

ALUMINIUM EXTRUDED BUILDING HARDWARE

Product Code(ASICC) : 73208

Quality & Standards : IS:737-1986

Production Capacity : 60 MT per year

Month & Year of : March, 2012

Preparation

Prepared by : MSME DEVELOPMENT INSTITUTE,

(Metallurgy Division)

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1. INTRODUCTION:

Aluminium is lighter as well as less corrosive, hence aluminium extruded products are widely used in decorative building hardware, tower bolts, handles and beads for windows. Extruded Al Hardware products are less corrosive & more decorative. Hence the use of Aluminium products is increasing day by day.

2. MARKET POTENTIAL :

In context of the huge boost in real estate sector & consequent rise in residential & office construction area in this region, the market demand of extruded aluminium building hardware is on the rise for their less corrosive, decorative, attractive features. This gives an ample scope for setting up of a unit of manufacturing of Aluminium Extruded Building Hardware.

3. BASIS & PRESUMPTIONS:

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

1. Target has been fixed at production of 60 MT/Annum of Aluminium extruded building hardware items on the basis of single shift working and on average of 15 working days/month, which comes to 5 MT 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	-	3 months
6.	Power connection	-	1 month
7.	Trial run	-	2 months
9.	Commencement of production	-	6 months onwards

5. TECHNICAL ASPECTS:

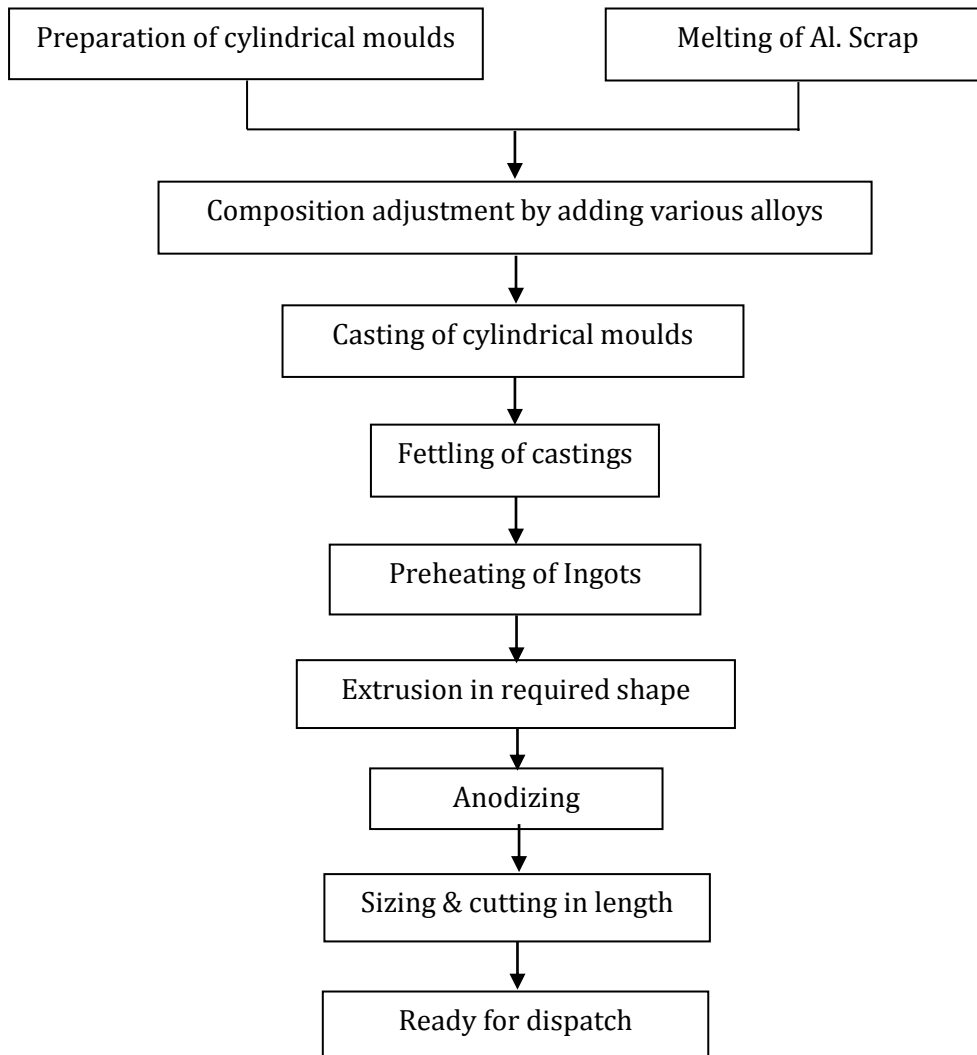
a. PRODUCTION DETAILS AND PROCESS OF MANUFACTURING:

Aluminium slabs, scraps and wastes are melted in oil fired crucible furnace. Molten aluminium is casted in cylindrical shape. These ingots are pre-heated at 400^o-500^oC. in an electric furnace. Heated ingots are extruded in required shapes by extruder press machine which produces regular shapes of extruded products. The extruded products are then sized, anodized & finally used as building hardware.

b. QUALITY CONTROL AND STANDARDS:

Quality standards of the products are maintained with respect to composition and dimensional regularities as per the customers' specification and demand. However, IS: 737-1986 is followed for general requirements.

