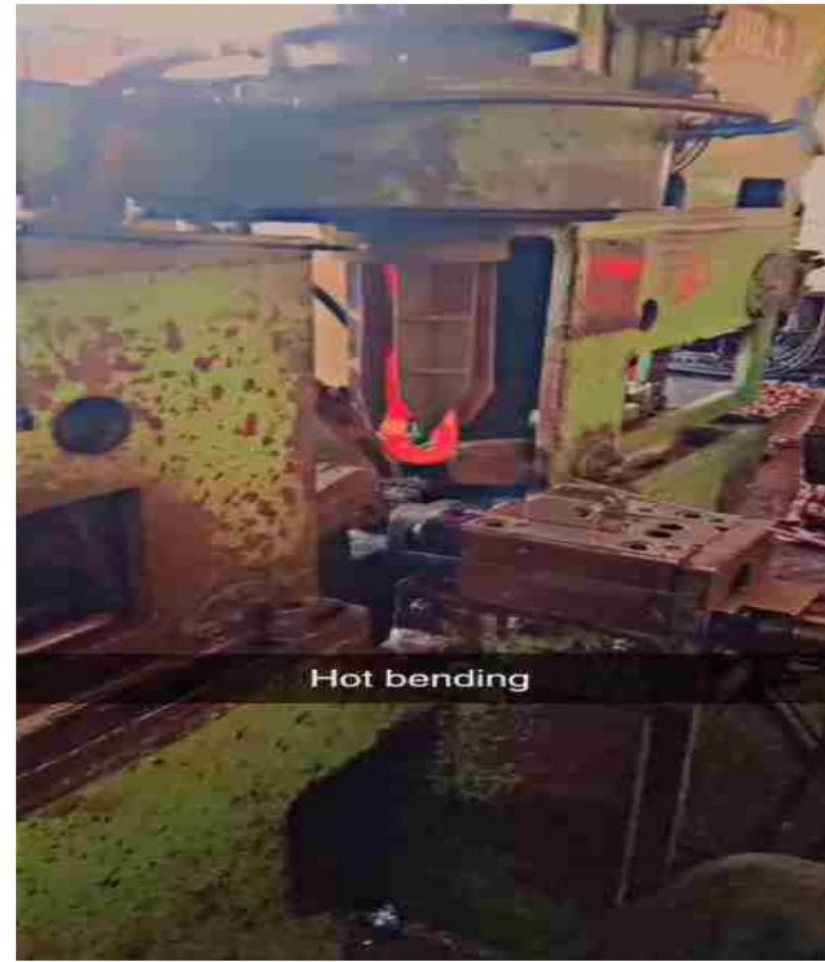
After polishing



After polishing

Hot bending

- ▶ When chains are thick it cannot be bent simply for that we need to heat that chain parts so they can be bent easily, for that they use hot bending process

