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# **INTRODUCTION TO THE COMPANY**

## **INTROUDUCTION:-**

MEGA HEAT CAST (P) Ltd. was commissioned in Oct. 1997, with a capital investment of Rs. 1.9 Corers. It is potentially a casting unit of different dimensions and profile. It now holds a status of equality casting in this area. Its workshop & Regd. Office now stands in industrial area phase-IX, plot no. 229 S.A.S Nagar (Mohali) Punjab.

## **MISSION & PURPOSE:-**

There being no other unit in this area at that time, the promoters of this unit felt the pulsating needs of the customers for the prospective marketing trends in the Automobile sector, and finding a vibrant industrial scenario, fast approaching, decided to establish this unit here.

The basic of our concept of our technical know-how, is, that we recognize the quality and productivity, as two factors in the same equation. Both are crucial for our success. Hence we believe in day-to-day, interaction with customers, to maintain the level of excellence so as to sustain our guaranties, conferred upon our unit, by ISO-9001:2000 CERTIFICATION

The quality insurance obviously covers all important inputs, that is form training to delivery and all other related activities.

## **THE CONSTITUTION OF THE BOARD OF DIRECTORS**

### ➤ **BOARD OF DIRECTORS**

- |                        |                    |
|------------------------|--------------------|
| ❖ Mr. Gurcharan Singh  | Technical director |
| ❖ Mr. Raj kumar Dhiman | Managing director  |
| ❖ Mrs. Gurpreet Kaur   | Director           |

### ➤ **MANAGING DIRECTOR**

Mr. Raj kumar Dhiman is a Metallurgical Engineering Graduate and is responsible for the efficient operation of the plant with the experience of 25 years in the foundry and related areas. He is a key man of the Co. and is fully acquainted with all the process of industry

### ➤ **DIRECTOR TECHNICAL**

Mr. Gurcharan Singh is an Electrical Engineer, retired as A.E.E (Assistant Executive Engineer) From P.S.E.B (Punjab State Electricity Board), after putting in a meritorious service of 33 years. He guide & maintains the plant to keep its working efficiency in the general flow of environments

## **COMPANY INFRASTRUCTURE**

### ➤ **LOCATION OF THE COMPANY:-**

14Kms from Chandigarh Railway Station

12kms from Chandigarh Bus stand

15kms from Chandigarh airport

The company is located in Phase-IX area  
S.A.S Nagar Mohali

- **TOTAL AREA** : 1500sq. Y
- **BUILT UP AREA OF FOUNDRY** : 1297sq. y
- **INSTALLED CAPACITY** : 4000 tons P.A
- **PRESENT PRODUCTION** : 230 tons of graded, C.I & S.G iron casting Per  
month
- **TURNOVER OF 2012-13** : 2800 tons of graded, C.I & S.G iron casting.
- **PROJECTED PRODUCTION** : 3400 tons of graded, C.I & S.G iron casting.  
& **TURNOVER (2013-14)**

## **COMPANY'S OBJECTIVE & END RESULT**

### **QUALITY OBJECTIVE OF THE COMPANY**

- ❖ **TIMELY COMPLETION OF TASKS:-** To live up to our commitments & goals, we stay in touch with our customers, who help us to develop a closer partnership with our customers, which ultimately brings us nearer to their needs. The end results entail us to communicate their appropriations to our work force. It not only motivates our employees, but also give them a

feeling of their involvements in all processes. Our experienced supervision also watches the actual spirals of our products.

We believe that machines are only the tools and it can work only if the hands of the workers are substantively competent to change it in actual.

❖ **REJECTION RATE:-** As discussed above, we believe to get our employees fully involved in the quality rout in all processes of our castings. Feed back is taken and given, and participation in the quality decisions is our ongoing process. In short our management, our workers, our customers, take care of this aspect on a common hinge, that is of quality and quality only.

❖ **SALES:-** We do indulge in hard efforts to increase the sale but it cannot be increased on simple solid state circuit. There are so many agencies and department which hinder our ways to get to this scale, of increasing our sales.

The main factors to quantify our results are availability of power during summers and unsuspecting marketing-fluctuation for inputs etc. anyway our managerial skills to control this sector is, to work in more shifts on daily basis, which putas our data-base in a fairly good tolerance limits in our progress chart.

## **MANUFACTURING FACILTITIES**

This department is headed by development Manager. The development manager is responsible for assessment of feasibility of developing casting, study of drawing, pattern layout, monitoring of pattern development activity, inspection and approval of pattern equipment received from the customer, local pattern manufacturing vendors, methods and development of casting of various types as per customer's specification.