6. PROCESS FLOW CHART:



7. PRODUCTION CAPACITY:

Quantity : 60 M.T. PER ANNUM
 Value : Rs. 2,88,00,000/-

8. MOTIVE POWER REQUIREMENTS: 50 KVA Approx.**9. POLLUTION CONTROL MEASURES:**

This industry does not come under the category of pollution industry. However, consent of the state pollution control board is required which will remain valid till a unit modifies or changes its process.

10. ENERGY CONSERVATION:

Energy audit is an essential part for energy conservation. The following factors should be taken care of with regard to fuel economy in industrial furnace.

- a. Proper heat distribution.
- b. Complete combustion with minimum excess air.
- c. Operating at the desired temperature.
- d. Reducing heat losses from openings.
- e. Waste heat recovery from fuel gases.
- f. Control of chimney draught.

Energy conserving measures like gradual heating of the scrap in crucible provided in the induction furnace & using insulating bricks touching inside face of the outer shell of the furnaces should be taken to save considerable amount of energy.

11. Financial Aspects**A. Fixed Capital**

i) Land & Building, 200 Sq. Meters (rented) per month

7000

ii) Machinery & Equipments :

S.No.	Description of Machines	Quantity	Price (Rs)
1	Oil Fired Pit type, Aluminium Melting furnace, cap. 250 Kgs. with Motor, Blower, Overhead tank etc.	1	225000
2	Horizontal Extrusion Press Machine, Pressure 310 MT, 210Kg/sq.cm. Billet Dia.70mm, double end type motor 50 HP, 380Vx4P & 50 Hz	1	4500000
3	Billet Preheating Furnace, Oil fired	1	200000
4	Anodizing Plant	1	80000
5	Moulds, Fixtures, Gauges etc.	L.S.	80000
6	Platform type Weighing Machine, 150 Kg. cap.	1	8000
7	Storage Table	1	20000
8	Chemical Testing Equipments	L.S.	75000
		Total	5188000
9	Electrification & installation @ 10% of above cost		518800
10	Office equipments like furniture, fan, Computer etc.	L.S.	40000
11	Pre-operative expenses		500000
		Total	6246800

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

S.No.	Description	Nos.	Salary	Total
1	Manager	1	6500	6500
2	Melter/ Supervisor	1	5000	5000
3	Accountant/Clerk	1	4000	4000
4	Skilled Worker	4	3000	12000
5	Semi - Skilled Worker	4	2500	10000
6	Unskilled worker	4	2200	8800
7	Peon	1	2000	2000
8	Watchman	1	2000	2000
			Total	50300
	Add perquisite @15% of salary			7545
			Total	57845

B. Raw Material (Per month :)

S.No.	Description	Quantity	Rate	Total
1	Aluminium Ingots, MT	3.2	325000	1040000
2	Aluminium Scrap, MT	2.1	250000	525000
3	Packaging Material	L.S.	n.a.	8000
			Total	1573000

B. Utilities (Per month)

1	Electricity			20000
2	Furnace Oil @Rs.42/- per liter		7500	315000
			Total	335000

C. Other Contingent Expenses (Per month)

1	Rent		7000
2	Insurance		6000
3	Postage & Stationery		2000
4	Telephone		1500
5	Repairs & maintenance		3000
6	Consumable Stores		2000
7	Misc. Expenses		4000
8	Transport allowances		4000
		Total	29500

13. Total Working Capital (Per month) = 1995345

14. Total Capital Investment

i) Fixed Capital	6246800
ii) Working Capital	5986035
Total	12232835

15. Financial Analysis

a. Cost of Production (Per Year)

i) Total recurring cost	23944140
ii) Depn. on machinery & equipment @ 10%	466300
iii) Depn. on furnaces @ 20%	85000
iv) Depn. On office equipments @ 20%	8000
v) Interest on Total capital investment @12%	1467940
Total	25971380

b. Turnover (Per Annum)

By sale of 60MTs of Aluminium extruded =	28800000
Products @480000/-per MT	

c. Net Profit per year

Turnover per year - Cost of production =	2828620
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d. Net Profit Ratio

(Net profit per year/ Turnover per year) X 100 =	9.82 %
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e. Rate of Return

(Net profit per year/ Total investment) X 100 =	23.12 %
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f. Break-even Point (B.E.P.)

Fixed Cost

i) Rent	84000
ii) Depn. on machinery & equipment @ 10%	466300
iii) Depn. on furnaces @ 20%	85000
iv) Depn. On office equipments @ 20%	8000
v) Interest on Total capital investment @12%	1467940
vi) Insurance	72000
vii) 40% of salary & wages	277656
viii) 40% of other contingent expenses excluding rent & insurance	79200
Total	2540096

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

[Fixed Cost/ (Fixed cost + Profit)] X 100 =	47.31 %
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NAMES & ADDRESSES OF MACHINERY AND RAW MATERIAL SUPPLIERS :

1. M/s. Hannu Metallurgical,
B-22,Girikunj Industrial 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 Electricals,
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