PROJECT PROFILE

ON

ALUMINIUM TOWER BOLTS AND HINGES

Month & Year
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PREPARED BY

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ALUMINIUM TOWER BOLTS AND HINGES

A.   INTRODUCTION

Aluminium extruded products are increasingly used in building construction, architecture and furniture making. Aluminium is a versatile material which has properties of high strength, light weight, high electric and heat conductivity. Every household and offices require hinges and tower bolts for windows are doors and these items made of aluminium are strong, elegant, durable and non-rustic in nature. The consumption of aluminium tower bolts and hinges is increasing due construction of new houses and other buildings. Considering the growth in this area there is a good scope for new Tower bolts and Hinges manufacturing units to be set up.

B.   PRODUCT USES AND SPECIFICATIONS

A Bolt is a metal fastening for door or window consisting of a sliding pin or rod and staple into which it fits in. They are used in doors and also in railway furniture and doors.

A hinge is a joint arrangement in a door or window on which the lid, door or gate turns or swings. The tower Bolts are available in most popular sizes of 3",4",6",and 8".The Hinges are available in most popular sizes of 3"and 4".Bureau of Indian standard has prescribed the IS: 204 and IS:205 or Tower Bolts and hinges

C.   MARKET POTENTIAL

The demand for housing is increasing as there is a heavy backlog of houses to be constructed in India and there is a scope of adding 50 lakhs houses every year. This allows a big demand for Building materials like aluminium tower bolts and hinges.

DEMAND DRIVERS IN CONSTRUCTION SECTOR

India has been showing good progress in overall development in all sectors for the last several years. India has several growth factors to its credit such as strong democratic fundamentals, independent judiciary and legal system, credible banking system, availability of a large pool of educated and technically qualified labour etc. India is currently experiencing unprecedented economic growth. The country had over 8% growth on an average for the last three years. The eleventh plan envisages a growth of 10%.

The construction sector has been showing a growth of 15 to 20 percent for the last three years. The construction contributes about 8 to 10% of the GDP.

The main reasons which can be attributed to the phenomenal growth of construction sector are the following. These are broadly termed as Driving Forces or Demand Drivers of construction sector in India.

-   Housing shortage, growing urbanisation, growing population and increased level of income,

- Increased requirement of information technology space

- Increased requirements of other commercial and industrial space

- Increased availability of housing loans

- Allowing foreign direct investment in housing and real estate sector

- Increased investment in shopping malls

- Increased space requirement and investment in hotel sector

- Increased space requirement and investment in health care and hospitals

- Corpoaritisation of real estate and construction and increased flow of funds

- Permitting large number of special economic zones.

Construction sector is broadly divided into three segments namely, Infrastructure, industrial activities and real estate. Infrastructure development includes roads, ports, power, railways, and urban infrastructure. Industrial activity consists of construction of plants for cement, fertilizer refining and industrial structures, while real estate consists of residential and commercial construction.

Aluminium is widely consumed in all sectors of the construction industry.

CONSTRUCTION INDUSTRY TARGETS

Domestic Construction enterprise is poised to grow @ of **15%** per annum from about 10% now to touch **$ 120 billion** by 2012 from its current size of over $ 70 billion and the manpower requirements for the industry will be over **90**

million by the projected period, according to the Associated Chambers of Commerce and Industry of India (ASSOCHAM) estimates.

D.   TECHNICAL ASPECTS

1.   Installed Capacity

The installed capacity of the proposed unit is manufacturing of 12000 Dozens of Tower Bolts and 12000 dozens of Hinges per annum .This is based on 300 days working per annum, 8 hours per day.

2.   Plant and Machinery

The following machineries are required for production.

Machine name	Quantity Nos	Value (Rs.lakhs)
Vertical Milling machine100 x 225 mm	1	1.25
Drilling machine ½"	1	0.18
Pillar drilling machine 32 mm	1	0.20
Universal Milling machine	1	1.85
Fly Press	1	0.12
Rivetting machine	1	0.90
Bench grinder	1	0.20
Lathe Screw cutting	1	0.95
Weighing Machine	1	0.35
Total		**6.00**

3.   Manufacturing Process

The manufacturing of tower bolts involves the following sequence of operations.