The assistant superintendent pattern ship assists development manager in executive day to day activities. The methods and development work is carried out in co-ordination with other

production department and in consultation with the technical director and production manager. The development and pattern shop department efforts to increase yields and productivity by simplifying molding, core making fettling work to bring down the cost of production and rejection.

### **PATTERN SHOP**

The assistant superintendent is in charge of pattern shop and resort to the development manager. In this department's inspection of patterns, mounting and providing gating system, repairing and maintenance of pattern is done. This department maintains the records of all items from sampling stage to establishment of items in the routine production in the form of job card.

### **SAND PLANT (GREEN SAND)**

Green sand is machine molding department is prepared in semi-automatic sand equipped with a 500Kgs cap. Intensive mixture. The return is processed by adding new silica sand, Benton coal, bentonite, coal, dust required moisture contents to maintain & achieve green sand properties like green compressive strength, shear strength, permeability, compatibility etc. for proper molding and surface finishing of the casting.

### **HAND MOULDING DEPARTMENT**

This department is looked after by experienced super visors under the guidance of production manager. In this department skilled workers are employed. Casting weighing from 50kgs and above to 400kgs is produced by Co2 and no bake/air set process. There is one Muller and sand mixer of 300kgs cap/each in with Co2 and no sand is prepared in hand molding bay.

### **MACHINE MOULDING DEPARTMENT**

This department is run in all shifts and is looked after by respective machine molding shift supervisor and under the guidance of assistant and production manager.

Machine molding is equipped with 2 machine of manually operated jolt, squeeze and pin lifting types of molding machines with the box closing system.

The mould box size is

400mmx500mmx100mm

720mmx570mmx200mm

550mmx550mmx200mm

In machine molding casting in the weight range from 2kgs to 50kgs per pc suitable to the above sized is produced. Pouring of mould boxes is done. The poured boxes are pushed to shake out station where castings are removed from the mould boxes and hot sand is returned.

Casting weighing more than 50kgs to 150kgs per piece is produced on W.E.L Molding machine.

### **CORE SHOP**

The shift supervisor reports day to day activities to production manager. There are skilled workmen's in this department.

There is one sand mixer of 300kgs capacity in which Co<sub>2</sub>, sand is prepared for making Co<sub>2</sub> cores.

One shell core shooter with plate size 300mmx250mm is installed for the production of shell cores which is used to produce intricate, pressure tight, hydraulically tested casting with good surface finish and close dim, tolerance. The shell core shooter is provided with timers to control sand feed investment, curing time, vibration time for easy removal cured shell cores. The temperature controllers are used to increase/decrease curing temperature depending on size & thickness of core.

### **MELTING AND POURING SECTION**

This department works round the clock. Melting department is looked after by shift supervisor and highly skilled work's men.

The details of melting furnaces are:-

250 KW 500Kgs cap. With spare crucible

All melts are checked for the bath %carbon, %silicon, Carbon Equipments (Carbon equalizer) and temperatures by FERRO-LAB before pouring which helps in ensuring proper grade of casting.

### **KNOCK OUT STAGE INSPECTION**

Machine molding and hand molding casting are inspected at knock out area to sort out casting rejected due to foundry defects like blow holes, shrinkage, shift, sand wash, cold metals etc.

The inspection department prepares rejection report and feed back is given to director technical, production manager and other concerned person to make corrective action to bring down rejection level.

### **SHOT BLASTING & FETTLING**

This department is looked after by experience supervisor and skilled workmen.

Those casting which do not involve Heat-treatment are sent for shot blasting. There is one "48" inches rotating belt shot blasting machine which is utilized for shot blasting to remove sand, scale formed during heat treatment. The shot-blasting section is round the clock to feed casting to fettling section.

The fettling shop is equipped with swing frame grinders, pedestal grinders and pneumatic grinders for finishing and casting. As usual hand molded casting is chipped by hand then finishing is done by swing frame and pneumatic grinders.

### **MAINTENANCE**

The maintenance department is lead by highly experienced maintenance manager. He is assist by mechanical and electrical supervisor, fitters and electronics. The maintenance team looks after maintenance of melting furnaces, molding machines, compressors, pneumatic tools, and overhead cranes & allied machines.

The preventive maintenance is done on every Saturday which is weekly off.

## **QUALITY ASSURANCE**

Is the policy of MEGA HEAT CAST (P) Ltd. to meet requirement of quality as we believe in customer satisfaction. To maintain the quality of our product by checking the composition of the carbon & silicon in every heat by the help of instruments that are maintained in our laboratory. We have highly skilled supervisor which inspects the incoming raw-material and quality control by final inspection.

### **INCOMING RAW MATERIAL INSPECTION**

This foundry material department procures raw material from the reputed and quality conscious suppliers. The incoming raw material like M.S, Silicon Scrap, Ferrosilicon, Ferro-manganese, ferromolybdenum, silicon sand, bentonite, coal dust, No bake binders etc. are tested either in a metallurgical lab or sent for testing to outside laboratories for verification of quality.

