

STAINLESS STEEL INGOTS

Product Code(ASICC) : 71126
Quality & Standards : IS: 6529 - 1996
Production Capacity : 240 MT per year
Month & Year of : March, 2012
Preparation
Prepared by : MSME DEVELOPMENT INSTITUTE,
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1. Introduction:

Stainless Steel Ingots are the basic raw material for the manufacture of various types of re-rolled products, like rounds, flats, channels equal and unequal angles etc., various engineering items like bearing ring, bushes etc.

2. Market Potential:

In Vidarbha there are very few units manufacturing Stainless Steel Ingots. On the other hand due to its specific characteristics like corrosion resistance even at elevated temperatures & toughness there is significant demand for stainless steel structurals in engineering as well as domestic areas. Raw material is also available in abundance in this region. The demand of re-rolled products has been on higher side. This gives an ample scope for setting up of unit for Stainless Steel Ingots.

3. Basis & Presumptions:

The project profile is drawn on the basis of following presumptions.

1. Target has been fixed at 240 MT/Annum of finished S.S. Ingots on the basis of single shift working and on average of 15 working days/month, which comes to 20MT in a month.
2. The efficiency of the plant has been presumed at 70% for the first year of production with a projection of 75% and 80% utilization of capacity for 2nd & 3rd year of production respectively.
3. The skilled, semi-skilled & unskilled labor will be engaged @ Rs. 3,000/-, Rs. 2,500/- and Rs. 2,200/- respectively for each type of labor.
4. Interest rate for fixed and working capacity being 12% Per Annum.
Margin money will be the 15% of the total cost of project.
5. Payback period being 9 years with a moratorium period of 1 ½ years.
Costs in respect of machinery and equipment, raw materials are those generally obtained at the time of preparation of project profile and may vary depending upon various factors.

4. Implementation Schedule:

1.	Scheme preparation and approval	-	3 months
2.	Selection of site	-	1 month
3.	Sanction of loan	-	2 months
4.	SSI Provisional registration	-	1 day
5.	Machinery procurement, erection & commissioning	-	2 months
6.	Power connection	-	1 month
7.	Trial run	-	2 months
9.	Commencement of production	-	5 months onwards

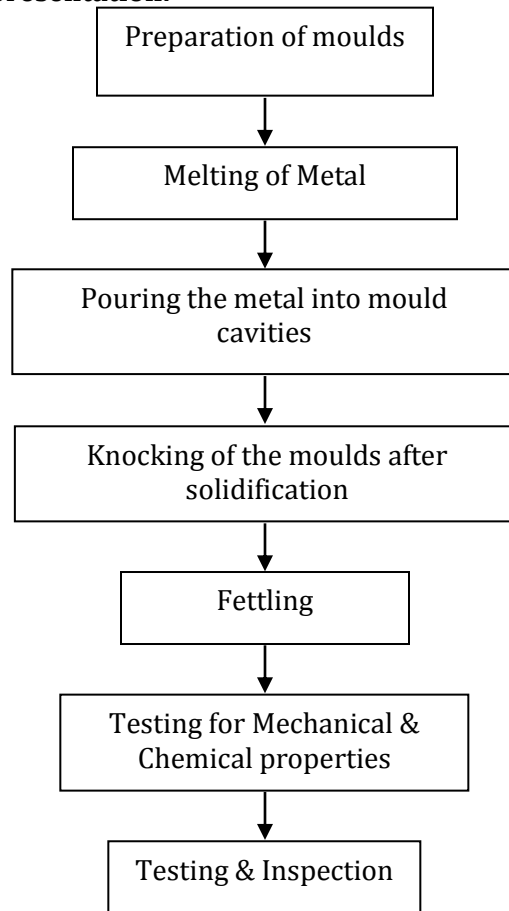
5. Technical Aspects :

a) Production Details & Process of Manufacture:

Graded Stainless Steel Scrap is charged in the induction melting furnace, melted. Measured quantities of Ferro alloys mainly FeCr is added to make the required composition and temperature raised to the desired level of pouring. At the same time duplex type CI moulds are also kept ready with appropriate cores for pouring.

