

PROJECT PROFILE

ON

BOLTS AND NUTS

Month & Year
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**PREPARED BY
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BOLTS AND NUTS

A. INTRODUCTION

Bolts and nuts industrial fasteners used in almost all industries. They are daily consumable items in engineering industries .Although bolts are manufactured along with nuts they can be independently sold in the market. The consumption of bolts and nuts are always on the increase in engineering centres like Chennai and other places. The usage is increasing with the growth of industries in all areas.

B. PRODUCT USES AND SPECIFICATIONS

Bureau of Indian Standards has laid down specifications for Bolts and Nuts as per standard No:IS:1363. Depending upon the usage bolts of different lengths (for the same diameter) and threading lengths can be manufactured.

C. MARKET POTENTIAL

The product to be manufactured belong to the engineering sector and the general engineering sector has been growing well all these years at faster rate. There is continuous demand for this product as it is consumed in all engineering workshops.

A strong engineering base exists in the state of Tamilnadu involving products ranging from automobiles, bicycles, castings and forgings, to textile machines, electrical and non-electrical machinery, pumps and transportation equipment. Engineering ancillary industries are concentrated in Chennai, Coimbatore, Salem, etc.

Tamil Nadu has witnessed a robust growth in its economy over the past few years and has emerged as an economic powerhouse of India. The outlook for the State remains buoyant with a number of industries expected to power the growth. The key sectors contributing to Tamil Nadu's economy are Manufacturing (Textiles, Auto/Light engineering, Leather, Chemicals, Food processing), IT/ITeS, Construction, Banking and Finance. These sectors contribute to 45% to 50% of the economy. Tamil Nadu is one of the fast growing State economies (current economic size is USD 55 billion) and is the third largest in India. Current state GDP is over 8% at constant prices and over 12% at current prices. The State's exports of USD 18 billion is contributed mainly by Textiles (24%) Electronic software and hardware (22%), Automobiles and Autoparts/Engineering goods (15%), Agro products (12%) and Leather products (8%).

Auto majors, both domestic and MNC in the state include *TVS, Ashok Leyland, TAFE, Royal Enfield, HVF, ICF, BMW, Hyundai, Ford, Caterpillar, Mahindra, Nissan Renault, Visteon, Delphi, Saint Gobain, Mitsubishi, TRW* besides a host of Taiwan and Korean auto component vendors. By 2009, over USD 3 billion is

reported as invested in Chennai for car manufacturing facilities alone. As per *Confederation of Indian Industry* (CII) Study report, the projected size of the industry in 2015 in the state is USD 15 to 20 billion – a potential six to seven fold increase. The Auto sector is a manpower intensive sector and the growth of this sector will generate accelerated manpower requirements. Light Engineering industry with a CAGR of 12 to 15% is also projected to be USD 3 to 4 billion industry by 2015.

D. TECHNICAL ASPECTS

1. Installed Capacity

The installed capacity of the proposed unit is manufacturing of 150000 nos Bolts of various sizes per shift of 8 hours per day and 160000 nuts of various sizes per three shifts of 8 hours each per day. On this basis the installed capacity works out to 450 lakhs bolts (3000 MT) and 480 lakhs of Nuts (240 MT) per annum. The capacity can be increased by adding more number of machines depending market conditions.

2. Plant and Machinery

The following machineries are required for production.

Machine name	Quantity (Nos.)	Value (Rs lakhs)
Automatic Bolt Making Plant for manufacturing Hex and Square head bolts of 3/6” to 5/6” dia and from 3/8” to 2” length Bolts–capacity 85–110 pcs per minute :-		

Heading Machine	1	4.50
Head Trimming machine	1	2.80
Thread Rolling machine	1	2.40
Wire Stand	1	0.50
Automatic Bolt Making Plant for manufacturing Hex and Square head bolts of 1/4" to 3/8" dia and from 3/4" to 3" length Bolts-capacity 50-60 pcs per minute :-		
Heading Machine	1	6.00
Head Trimming machine	1	4.50
Thread Rolling machine	1	3.00
Wire Stand	1	4.80
Automatic Nut making plant-1/4"-10 pcs/hr	2	3.20
Automatic Nut making plant-5/8"-8 pcs/hr	7	13.20
Automatic Nut making plant-1/2"-8 pcs/hr	5	7.80
Automatic Nut making plant-3/8"-5 pcs/hr	2	3.50
Automatic Nut Tapping Machine-1/4"-	2	2.50
Automatic Nut Tapping Machine-5/8"	7	11.10
Automatic Nut tapping Machine-1/2"	5	6.20
Automatic Nut Tapping Machine-3/8"	2	2.50
Other Miscellaneous		1.50
Total		80.00

4. Manufacturing Process

The manufacturing involves the following sequence of operations:

- Purchase of M .S. Rods in coil form or rods form. (Various Sizes)
- |
- Cleaning and feeding to header machine for cold forming the head
- |
- Feeding of pieces to Head trimming machine for Hexagonal ,Square or any other shape
- |

Feeding the pieces to Thread Rolling machine for thread forming

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Inspection and Packing

4. Raw Material

The raw materials required for manufacturing Bolts and Nuts are M.S rods or coils. These are available from standard manufacturers and dealers.

5. Land & Building

A rented place with 2000 sqft. area is required. The monthly rent is estimated at Rs.20000 and the advance anticipated is Rs.200000

6. Utilities

Power:

The total power requirement of the unit will be 80 HP.