Only accepted raw material is taken for production and rejected raw material are kept separately and returned to the supplier.

### **QUALITY CONTROL (FINAL INSPECTION)**

This department is headed by quality control manager and is assisted by assistant experienced quality control personnel.

The shot blasted and fettled castings are offered to final inspection. The casting are inspected for visual defects, grinding of risers, parting lines, finishing lines, etc. in the inspection casting are also checked for mechanical properties (UTS, Y.S<%EL) and there is brineel hardness tester machine(with 3000kgs. Load, 10mm & 2.5mm dia, ball intenders) to check hardness. A few casting for hardness on samples basis and in some cases 100% hardness is also done.

### **METALLURGICAL LABORATORY**

Metallurgical laboratory is equipped with:--

- ❖ Carbon, silicon & carbon Equalizer temperature measure one unit
- ❖ Carbon
- ❖ Sulphur
- ❖ Metallurgical microscope having 100x, 200x, 500x magnification
- ❖ Universal sand testing machine with accessories
- ❖ Sieve analysis apparatus
- ❖ Wet analysis equipped
- ❖ Muffle furnace

This department is looked after by assistant superintendent Q.A qualified shift chemists and lab attendant.

## **CASTING GRADED PRODUCTS**

In our foundry cast iron, S.G iron and Ni-resist casting to Indian and overseas are produced.

### **CAST IRON**

Casting conforming to is 210-1991 as per grade,

- ❖ FG260,
- ❖ FG300,

- ❖ FG350,

### **S.G IRON**

- ❖ Gr.450/10,
- ❖ Gr.500/7,
- ❖ Gr.600/3,
- ❖ Gr.700/2.

Casting conforming to is 1865-1991 as per grade,

We are regularly producing casting in Ni-resist D2 grade.

## **LIST OF EQUIPMENTS & MACHINERY INSTALLED IN THE PLANT**

### **➤ MELTING FURNANCE**

- ❖ Medium frequency furnace  
250KW, 500kgs cap. With spare crucible
- ❖ Overhead electric crane 2 metric tone capacity

➤ **MOULDING DEPARTMENT**

- ❖ level-I (2Nos.)
- ❖ level-II (2Nos.)

➤ **HAND MOULDING**

- ❖ Muller for preparing Co2 & no bake sand 300Kgs. Capacity
- ❖ Overhead electric crane 2M.T capacity

➤ **CORE SHOP**

- ❖ Sand mixer 300kgs. Capacity
- ❖ Shell core shooter(Plate size 300mmx250mm)

➤ **METALLURGICAL LAB**

- ❖ Carbon & silicon determinate and carbon equalizer
- ❖ Metallurgical microscope with 100x, 200x, 500x, Magnification.
- ❖ Micro polishing machine
- ❖ Ferrolab for bath analysis of %carbon, %silicon & carbon equivalent.
- ❖ Sieve analysis apparatus
- ❖ Universal sand testing machine with accessories
- ❖ Muffle furnace upto 1000c temp. controller
- ❖ Sand testing instrument (complete set)

➤ **SHOT BLASTING & FETTLING**

- ❖ Shot blasting machine 48" dia table
- ❖ Swing frame grinders
- ❖ Pedestal grinders & pneumatic grinders

➤ **MAINTENANCE**

- ❖ Compressor 200 C.F.M
- ❖ Lathe 6" length(2 Nos.)
- ❖ Drilling machine
- ❖ Electrical welding set
- ❖ Co2 & oxygen welding and cutting set

## **OUR MAJOR CLIENT**

We are really happy to make our best to our small family members

### **DIRECT CUSTOMER'S**

- ALLENA AUTO INDUSTRIES (P) Ltd. (Mohali)
- ALLENA AUTO INDUSTRIES (P) Ltd. (Delhi)
- OMEGA PRECISION (P) Ltd. CHD

- KABLON ENGG. WORKS (Mohali)
- UNITED GEARS (Panchkula)
- AUTO PUMP ENGG. (Panchkula)
- GROOVED WHEELS DIVISON (Delhi)
- PRECISE ENGG. (Mohali)
- ANEST IWATA MOTHERSONS LIMITED(Noida)
- Jain industrial Products (Rohtak)
- Hi-Tech Auto Industries(Delhi)

#### **IN-DIRECT CUSTOMER'S**

- MARUTI UDYOG LTD (Gurgoan)
- SWARAJ ENGINES (Mohali)
- DENSO INDIA LIMITED (Noida)
- EICHER LIMITED (Export)
- H.S.P.(Honda Siel Power Products)