

# EXECUTIVE SUMMARY

FOR

*Expansion in unit by Replacing Existing Induction Furnace,  
installation of new Induction Furnaces and upgradation of Rolling  
Mill and Concast*

**M/S GOYAL MALLEABLES (P) LIMITED**

Village-Malakpur, Sirhind, Tehsil & District-Fatehgarh sahib, Punjab.

Prepared by

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## EXECUTIVE SUMMARY

### 1.0 Project Name and location

The proposed expansion project of M/s Goyal Malleables (P) Limited. is located at Village-Malakpur, Sirhind, Tehsil & Fatehgarh Sahib, Punjab.

### 2.0 Products and capacities

The industry has already got CTO for manufacturing of M.S Ingots / Concast Billets, Rolled Products (Round Square girder, Angle, channel, flat @ 84TPD through Induction Furnace. The existing capacity of Induction Furnace is 7TPH. The project proponent proposes to replace the existing Induction Furnace with two no. of Induction Furnace having capacity 15 TPH and upgradation of existing Rolling Mill attached with an independent Reverberatory Furnace (Coal/Gas Fired) of 10 TPH with 20 TPH. Total capacity of the project after expansion will be 1,57,500TPA of MS Ingots/Concast Billets, Rolled products (Rounds, Square, girder, Angle, Channel, Flat etc.)

**After expansion the production details will be as under:**

Product Name	Existing (TPA)	Proposed (TPA)	Total (TPA)
M.S Ingots / Concast Billets, Rolled Products (Round Square girder, Angle, channel, flat etc.)	29,400	1,28,100	1,57,500

### 3.1 Land Area

The total land area of the unit is 3.72 acres or 15074.41 sqm. The green belt requirement is 4974.55 sqm i.e. 33% of total area.

### 3.2 Raw Material Requirement

The raw materials and finished goods will be transported through trucks. There is well developed road structure on, Mandi Gobindgarh as well as within premises also. No additional road infrastructure will be required for transportation. The raw material details are given as under:

Raw Material	Existing (TPA)	Proposed (TPA)	Total (TPA)
MS Scrap& Ferro Alloys	31,150	1,42,100	1,73,250
Source & Transport	Local & International Markets & transport through covered Trucks.		

### 3.3 Water Requirement

Water consumption in the unit shall be for twin purpose namely domestic and make up water for cooling tower (CT). Water requirement will be met through existing tube well. The detail of water requirement and water balance is given below: -

#### Water Balance for Summer Season

DESCRIPTION	EXISTING REQUIREMENT	PROPOSED REQUIREMENT	TOTAL REQUIREMENT
Domestic	6.50 KLD	4.50 KLD	11 KLD
Cooling (makeup water)	14.00 KLD	183 KLD	197.0 KLD
Total	<b>20.50 KLD</b>	<b>187.50 KLD</b>	<b>208.0 KLD</b>

#### Water Balance for Winter and Rainy Season

DESCRIPTION	EXISTING REQUIREMENT	PROPOSED REQUIREMENT	TOTAL REQUIREMENT
Domestic	6.50 KLD	4.50 KLD	11 KLD
Cooling (makeup water)	14.00 KLD	114.5 KLD	128.5 KLD
Total	<b>20.50 KLD</b>	<b>119.0 KLD</b>	<b>139.5 KLD</b>

### 3.4 Power Requirement

The Power Requirement will be met by sourcing the power from Punjab State Power Corporation limited from nearby Sub-station. The detail of power requirement existing & after expansion is given below: -