Water:

Water is required only for human consumption.

Man power.

Category	Nos	Monthly salary	Total Salary
Manager	1	9000	9000
Supervisor	3	8000	24000
Operators	12	6000	72000
Unskilled	12	4000	48000
Assistants	2	5000	10000
Security	3	4000	12000
	Total		175000

Add 20%benefits	35000
Total	210000
Annually	→ Rs.25.20 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	Bolts - 450 lakhs(3000 MTs)
	Nuts - 480 Lakhs(240 MTs)
Capacity utilization - Year -1	60%
- Year-2	70%
- Year-3	80%
Selling price per unit	Bolts - Rs.40000 per MT
	Nuts - Rs.40000 per MT

Material cost at 100%	Qty(including wastage 5% in MT)	Rate/MT	Value (Rs.lakhs)
M.S. Rods/coils for Bolts	3150	33000	1040.00
M.S.Rods/Coils for Nuts	252	22000	55.44
Total	3402		1095.44

Consumables and Packing per annum-at 100% (Rs. Lakhs)	Rs.4.80 lakhs
Power and Fuel -100% (Rs. lakhs)	Rs.25.56 lakhs
Wages & Salaries -100%	Rs.25.20 lakhs
Repairs & Maintenance - p.m.	Rs.10000/-

Depreciation	WDV method - 15%
General & administration Expenses per month	Rs.50000/-
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. A.M.I.Machine Tools
20. Ambalal Doshi Marg ,(Hammam Street)
Fort
Mumbai-400 023
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. Sai Steel Centre

28-A, Mooker Nallamuthu Street
Chennai-600 001

2. Mahavir Industrial Corporation
New 273, Linghi Chetty Street
Chennai-600 001
3. Bhagawandas Metals Ltd
No.54 Sembudoss street
Chennai-600 001
4. Southern Iron and Steel company Ltd
No.7.Wallace garden Second Street
Chennai-600 006
5. P.K.Vaduvammal
97, Rasappa Chetty Street
Chennai-600 003.

BOLTS & NUTS

1. COST OF PROJECT

	[Rs.lakhs]
Land & Building (Advance)	2.00
Plant & Machinery	80.00
Other Misc. assets	1.00
Pre-Operative expenses	5.00
Margin for WC	17.79
	<u>105.79</u>

2. MEANS OF FINANCE

Capital	45.79
Term Loan	60.00
	<u>105.79</u>

3. COST OF PRODUCTION & PROFITABILITY STATEMENTS

Years	1	2	3
Installed Capacity (MT)			
Bolts	3000	3000	3000
Nuts	240	240	240
Utilisation	60%	70%	80%
Production/Sales (MT)			
Bolts	1800	2100	2400
Nuts	144	168	192
Selling Price/MT (in Rupee)			
Bolts	40,000	per MT	
Nuts	40,000	per MT	
Sales Value (Rs.lakhs)			
Bolts	720.00	840.00	960.00
Nuts	57.60	67.20	76.80
Total sales value	<u>777.60</u>	<u>907.20</u>	<u>1036.80</u>

Raw Materials			
Bolts	623.70	727.65	831.60
Nuts	33.26	38.81	44.35
Consumables	2.88	3.36	3.84
Power	15.34	17.89	20.45
Wages & Salaries	25.20	26.46	27.78
Repairs & Maintenance	1.20	1.26	1.32
Depreciation	12.00	10.20	8.67
Cost of Production	<u>713.58</u>	<u>825.63</u>	<u>938.01</u>
Admin, & General expenses	6.00	6.30	6.62
Selling expenses	23.33	27.22	31.10
Interest on Term Loan	7.80	6.83	4.88
Interest on Working Capital	9.27	9.27	9.27
Total	<u>759.98</u>	<u>875.25</u>	<u>989.88</u>
Profit Before Tax	17.62	31.95	46.92
Provision for tax	5.99	10.86	15.95
Profit After Tax	11.63	21.09	30.97
Add: Depreciation	12.00	10.20	8.67
Cash Accruals	23.63	31.29	39.64

4. WORKING CAPITAL:

	Months	Values	%	Margin	Bank
	Consumption			Amount	Finance
Raw Materials	0.75	41.06	25%	10.27	30.79
Consumables	1.00	0.24	25%	0.06	0.18
Finished goods	0.25	14.87	25%	3.72	11.15
Debtors	0.50	32.40	10%	3.24	29.16
Expenses	1.00	0.50	100%	0.50	0.00
		<u>89.07</u>		<u>17.79</u>	<u>71.28</u>

5. PROFITABILITY RATIOS BASED ON 80% UTILISATION

<u>Profit after Tax</u>	<u>30.97</u>	3%
Sales	1036.80	
<u>Profit before Interest and Tax</u>	<u>61.07</u>	34%
Total Investment	177.07	
<u>Profit after Tax</u>	<u>30.97</u>	68%
Promoters' Capital	45.79	

6. BREAK EVEN LEVEL

Fixed Cost (FC):

	[Rs.lakhs]
Wages & Salaries	27.78
Repairs & Maintenance	1.32
Depreciation	8.67
Admin. & General expenses	6.62
Interest on TL	<u>4.88</u>
	<u>49.27</u>

Profit Before Tax (P) 46.92

$$\text{BEL} = \frac{\text{FC} \times 100}{\text{FC} + \text{P}} = \frac{49.27}{96.19} \times \frac{80}{100} \times 100$$

41% of installed capacity