



A Report on Industrial Visit at Jay Metal Tech Surat, Gujarat, India



Mechanical Engineering Department of S.N.P.I.T. & R.C., Umrakh arranged an industrial visit to Jay Metal Tech Surat, Gujarat, India on 8th & 9th March 2018 with 90 students of 2nd year Mechanical Engineering. The purpose of the visit was to enhance industrial exposure of the students and get practical knowledge of manufacturing procedure of various products made by casting processes and related with other advanced machineries. The team of two faculty coordinators Mr. Jagdish khatwani & Mr. Hiten Mistry and three lab assistant Mr. Kanti Parmar, Mr.Hardip Patel, Mr.Vilash Mahiyavanshi took part in prestigious industrial visit.

AIM OF INDUSTRIAL VISIT

Industrial visit is considered as one of the tactical methods of teaching. The main reason behind this are: to let student know things practically through interaction, working methods and employment practices. Moreover, it gives exposure from academic point of view. It also provided students a good opportunity to gain full awareness about industrial practices.

ABOUT INDUSTRY

Jay Metal Tech is established in the year 2001, and is ISO 9001 certified organization engaged in manufacturing and supplying Industrial Valves and Castings. Comprehensive range includes products like Propeller Shaft Casting, Pump Casting, Railway Pin Insulator and Sluice Valve and also offers a wide range of Butterfly Valve, Check Valve, Clutch Pressure Plate and Propeller Shaft Casting. Their range is manufactured using high grade material like stainless steel, carbon & alloy steel, cast iron, ductile (S.G.) iron, non-ferrous metal and others.

JMT's value for money range is manufactured at company's state-of-the-art manufacturing unit using sophisticated machines. JMT specialize in manufacturing ductile iron and grey iron casting in weight ranging from 300 grams to 5000 kilograms. Their range is manufactured using heat treatment, surface treatment and machining process, which makes it ready to assemble. The Power Grid Corporation Of India – PGCIL has approved JMT as the supplier of SG Iron castings to various insulators manufacturing industries. It is testimonial to the high standards castings manufactured by them. JMT is backed by a team of after sales personnel, which maintains healthy business relations with our clients, enabling us to understand their specific requirements. Owing to all these factors, they are able to garner clients all over India. Under the guidance of mentor, Mr. Jayesh Wankawala, JMT is able to offer their valuable clients, a range that is appreciated for its quality, durability and longer service life.

Below is the Technology learning from the industrial visit at Jay Metal Tech Surat which will impart roots of knowledge in our students of Bachelors of Engineering:

With the use of sophisticated machinery, JMT is able to provide a range that is efficiently catering to the demands of their clients. JMT undertake different processes for the production of their range. All these processes are an integral part of manufacturing and are undertaken by experienced workforce.

Following process are undertaken for the manufacturing of various casting products:

MELTING

- Induction Furnaces - 2 Panels (Dual as well as Mono Track) with 4 Crucibles
- Melting capacity 40 tons/day liquid metal aggregating 10,000 Tons Casting/annum.



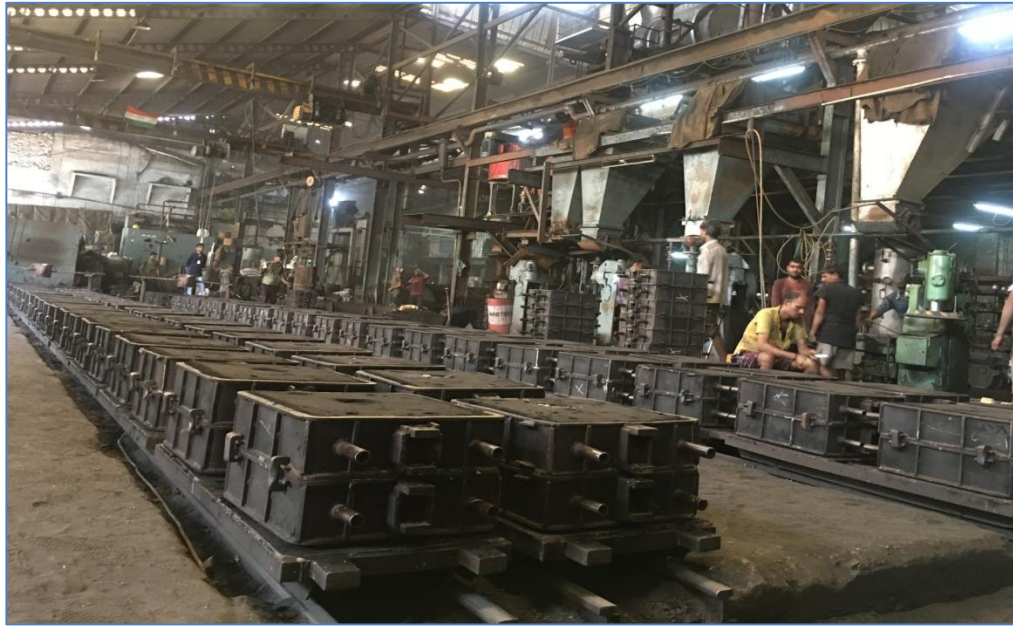
- Gang of treatment & pouring ladles for maximum size upto 5 tons per single piece

SAND PROCESSING

- Green Sand conditioning plants with a capacity of 300 M. T. of processed molding sand per day
- Fluidized bed & rotary drum type sand cooling system equipped with pollution control equipment
- Silicate Sand mixtures with Auto Binder addition Pumps with sand attrition & reclamation plant equipped with pollution control equipment

MOLDING

- Molding line equipped with ARPA 450 & ARPA 300 equivalent simultaneous jolt squeeze molding machines



- Molding Capacity of 3000 per day, supported by hydraulically operated mold handling system
- Hand molding facility up to 3.0 * 3.0 meters
- Box size by silicate and chemically bonded sand process

CORE MAKING

- Vertical & Horizontal parting shell core shooter machines



- Sand mixtures with Auto Binder addition Pumps for CO₂ & Single part no-bake cores

COMPONENT DRESSING AND FINISHING

- Chain of fully automatic shot blasting machines equipped with dust collection units
- Full line of swing frame, pedestal, bench and pencil grinders

HEAT TREATMENT

- Oil fired bell type furnace of 2 tons per batch capacity
- With auto temperature controller
- With 3 pen graph plotter suitable for stress relieving, annealing, normalizing, tempering, heat treatment process

MACHINING

- Set of conventional and CNC machines suitable for various type of jobs (Out sourced)

SURFACE TREATMENT

- Crucible type fully equipped gas fired & electric hot dip galvanizing plant (Out sourced)
- Trolley type diesel fired oven and booth type powder coating facility

PATTERN MAKING

- Fully fledged pattern development facility with experienced team



The students got the opportunity to learn about different products and process which undergoes the subject Manufacturing Process II. In addition, Machine learning was given by their officials at every corner of their plant. We S.N.P.I.T. & R.C. Mechanical Engineering department team are really thankful to the Jay Metal Tech Surat and their team.