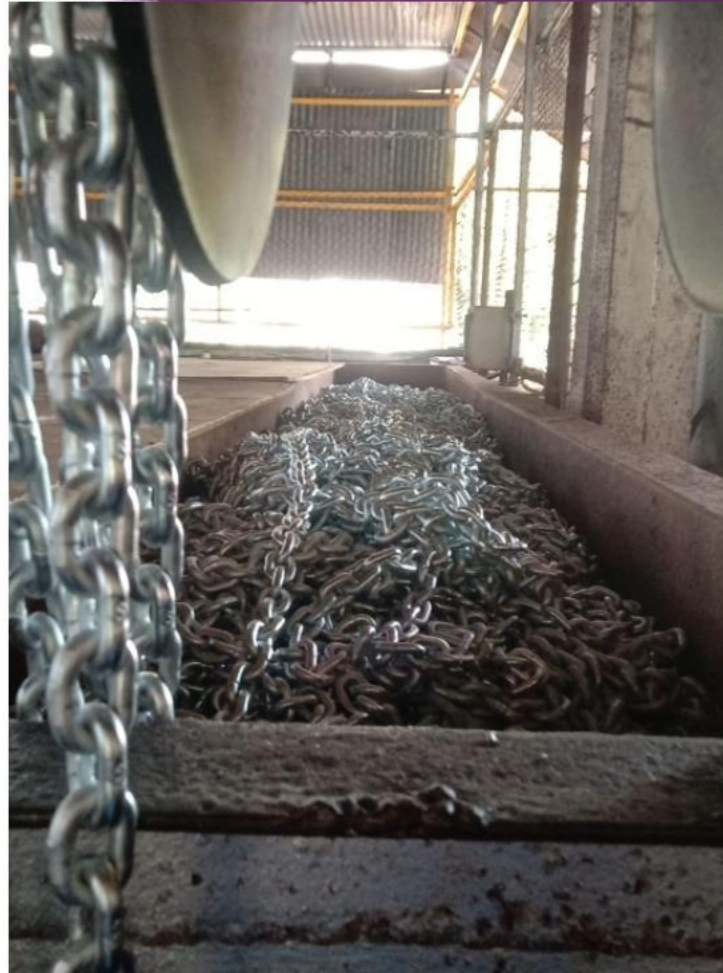


Hot welding

- ▶ And for welding of thick and big chains they use hot welding process



Storage



INDUSTRIAL VISIT

- **NAME OF INDUSTRY = Shree Abhay hoists & Engineering Pvt Ltd.**
- **DATE OF VISIT =1/02/2023**

My Information

Name = Roshan Sonone

Year = 1st

Branch = Mechanical

Roll No. = 53

Student id = 307709



INFORMATION ABOUT

1. This industry is established in 1982.
2. This industry is specialise in manufacturing mild steel/ stainless steel and alloy steel chains.
3. This industry has net worth 50 cores.
4. Mr Dinesh M Paldiwal acts has director of this industry.

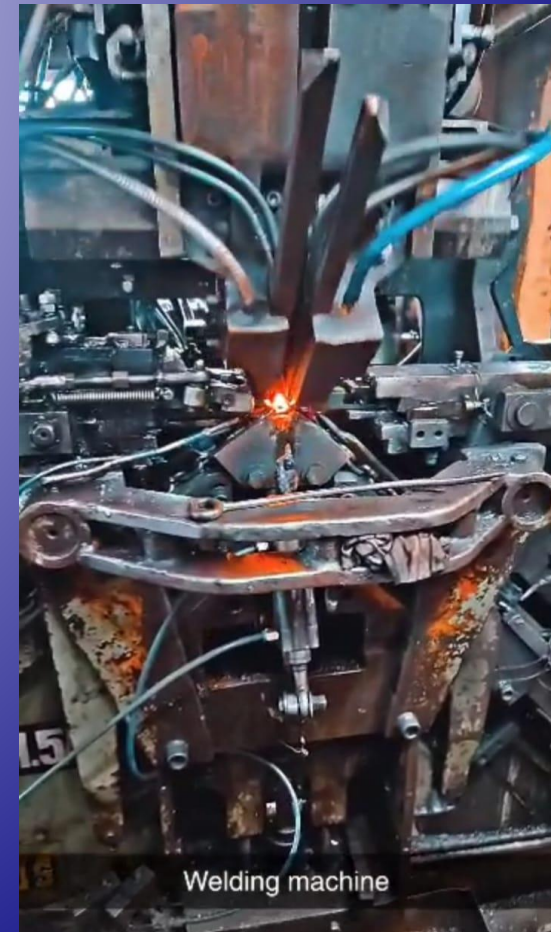
PROCESSING

- 1. RAW MATERIAL
- 2. SPECIFICATION OF RAW MATERIAL
- 3. CUTTING OF IRON ROD (ROD CUTTING MACHINE)
- 4. BENDING OF IRON (BENDING MACHINE)
- 5. WELDING (WELDING MACHINE)
- 6. TESTING
- 7. PACKING
- 8. READY TO SELL

WELDING MACHINE

- THE NAME OF MACHINE IS WELDING MACHINE

An arc welding machine is a device used for fusing metals. The machine emits an electrical arc from an electrode which melts metal or supplies filler into a joint between two pieces of metal. To produce the temperatures up to $3,600^{\circ}\text{C}$ needed to fuse metals, arc welding machines consume significant quantities of energy.



INDUSTRY VISIT

HORIZON PACKS
KHAMGAON.

Date:
15.01.2023

From- SUYASH.S.PIMPLE.
TO- A.V. PATIL SIR.

On 15– Jan I went for industrial visit, at Horizon Packs, Khamgaon.