b) Quality Specifications: IS: 6529 : 1996

6. Process Flow- Graphic Representation:



7. Production Capacity

a)	Quantity	:	240 MT of finished products.
b)	Value	:	3,12,00,000/-

8. Motive Power Requirement : 400 HP

9. Pollution Control:

Foundry Industry has a share in the present environmental degradation. So it is required to get NOC from Pollution Control Board of the State. The pollution control machinery and equipment costs are too exorbitant for the small foundries. Foundry Industry, depending on the character of the production, is great source of heat, noxious gases, dust and noise. It also produces a large quantity of wastes such as irreclaimable sands ashes and slags. These all elements have individual contributing effect on the environmental degradation and causes unhealthy and unsafe

condition within the foundry. The important consideration to prevent pollution is the right choice of appropriate techniques to be adopted and correct installation of department, instruments and machinery. These aspects play a significant role in reducing the proportions of pollutant and thereby reduce the magnitude of environmental degradation.

There are mainly two methods for control of pollution in a foundry:

- i) By exploiting the meteorological and topographical conditions.
- ii) By using various equipments for cleaning and dispersion of foundry emission.

For a small foundry, the exploitation of natural draughts and climatic conditions are the best and cheapest methods for dispersion of chimney emissions. Use of equipment like gas scrubbers, ventilation fan washers, etc. require considerable capital investment and also in value running expenses. On the other hand, use of high stack and operating the foundry at a time of favorable natural draught through chimney, help to successfully disperse the dust and gases emitted from the foundry at zero or negligible cost. Proper treatment and handling of the raw material also reduces the emission contents, particularly dust, use of simple measures like removal of dust from the furnace charge. Again, use of simple devices like allowing proper space beyond the furnace stack, the pollution of the neighborhood can be reduced by providing a fall out area for the dust, ash etc. within the factory premises itself.

10. Energy Conservation:

These days energy conservation efforts are needed to be strengthened substantially. The potential for conservation however, is must large and all efforts needed to be made the individuals to realize it to the extent possible.

The energy audit is an integral part of an energy conservation project and is the key to a systematic approach for decision.

Various factors which affect fuel economy in industrial furnaces are :

- Proper heat distribution, Operating at the desired temperature
- Proper selection & charging of scrap in pre-heated condition
- Reducing heat losses from openings, Minimizing wall losses
- Waste heat recovery from fuel gases

So the efficiency of a furnace will depend on how efficient the combustion system is and secondly how best the generated heat is utilized.

11. Financial Aspects

A. Fixed Capital

i) Land & Building, 1500 Sq. Meters (rented) per month 12000

ii) Machinery & Equipments:

S.No.	Description of Machines	Quantity	Price (Rs)
1	1000 Kg, 750 KW, Medium Frequency Furnace suitable for operation on 415 V A/C, with automatic voltage stabilizer, on-off switch, water valve, water cooled furnace leads, Motor & other accessories etc.	1	3000000
2	C. I. Duplex Moulds, 4" x 4" x 56"	L.S.	80000
3	E.O.T. Crane, 3 MT capacity	1	75000
4	Cooling Tower with Water pump, Pipeline etc.	L.S.	80000
5	Welding Transformer, 400Amp (Oil cooled)	1	12000
6	Drilling Machine, 1" dia.	1	7000
7	Pedestal Grinder Double Ended 8" wheel	1	10000
8	Flexible Shaft Grinder 150mm, 1HP	1	12000
9	Testing Equipments	L.S.	40000
		Total	3316000
10	Electrification & installation @ 10% of above cost		331600
11	Office equipments like furniture, fan, Computer etc.	L.S.	75000
12	Pre-operative expenses		50000
		Total	3772600

12. Working capital (Per month):**A: Staff & Labour:**

S.No.	Description	Nos.	Salary	Total
1	Works Manager	1	7000	7000
2	Supervisor	2	6000	12000
3	Accountant/Clerk	1	4000	4000
4	Laboratory Technician	1	3500	3500
5	Skilled Worker	4	3000	12000
7	Semi-Skilled Worker	6	2500	15000
8	Unskilled worker	8	2200	17600
9	Peon	1	2000	2000
10	Watchman	1	2000	2000
			Total	75100
11	Add perquisite @15% of salary			11265
			Total	86365

B. Raw Material (Per month)

S.No.	Particulars	Qty.	Rate(Rs.)	Value
1	Grades S.S. Scrap (MT)	22	88000	1936000
2	Consumables like Ferro-Alloys (FeCr, FeNi), Ramming Mass etc.	L.S.	n.a.	40000
			Total	1976000