#### Power Requirement

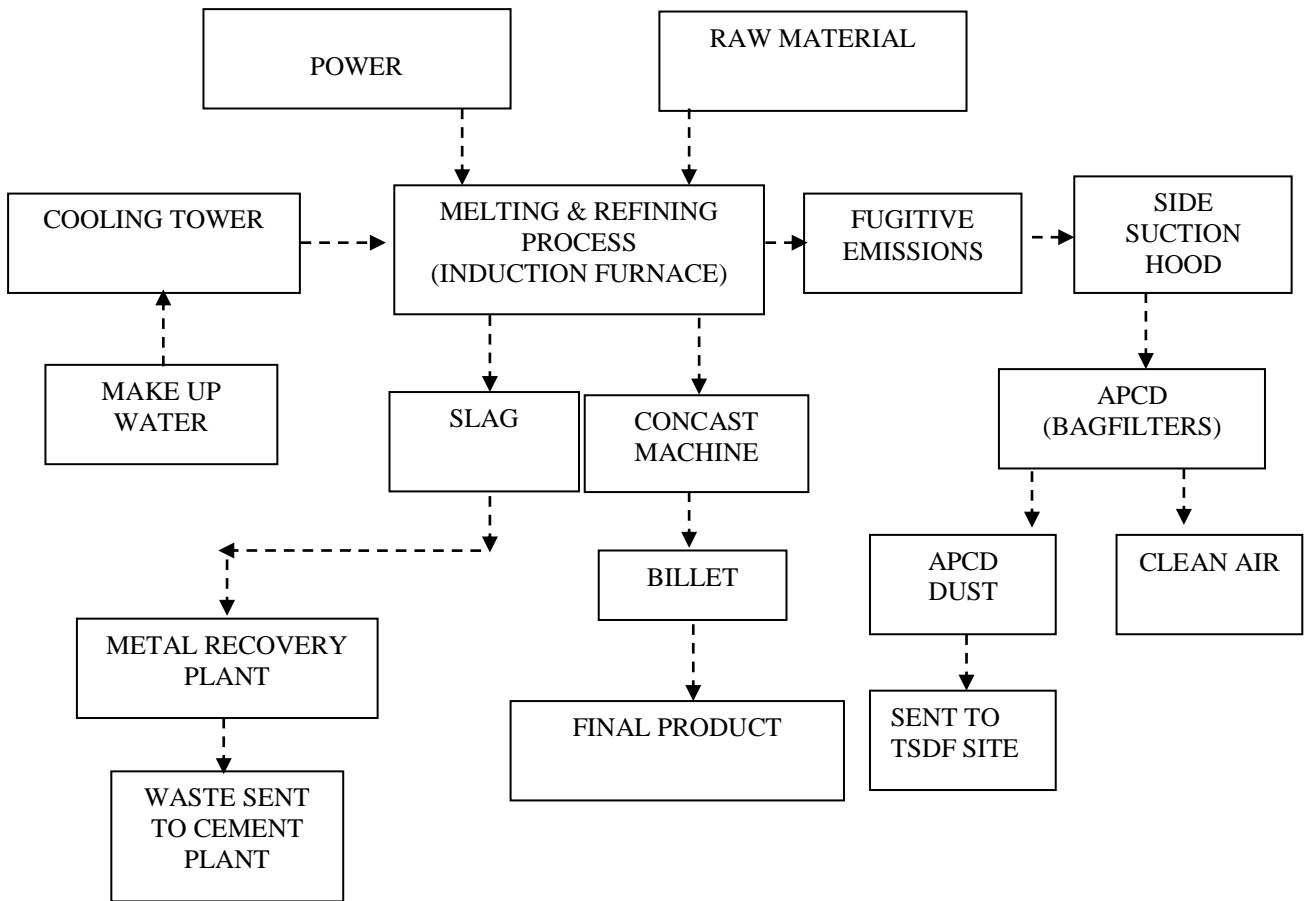
DESCRIPTION	EXISTING (KW)	PROPOSED (KW)	TOTAL (KW)
Power	4000 KW	10000 KW	14000 KW
Source	Punjab State Power Corporation Limited, Punjab		