HORIZON PACKS

are the leading players in the field of CORRUGATED BOX PACKAGING in India. with corrugated box factories at 10 location al over India, & backing over 30 yrs of experience in the feild. HPPL meet the challenging demand of their costomers effectively. HPPL currently convert (1,80,000) tons of paper per annum. Horizon pack has one factory in Khamgaon MIDC. It is started in 1997 with the semi automatic machines. But now they have upgraded plant with fully automatic machines.

BOILER

Machine name:- Boiler

Make:- Thermax works Pune.

Capacity:- 2 ton (steam)

Fuel:-Wood / Briquette

Function:- To generate steam to run the corrugation plant.



3/5 PLY CORRUGATION PLANT

Make:- JS machine

Capacity:- 100 meter per min
to make corrugated board.



COLOUR PRINTING MACHINE

4 colour Printing machine with die cutter & slotter with auto stacker.

Dongfang Topra 1228

Capacity:- 8000 to 15000 box per hour depend upon box size

Board size:-

1200 mm width

2800 mm length



AUTOMATIC STAPLING PLUS GLUER MACHINE

Insun 1225

Box size 1200 mm width

2500 mm length

Capacity:- 150 box per min.



AUTO STACKER

Box conveyor & stacker.



FINAL PRODUCT



ETP PLANT

Sewage Water / Ink / Starch
Purification to give pure water.



MAN POWER:-

- *Employment to 150 workers
- *Trained man power available
- *Local training given at factory level.



QUALITY CONTROL :-

Checking online & fine tuning of box dimension on daily basis.

- 100% Rejection free supplies of boxes
- Fully equipped QC lab
- GSM tester
- Caliper Tester
- RCT / ECT tester

ESTEEMED CUSTOMER:-

- Hindustan Unilever Limited(HUL)
- Colgate - Palmolive
- Johnson & Johnson Ltd

Pitch Parle product



FLOW CHART

Boiler (Thermax Pune)