Cut the extruded sections into required length
|
Stradle mill slots for axial movement of knob
|
Mill cross slots fro up& down movements of rod
|
Drill and countersink holes for wood screw
|
Drill cavity hole for loading
|
Drill hole on rod
|
Fit rod inside extruded section
|
Rivet knob on rod and stab
|
Remove burs by files, emery paper/wheels finish fittings
|
Polish by buffing
|
Stamp makers brand
|
Anodising (Job work)
|
Packing and delivery

The Manufacturing of Hinges involves the following sequence of operations

Cut the extruded sections into required length and flaps

|

Milling slots at taper on a fixture on plain milling

|

Drilling holes for hinges /pin of the butt of flaps

|

Drilling wood screw holes

|

Cut the steel wire to proper length of hinge pin and rivet by stabbing both top and bottom face

|

Finish fitting, de-burring and buffing

|

Stamp maker's stamp

|

Anodising (Job work)

|

Packing and delivery

4. Raw Material

The Raw materials required for manufacturing Aluminium bolts and hinges are aluminium rods and aluminium plates. These are available dealers. The anodizing can be done on job work basis.

5. Land & Building

A rented place with 1500 sqft. area is required. The monthly rent is estimated at Rs.15000 and also an advance of Rs.150000.

6. Utilities

Power:

The total power requirement of the unit will be 15 HP

Water:

Water is required only for human consumption.

Man power:

Category	Nos	Monthly salary	Total Salary
Manager	1	8000	8000
Skilled	2	6000	12000
Unskilled	2	4000	8000
Assistants	2	5000	10000
Security	2	4000	8000
	Total		**46000**
Add 20%benefits			9200
Total			**55200**
Annually	→	Rs.6.62 lakhs	

7. Implementation Schedule

If financing arrangement is made available the project can be implemented within three months period.

8. ASSUMPTIONS

Installed capacity per annum	Tower Bolts – 12000 dozens
	Hinges – 12000 dozens
Capacity utilization–Year –1	60%
Year –2	70%
Year –3	80%

Selling price per unit	Tower Bolt Rs.260.00 per Dozen
	Hinges Rs.210.00 per Dozen

Material cost at 100%	Qty (including wastage 3%)	Rate	Value (Rs.lakhs)
Almn–rods for Bolts	14.40 Mt		
Almn–rods for Hinges	7.20 Mt		
	22.25 Mt	Rs.99000/Mt	22.03
Steel wire	1200 kgs	Rs 35/kg	0.42
Anodising charges – Bolts	230400sq.inch	Re.0.30/sq.inch	6.91
– Hinges	115200sq.inch	Re.0.30/sq.inch	3.46
Total			32.82

Consumables and Packing per annum-at 100% (Rs.lakhs)	Rs.1.44 lakhs
Power and Fuel–100% (Rs.lakhs)	Rs.1.42 lakhs
Wages & salaries–100% (Rs.lakhs)	Rs.6.62 lakhs
Repairs & Maintenance per month	Rs.2000/–
Depreciation	WDV method – 15%
General & administration Expenses per month	Rs.15000/–
Selling expenses	3% on Sales
Interest on term loan and Working capital finance	13% p.a
Income tax provision	34% on profit