### 3.5 Manpower Requirement

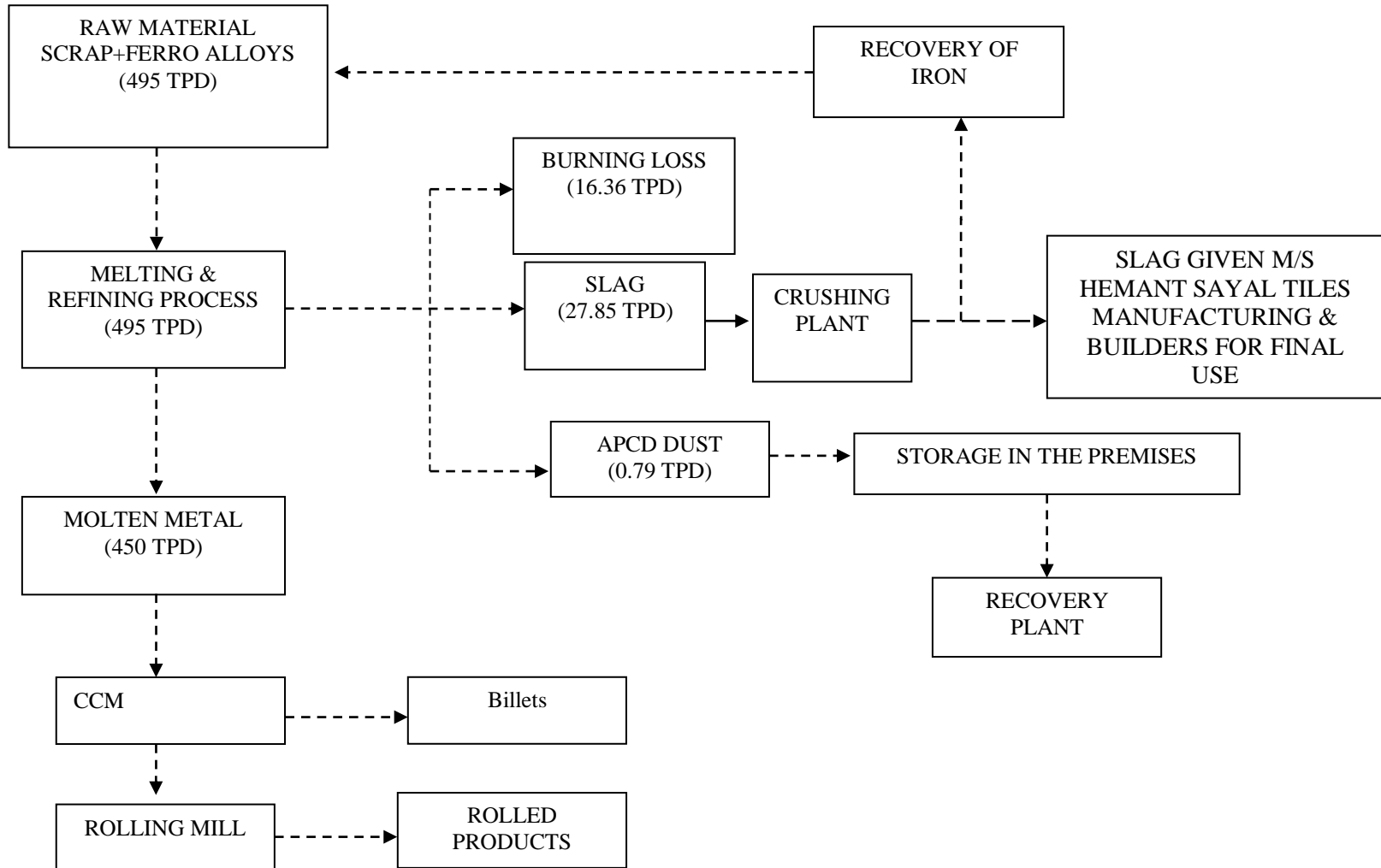
There are about 130 persons working in the unit. After expansion about 230 persons will be working in the unit.

### 4.0 Process Description

### Flow Chart of Manufacturing Process



## MATERIAL BALANCE



## **5.0 Description of Mitigation Measures**

The purpose of mitigation measures is to avoid, reduce or minimize adverse impacts on the environment. To minimize & control the emission from I.F, the exhaust after suction through side suction hood is passed through spark arrestor, air cooling and finally bag filters before its discharge to atmosphere. DG set is fitted with a canopy and adequate stack to take care of noise and particulate & gaseous emission.