Automatic board plant



4 Colour printer slotter , die cutter
with stacker (Dongfang Topra 1228)

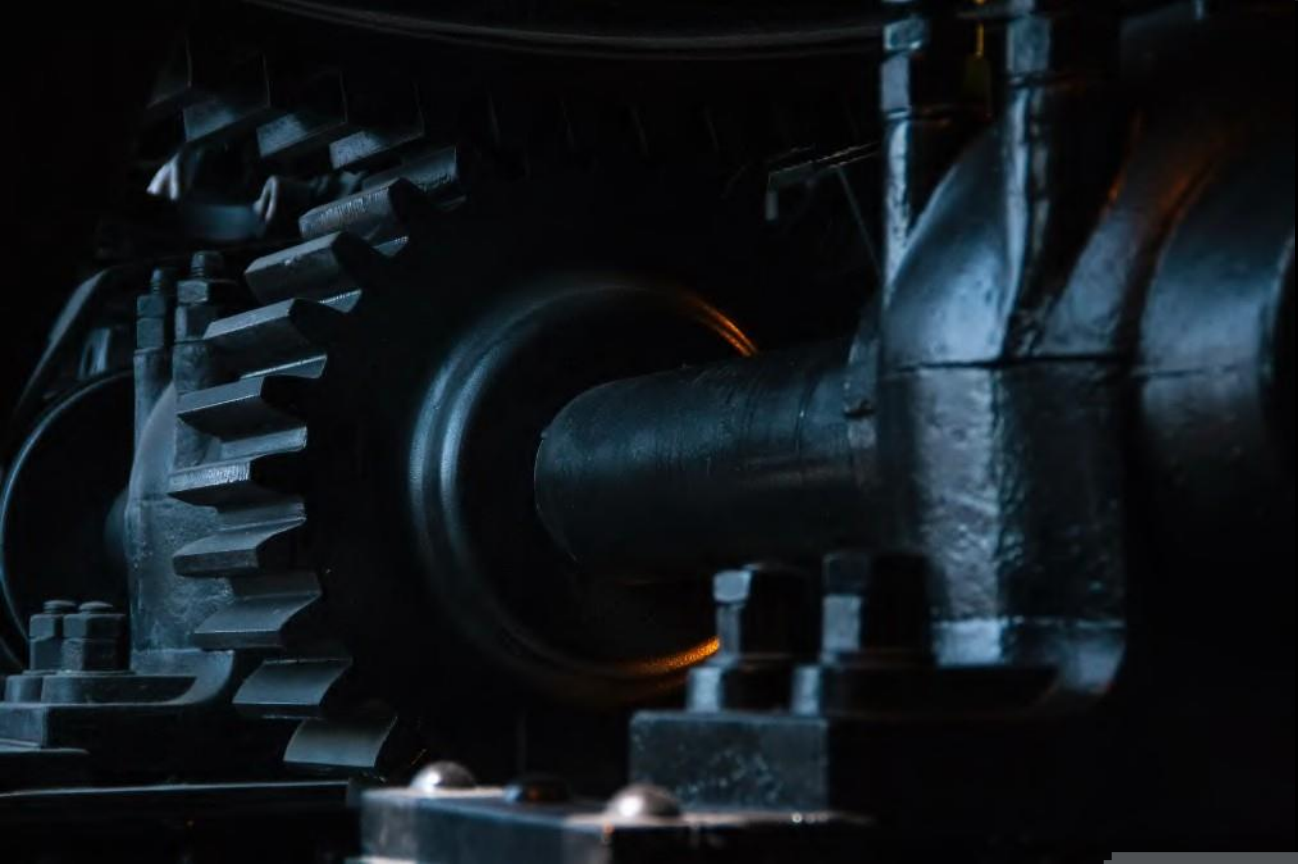


Auto stapling cum gluer (Insun)

Auto Bundling machine (Transpack)



Finish product -
BOX



Industrial Visit

SHREE ABHAY HOIST & ENGINEERING Pvt.Ltd

Visit Date :- 28/01/2023

- Name :-Vansh Krushnakumar Hedau
- Roll no :- 60
- Branch & Year :- 1M 2022-23
- Student ID :-307776



Introduction

Established :- 1982

Business type :-Manufacturer, Exporter, Trader and Supplier

Sales Volume:- 20 Crore

No. of Staff :- 40

CEO :- Mr. Anirudh Paldiwal

Vice President :- Mr. Bharat Paldiwal

Major Clients :- Hercules Hoists Ltd ,Tractel Tirfor India Pvt.Ltd , JSW Steel Ltd.



Process :-

- 1)Raw Material
- 2)Removal of Corrosion
- 3)Cutting Section
- 4)Bending Section
- 5)Welding
- 6)Hardening
- 7)Tempering
- 8)Calibration
- 9)Electroplating
- 10)Testing
- 11)Rotatory Drum
- 12)Packing and Supply

Raw Material

→ Stainless Steel, Mild Steel, Alloy Steel.

→ There are two Types of Raw Material

1) Bar Type

More than 15mm Diameter steel are present in bar type (20-32)mm

2) Coil Type

10 to 18mm radius steel are present in coil type.

Removal of Corrosion

→ Used Machine :- Wire draw

→ Capacity :- 60-80 rod per minute

→ One rod :- 10 meter

Cutting Section

Used Machine :-Hydrolic Press Cutting Machine
made in Germany by Hans-Leeffer Pvt.Ltd

No. of Person required :-2 persons min

Capacity :- 50kg per Hour

Length of Rod :-50kg per hour

Size of Rod :-30mm to 22mm

Bending Section

→There are two types of Bending

Hot Bending :-

It is process by which in the form of tubes, pipes, bar, or rods is softened by heat to allow the material shape to be altered to exact specification.

It is also known as induction bending and incremental bending ,this technique relies on high heat to create bends.

It is operated by CAM process computer aided manufacturing.

It is Semi Automatic machine which is used for bending the metal rods of 10 to 20 mm

It required minimum 3 people for operating the machine .

It works on principle based on heating effect of electric current .



Cold Bending

It is also known as roll bending because of the process most commonly used to bend metal that hasn't been heated. Roll bending is accomplished using mechanical jig that uses three rollers to bend metal into circular arc.

It is operated by CAM process

It is semi-automatic machine used for bending 20-30mm diameter material .

It required minimum two people to operate the machine.

Welding

Used machine :-resistance weld machine fully hydrolic made in germany by meyer roth and pastor
It is used for welding 20-30mm steel or metal rod

Hardening

Used machine :-Inducto heat made in Madison heights united states.
It is introduced in 2001.
It is fully automatic machine and it uses water as a coolent .
It required minimum one person to operate the machine .