LIST OF MACHINERY SUPPLIERS

1. Orient Machine Tools
   New No.269(old No.130) Linghi Chetty Street

Chennai-600 001

2.   Quality Machine Tools
        New 238 Linghi Chetty Strret
        Chennai 600 001.

3.   Gujrat Machine Tools
        New 279, Linghi Chetty Street
        Chennai 600 001

4.   Premier Machine Tools
        New 103 Armenian Street
        Chennai 600 001

5.   Machine Centre
        New 214 linghi chetty Street
        Chennai 600 001

LIST OF RAW MATERIAL SUPPLIERS

1.   Premier Metal engineering Corporation
        JVL Towers
        117.Nelson Manikem Road
        Chennai-600 029.

2.   Southern Aluminium Company
        New 22.Mooker Nallamuthu Street
        Chennai-600 001.

3.   Zenith Traders
        New.62 Nynuyappa naicken street
        Chennai-600 003.

4.   Tamilnadu Aluminium Company

44.basin Bridge Road
Mint
Chennai-600 025

Anodisers

1. Akshaya Enterprises
    9.Ganesh Nagar
    G.K.Industrial Estate
    Chennai – 600 116

2. Sree Rajalakshmi Industries
    New 163 Sydenhams Road
    Chennai-600 003

3. Industrial Anodisers
    B-8-1 Guindy Industrial estate
    Chennai-600 032

1. COST OF PROJECT

	[Rs.lakhs]
Land & Building (Advance)	1.50
Plant & Machinery	6.00
Other Misc. assets	0.50
Pre-Operative expenses	1.00
Margin for WC	1.12
	10.12

2. MEANS OF FINANCE

Capital	5.12
Term Loan	5.00
	10.12

3. COST OF PRODUCTION & PROFITABILITY STATEMENTS

Rs.lakhs

Years	1	2	3
Installed Capacity (Dozens)			
Tower Bolts	12000	12000	12000
Hinges	12000	12000	12000
Utilisation	60%	70%	80%
Production/Sales (Dozens)			
Tower Bolts	7200	8400	9600
Hinges	7200	8400	9600

Selling Price/Dozen (in Rupee)

Tower Bolts	Rs.260	per dozen
Hinges	Rs.210	per dozen

Sales Value (Rs.lakhs)

Tower Bolts	18.72	21.84	24.96
Hinges	15.12	17.64	20.16
Total sales value	33.84	39.48	45.12
Raw Materials	19.69	22.97	26.26
Consumables	0.86	1.01	1.15
Power	0.85	0.99	1.14
Wages & Salaries	6.62	6.95	7.30
Repairs & Maintenance	0.24	0.25	0.26
Depreciation	0.90	0.77	0.65
Cost of Production	29.16	32.94	36.76
Admin, & General expenses	1.80	1.89	1.98
Selling expenses	1.02	1.18	1.35
Interest on Term Loan	0.65	0.57	0.41
Interest on Working Capital	0.35	0.35	0.35
Total	32.98	36.93	40.85
Profit Before Tax	0.86	2.56	4.27
Provision for tax	0.29	0.87	1.45
Profit After Tax	0.57	1.69	2.82
Add: Depreciation	0.90	0.77	0.65
Cash Accruals	1.47	2.45	3.47

4. WORKING CAPITAL:

	Months Consumption	Values	%	Margin Amount	Bank Finance
Raw Materials	0.75	1.23	25%	0.31	0.92
Consumables	1.00	0.07	25%	0.02	0.05
Finished goods	0.25	0.61	25%	0.15	0.46
Debtors	0.50	1.41	10%	0.14	1.27
Expenses	1.00	0.50	100%	0.50	0.00

3.82	1.12	2.70

5. PROFITABILITY RATIOS BASED ON 80% UTILISATION

$\dfrac{\text{Profit after Tax}}{\text{Sales}}$ $\quad\dfrac{2.82}{45.12}$ $\quad$ 6%

$\dfrac{\text{Profit before Interest and Tax}}{\text{Total Investment}}$ $\quad\dfrac{5.03}{12.82}$ $\quad$ 39%

$\dfrac{\text{Profit after Tax}}{\text{Promoters' Capital}}$ $\quad\dfrac{2.82}{5.12}$ $\quad$ 55%

6. BREAK EVEN LEVEL

Fixed Cost (FC):

	[Rs.lakhs]
Wages & Salaries	7.30
Repairs & Maintenance	0.26
Depreciation	0.65
Admin. & General expenses	1.98
Interest on TL	0.41
	10.60

Profit Before Tax (P)   4.27

$$\text{BEL} = \frac{\text{FC x 100}}{\text{FC} + P} \qquad \frac{10.60}{14.87} \quad \text{x} \quad \frac{80}{100} \quad \text{x} \ 100$$

57%   of installed capacity