- Total quantity of slag generated after expansion will be 27.85 TPD which will be sent to M/s Hemant Sayal Tiles Manufacturing & Builders for final disposal.
- APCD dust will be sent to M/s Jogindera Castings Private Limited for final disposal.
- Used oil from DG sets will be used as lubricant in the industry

## **6.0 Cost Details**

- The total cost of the project after expansion will be ₹31.63 Crores including ₹19.96 Crores as cost of expansion.
- The proposed expansion will be done within one year after granting of Environment Clearance.

## **7.0 Site Details**

The proposed project site is located at Village-Malakpur, Sirhind, Tehsil & District Fatehgarh Sahib, Punjab is having its global coordinates as Latitude 30°36'57.19"N, 30°36'57.12"N, 30°36'53.50"N, 30°36'53.42"N and Longitude 76°20'56.82"E, 76°21'1.73"E, 76°21'1.94"E, 76°20'56.89"E. Fatehgarh Sahib is the nearest city approx.. 5 km from the project site. Sirhind is the nearest railway station (about 3 km). Nearest Airport is Chandigarh which is at 42 km from site. No National Parks/ Wildlife Sanctuaries/ Biosphere Reserves/ Reserved Forests exist within 10 km radius of project site. Bir Bhadson is about 13 km towards SW from project site.

## **8.0 Baseline Environmental Data and their impacts**

Various Environmental factors as existing in the study area which are liable to be affected by the activities have been assessed both quantitatively and qualitatively. Baseline environmental data generation of study area was carried out during the period October-December, 2023.

### **8.1 Ambient Air Quality**

The PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>2</sub>, CO levels were monitored at eight locations in the study area for three months (October-December,2023). The P98 levels of criteria pollutants are as follows: PM<sub>2.5</sub> is 42.16 µg/m<sup>3</sup>, PM<sub>10</sub> is 92.01 µg/m<sup>3</sup>, SO<sub>2</sub> is 11.74 µg/m<sup>3</sup>, NO<sub>2</sub> is 23.8 µg/m<sup>3</sup> and CO is 00.63 mg/ m<sup>3</sup>. The baseline air quality level is within the National Ambient Air Quality Standards prescribed for industrial, residential, rural & other area and also satisfies the air quality index (AQI) w.r.t. health bracket for all the monitoring. **(Standards are 60, 100, 80, 80µg/m<sup>3</sup> and 4.0mg/m<sup>3</sup> for PM<sub>2.5</sub>, PM<sub>10</sub>, SO<sub>2</sub>, NO<sub>x</sub> and CO respectively)**. Due to better pollution abatement facilities, proposed expansion will have insignificant impact on existing air quality.

### **8.2 Water Quality:**

Eight groundwater samples and one surface water sample were collected from the study area for physical, chemical and bacteriological analysis. The groundwater quality of the study is satisfactory. No chemical or bacterial contamination was found in the water quality. Since, no waste water will be discharged on land, water quality is not likely to be impacted.

### **8.3 Noise Environment**

Ambient noise levels were monitored at 8 locations in the study area. Noise levels at the Project site was found to be 69.6 dB (A) in day time and 54.3 dB (A) at night. The highest levels were observed at Project Site. The baseline noise levels are well within the National Standards. Proposed expansion will have less impact than existing one due to better pollution control facility.

### **8.4 Soil Quality**

Eight soil samples were collected from the study area and analyzed. The texture of soil is sandy loam. The organic matter, nitrogen, potassium and phosphorus content of the soil are moderate. The pH of all the soil samples is within the acceptable range. No impact on soil will be there for proposed plant as no waste will be discharged on land.

### **8.5 Ecological environment**

Ecological data has been collected through secondary sources and by site visits. The tree species kikar, Jamun, Peepal and Mango etc are the dominant plant species of the study area. Mongoose, porcupine, jungle cat, cobra, krait, snakes, hare, pigeon and variety of birds are the common animals of the study area. No endangered species of plants and animals are found in the study area, so no impact on ecological environment.