Tempering

Used machine :-Under ground furnance

It works in maximum temperature 0-600 degree celcius .

It requires minimum time of 3-9 hours .

It reduces hardness and plasticity and elasticity increases.



Calibration

Hear metal chains are checked and often they are calibrzied as per requirement.

used machine :-calibrzor made in Germany and introced in 2001.

It require minimum 2 person to operate the machine .

the minimum diameter is 16-30mm .



Electroplating

It is a process for producing a metal coating on a solid substrate through the reduction of that metal by means of a direct electric current.

Here electroplating occurs which protects our metal from environment also from corrosion.

Used machine :-Electro plating lines

Used chemical :-HCL, nitric acid.



Packing

Here chains are packed as their different types from 6 to 32mm diameter.

Chains are packed in wooden conton also in oil drum.

Before rusting oil are apply to the chains for prevent from rusting.



INDUSTRIAL VISIT

- **NAME OF INDUSTRY = Shree Abhay hoists & Engineering Pvt Ltd.**
- **DATE OF VISIT =28/01/2023**

*****PERSONAL INFORMATION*****

- **NAME = Vedant Manoj Mate**
- **YEAR = 1 ST**
- **BRANCH = MECHANICAL**
- **STUDENT ID = 307966**
- **ROLL NO. = 61**



ABOUT THIS INDUSTRIES

1. this industry is established in 1982.
2. This industry surviving from three decades.
3. This industry is specialise in manufacturing mild steel/ stainless steel and alloy steel chains.
4. This industry has net worth 50 cores.
5. Mr Dinesh M Paldiwal acts has director of this industry.



HARDENING PROCESS

- Alloys are heated above the critical temperature for the material, then cooled rapidly enough to cause the soft initial material to transform to a much harder, stronger structure.
- Firstly the iron chain is heated about 300 to 400 degree celcius.
- Iron parts often require a heat treatment to obtain improved mechanical properties, such as increasing hardness or strength.
- It requires fast cooling by water or another liquid to maintain its shape and hardness.
- Tempering furnace is used to reduce the hardness of iron chain.



Tempering furnace



Inductive heating machine

In this inductive heating machine the iron chain is heated about 300 to 400 degree celcius and then cooled rapidly in water.

After cooling this the chain introduced hardness.



Thank you!



INDUSTRIAL VISIT AT MAHARASHTRA ENGINEERING WORKS MALKAPUR

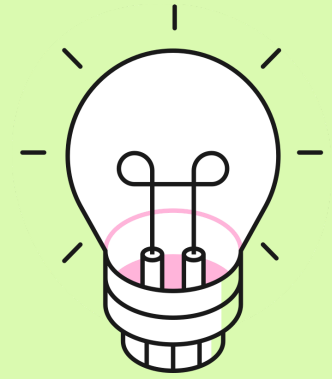


Photo With Owner and Chief Engineer
Mr Shrikrushna Chavan Sir At
Maharashtra Engineering Works



Photo with Manager Mr Prashant Bhau
Shegokar at Maharashtra Engineering Works
Malkapur

INTRODUCTION



INTRODUCTION

#Industry was established in year 1988.

#Initial investment when the company got started was 5 lakh rupees.

#Initially the industry was started as a small firm as a service based company for servicing of machines related to agricultural sector.

#Then it grew to become a production industry for machines of agricultural business.

FINAL PRODUCTS PRODUCED FOR SALES

#Multicrop Thresher
#Chop Cutter
#Trolley for Tractors
#Maize Sheller
#Seed Drill
#Tanker
#Plough



WHICH TYPE OF LABOUR IS REQUIRED

ENGINEERS AND OTHER SKILLED LABOUR

- # Chief Engineer (owner)
- # Manager
- # Accountant
- # Quality Engineer (1)
- # Store Manager (1)
- # Store Keeper (1)