C. Utilities (Per month)

1	Electricity	125000
2	Water	5000
	Total	130000

D. Other Contingent Expenses (Per month)

1	Rent	12000
2	Postage & Stationery	5000
3	Telephone	3000
4	Insurance	7500
5	Repairs & maintenance	5000
6	Consumable Stores	7000
7	Misc. Expenses	5000
8	Transport allowances	5000
	Total	49500

13. Total Working Capital (Per month)**2241865**

14. Total Capital Investment

i)	Fixed Capital	3772600
ii)	Working Capital	6725595

Total **10498195**

15. Financial Analysis**a. Cost of Production (Per Year)**

i)	Total recurring cost	26902380
ii)	Depn. on machinery & equipment @ 10%	23600
iii)	Depn. on furnaces @ 20%	600000
iv)	Depn. On office equipments @ 20%	15000
v)	Interest on Total capital investment @12.5%	1259783

Total **28800763**

b. Turnover (Per Annum)

By sale of 240 MTs of SS Ingots @ 130000 per MT = **31200000**

c. Net Profit per year

Turnover per year - Cost of production **2399237**

d. Net Profit Ratio

(Net profit per year/ Turnover per year) X 100 **7.69 %**

e. Rate of Return

(Net profit per year/ Total investment) X 100 **22.85 %**

f. Break-even Point**Fixed Cost**

i)	Rent	144000
ii)	Depn. on machinery & equipment @ 10%	23600
iii)	Depn. on furnaces @ 20%	600000
iv)	Depn. On office equipments @ 20%	15000
v)	Interest on Total capital investment @12%	1259783
vi)	Insurance	90000
vii)	40% of salary & wages	414552
viii)	40% of other contingent expenses excluding rent & insurance	144000

Total **2690935**

Break- Even Point (B.E.P.)

[Fixed Cost/ (Fixed cost + Profit)] X 100 = **52.87 %**

NAMES & ADDRESSES OF MACHINERY AND RAW MATERIAL SUPPLIERS :

1. M/s. Hannu Metallurgical,
B-22,Girikunj Indsutrial Estate, Chakala, Mahakali Caves Road,
Andheri (East), Mumbai – 93 Ph.no. (022)-26875545.
2. M/s. Mahavir Engineering Corpn.,
1, Ambica Estate, B/h. Agarwal I.E.,
off S.V. Road, Jogeshwari West,
Mumbai – 102. Ph.no. (022)-56992785
3. M/s. Divecha Electrtricals,
Balaji Indl. Complex,
Gala No. ½, Navaghar , Bhayandar (E), Distt. Thane.
4. M/s. Nisha Engrs. & Consultants
Nisha Enclave, Plot No. 95,
Sector 23, Cidco Indl. Area,Turbhe, Distt. Thane.Ph.no. (022)-27684697
5. M/s. Combustion Equipments & Instruments,
Jer Mahal, Dhobi Talaw, 1st Floor,Mumbai –2. Ph.no. (022)-27690171/27600842.
6. M/s. AIMIL Ltd.,
Malhotra House, Opp. G.P.O.,
Walchand Hirachand Marg,Mumbai – 1. Ph.no. (022)- 22642435
7. M/s. Electroil Super Thermal Engineers,
151, Small Factory Area, Lakadganj,Nagpur – 8. Ph.no. (0712)-2286284
8. M/s. G.R.C.
1, Taratala Road,
Kolkata-700024.
9. M/s. Standard Electricals
282, B.B. Chatterjee Road,
Kolkata-700042. Ph no. (033)- 24422063
10. M/s. Associated Engineers
32, G.C. Avenue,
Kolkata-13. Ph. No. (033)-40066117, 22126477, 24731518
11. M/s. Machine Tools Impex
75, S.C. Avenue,
Kolkata-700013. Ph no. (033)- 22377569, 65481114
12. M/s. Rana Udyog (P) Ltd.
NH-6, Vill.: Sulati, Dhulgarh,
Howrah -711303. Ph.no. (033)- 26617891

NAMES & ADDRESSES OF RAW MATERIAL SUPPLIERS :

SAIL, TISCO or Local Metal Traders or Dealers.

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