Within the study area, no plant or animal species were found to be on the endangered list. No ecologically sensitive area like biosphere reserve, tiger reserve, and migratory corridors of wild elephant, wetland, national park and wildlife sanctuary are present in the study area. Agriculture and industrial workers dominate the occupational structure of the study area. Several induction furnaces, rolling mills, ferroalloy plants, brick kilns, and other small units are present in the study area.

**8.7 Socioeconomic Condition:**

Socioeconomic status has been studied through secondary sources and by site visits. The social requirements identified such as Drinking water requirement, Promotion of Educational institutions and Medical facilities to the villagers (especially Senior Citizens and infants or pregnant ladies). Community centers, recreation facilities etc will also be developed as part of social responsibility.

**9.0 Possible Hazards & Risks from Secondary Metallurgical Industries**

The various process operations, which are having potentially high risk to human exposure and which have high levels of attention area identified in **Table**.

**Table: Possible Risk**

S.No.	Plant Area	Possible Deviation	Likely Causes	Consequences
1	Furnace	Re-circulating and cooling water coming in contact with the molten iron or slag.	Leakage of water from the walls Spurting of metal/slag.	Explosion under extreme cases.
		Presence of Oil & Grease and other	Fire	Sudden catches fire & flames
2	High Power Transformer	Oil temperature being very high.	Varying room Temperatures.	Sudden flashing of fire or bursting.
3	High Tension Electrical Installation	Heavy sparking at the pot heads and the joints.	Loose joints, cable cut, burning of fuses, short circuits etc.	Sparks in the beginning, devastating fire if neglected.

**10.0 Emergency Plan**

Emergency planning is primary for the protection of plant personnel and people in nearby areas and the environment that could be affected by unplanned hazardous events. Furnaces



are associated with fire and electrical hazard due to sudden generation of pressure or temperature that leads to damage, injury and death. Temperature and pressure are closely related, and when flammable or combustible mixture is present in process equipment that leads to worst consequences. Thus, an engineering evaluation will be done for worst-case scenario.

### 11.0 EMP Budget

<b>S. No</b>	<b>Title</b>	<b>Capital Cost Rs. Lakh</b>	<b>Recurring Cost Rs. Lakh/Cost annum</b>
1.	Pollution Control during construction phase	5.0	2.0
2.	Air Pollution Control (Installation of APCD)	120.0	10.0
3.	Water pollution Control (installation of Septic tank)	2.0	0.25
4.	Green Belt development	7.46	7.46
5.	Noise Pollution Control	5.0	1.0
6.	Solid/ Hazardous Waste Management	5.0	2.0
7.	Occupational Health, Safety and Risk Management	5.0	1.0
8.	Energy Conservation	3.0	1.0
9.	RWH	10.0	2.0
	<b>TOTAL</b>	<b>162.46 Lakh</b>	<b>26.71 Lakhs</b>
<b>ADDITIONAL MANAGEMENT ACTIVITIES</b>			
<b>S.No.</b>	<b>Additional Management Activities</b>	<b>Budget Allocation</b>	<b>Timeline</b>
1.	Replacement of SUP with Jute Bags	Rs 15 Lakh	Before coming

	distribution (2000 bags) with help of District (Fatehgarh Sahib) administration.		monsoon in the month June 2024.
2.	Tree Plantation 400 Trees & Rainwater Harvesting in Govt School	Rs 6 Lakhs	In monsoon seasons of year 2025
3.	Solar Power Plant 5KW in Govt School	Rs 10.0 Lakhs	In the Month of August 2026

### **12.0 Environment Monitoring Plan**

Regular monitoring of all significant environmental parameters is essential to check the compliance status vis-à-vis the environmental laws and regulation. The frequency of the monitoring will be as follows:

- The ambient Air quality shall be monitored at project site and two upward and downstream locations once every quarter for PM<sub>2.5</sub>, PM<sub>10</sub>, NO<sub>x</sub> & SO<sub>2</sub>, and CO levels during the Construction Phase and Operational Phase.
- The Ambient Noise Levels, Water Quality, Effluent etc. shall also be monitored once every six months or as per EC conditions.