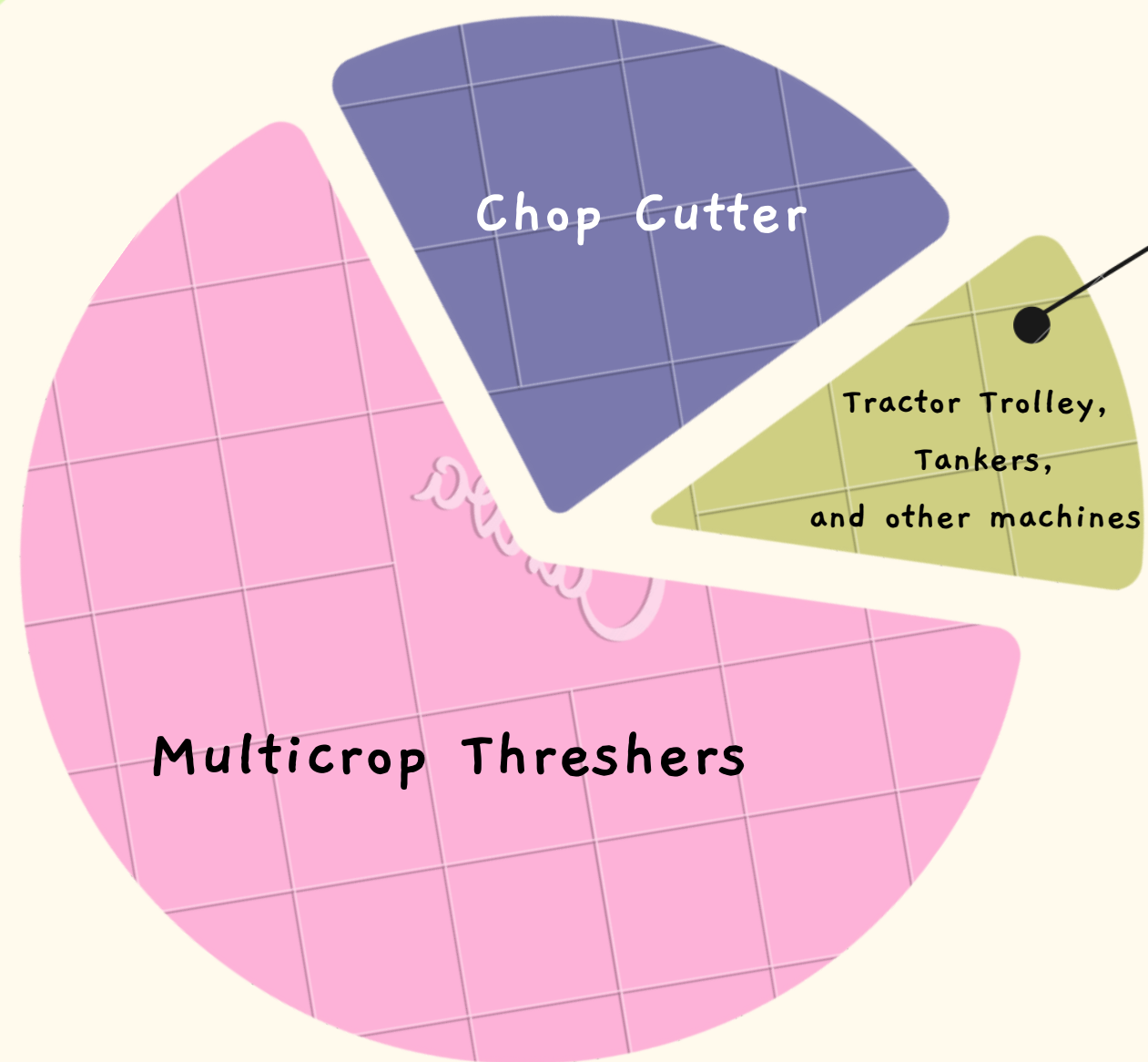
SKILLED LABOUR FOR MANNUAL WORK

- # Welders (9)
- # Turners (For Lathe Machine operation) [2]
- # Painters (2)
- # Technicians (1)
- # Helpers (5)
- # Other Supporting staff



A video of labours working at factory.

A total work force of 35 people is currently working for the industry.



ANNUAL SALES OF PRODUCTS

- # Multicrop Thresher. Around 200 Units
- # Chop Cutter. Around 500-600 Units
- # Tractor Trolley. Around 60-65 Units
- # Tankers. Around 20-25 Units
- # Plough
- # Maize Sheller
- # Seed Drill

Plough, Maize Sheller, and Seed Drills are made available according to order placed by customers.

A net turnover of 12Cr is produced annually by the industry.

HOW ARE RAW MATERIALS OBTAINED?

1

ANGLES, ROUND BARS, AND METAL SHEETS

These materials are purchased by the industry from company named MS IRON ROUND BAR this company is a wholesale trader from rajkot.

Sheets of iron cost around ₹10000 per sheet.

Round Bars and angles are bought according to their weight in kilogram at the current market rate.

(Rates of market depend on the quality and type of material asked by the industry)

2

OTHER MACHINE PARTS PURCHASED FROM THE MARKET

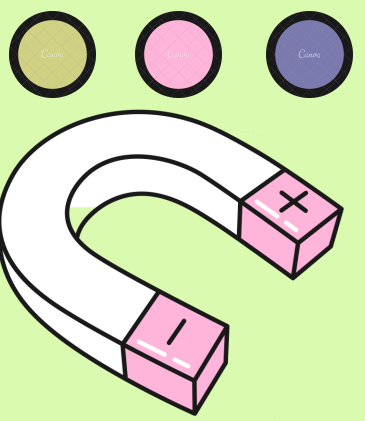
- # Gearbox
- # Balance Wheel
- # Head (Chop Cutter and Thresher)
- # V- Belt
- # Bearings
- # Pulleys
- # Other small parts like nut-bolts, screws, washers etc..

3

PAINTS

- # Layer 1 painted on metal -- Red Oxide Primer
- # Layer 2 painted on metal -- Enamel (metal paint)

Both of these paints are purchased in bulk from market at market rate.



SOME IMAGES OF RAW MATERIALS BOUGHT IN BULK AT THE INVENTORY



SOME IMPORTANT MACHINES USED IN THE INDUSTRY ARE



#Welding machine

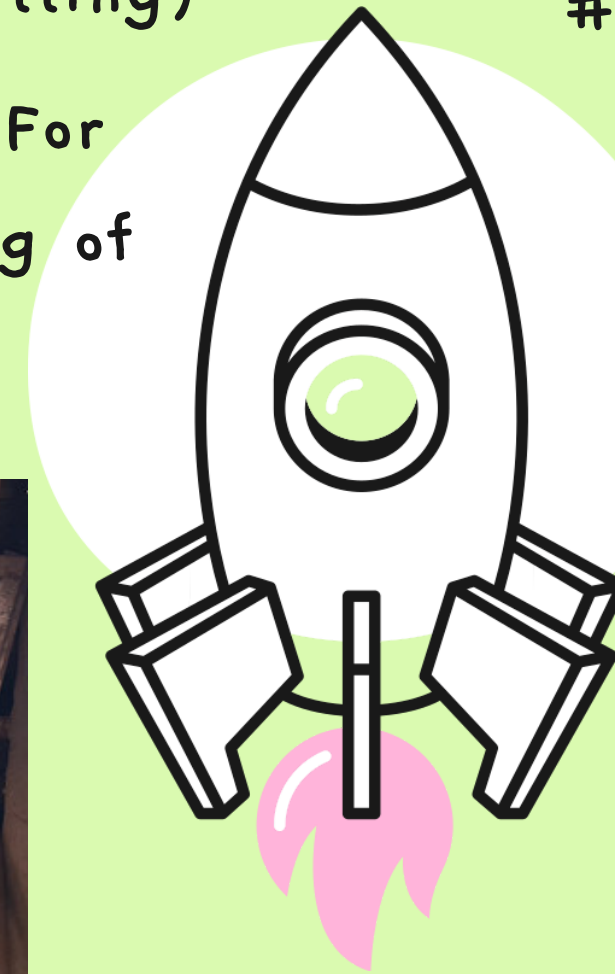


#CNC Shearing machine (Straight Cutting)



#Hydraulic press

- #CNC Plasma Cutting machine (Curve Cutting)
- # Bench Grinder (For shaping or smoothing of metal parts)



- #Hand Plasma Cutting machine (metal cutting)
- #Lathe Machine (Turning Machine)

#Drill Machine (hole drilling)

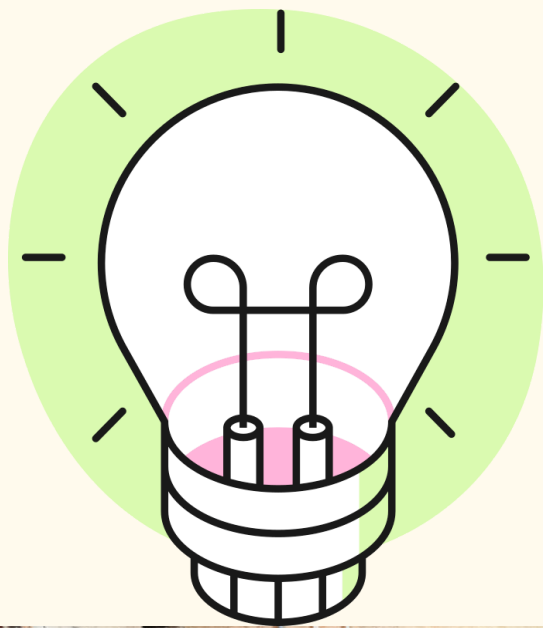
#Hydraulic bending machine (For bending metal sheets)

#Tapping machine (For threading of metal parts)

#Milling machine (gear Cutting and keyway cutting)

Some Softwares used for design of machines

- 1) Autocad
- 2) Catia
- 3) Fast cam



Major Customers

Major Customers of the industry are

- 1) Farmers
- 2) Dealership



#CNC Plasma Cutting machine (Curve cutting)



#This machine cuts sheets this way in curved manner.



Working of this machine.

Conclusion

- => This industrial visit made me more aware how the industry works.
- => How the products required are manufactured.
- => How the labours are managed at the factory.
- => By visiting this industry I came to know a normal workshop can become a profitable industry with really good and genuine engineering solutions to the agricultural sector.



**THANK
YOU**

INDUSTRIAL VISIT

DATE OF VISIT :- 02/Feb/2023

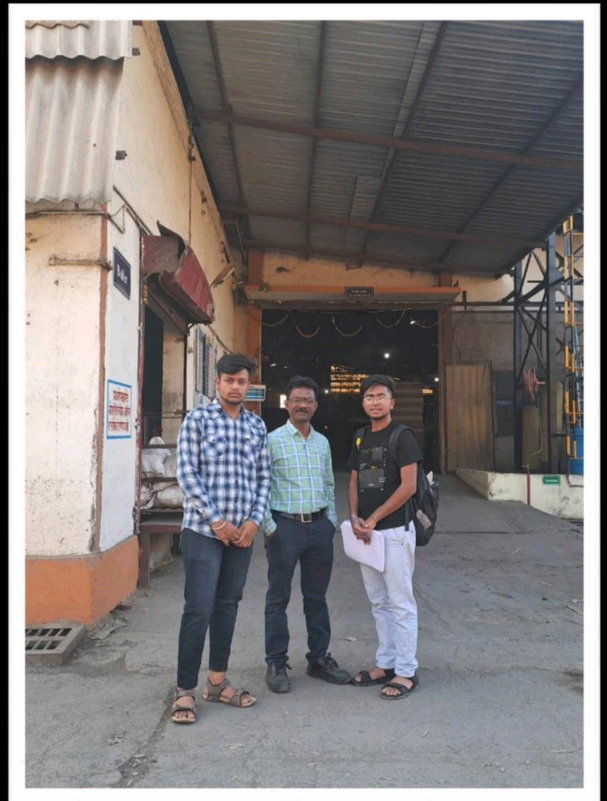
HORIZON PACKS PVT LTD, KHAMGAON

- NAME -Vinayak Warade
- BRANCH- 1M[2022-2023]
- STUDENT ID- 307542
- ROLL NO- 64

➤TO :- A.V.PATIL SIR



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- GSM tester (Gram Square Meter)
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Sewage Water / Ink / Starch
Purification to give pure water.



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Boiler (Thermax Pune)



Automatic board plant



4 Colour printer slotter , die cutter
with stacker (Dongfang Topra 1228)



Auto stapling cum gluer (Insun)

Auto Bundling machine (Transpack)



FINAL PRODUCT



Pitch



PRINCIPAL
Shri Sant Gajanan Maharaj
College of Engineering, Shegaon.

This document is Certified from Page 1
to 304