

# **GRILLS, RAILINGS, FENCE**

## **1. INTRODUCTION:**

Gates, Grills, Fencing are essentially used for defining and defending the boundaries of premises and ensuring and avoiding unauthorized entry or trespassing of humans or animals.

Timber or wood was used since ancient times, which has now been replaced by iron and steel fabrications. The strength of steel. Light weight and compact size gives better protection, and offers good aesthetic appeal with better designs.

## **2. PRODUCT & ITS APPLICATION:**

Gates, Grills, Fencing are essentially made from steel via fabrication of various sections, sheets and pipes. These products are a norm for all most all premises to install to cover area under their ownership. Railings and grills are part of protection and are also used as structure for most of stairways, people movement management and to provide natural view of both inside or outside of the covered areas.

Depending on the location and use, these products are designed with several geometric patterns and décor. They are made from wood, stone, cast iron, or metals like mild steel, stainless steel, aluminum, brass, bronze etc.

## **3. DESIRED QUALIFICATIONS FOR PROMOTER:**

A person with ITI, Diploma, graduation or experience in the products.

## **4. INDUSTRY OUTLOOK/TREND**

The grill fences and railings fabrication industry in India comprises various medium and small companies that manufacture wide range of simple and decorative ornamental products from mild steel, stainless steel sections tubes and rods, as also from cast items. The units in this sector compete with offer for various innovative designs and patterns with lowest costs. The medium and small companies are located all over India and also take up the general fabrication services to industries.

Most innovative designers of these items dominate the market and lately the stainless steel fabricators are coming off age in view of shopping and other commercial buildings in urban centers. The leading units in unorganized sector follow proper standards and specification of materials used.

The technology and market trend is of new finishes with bright brass/ copper/ golden color metal and color plating techniques, with/ without engraving and other decorative designs.

## **5. MARKET POTENTIAL AND MARKETING ISSUES. IF ANY:**

These products are a normal feature for construction industry for new and old premises. Commercial and domestic buildings use railing and gates/ doors for indoor for protection and décor and fences for marking the land plots.

The Indian industry is dominated by low technology and very rare technological innovation is taken up. However, in recent years, the demand of stainless steel indoor railings and grills is rising. Demand for fence, grill and railing is mostly from new or redevelopment/ remodeling of housing and commercial buildings. The improvement in contemporary designs and décor is anticipated to improve demand significantly due to rapid industrial investments. Factors such as lower wastage weather and wear resistance coatings, higher productivity and better quality will lead to wide usage of new products. The segment is projected to witness moderate growth.

The growth of construction industry with growing population is the main demand driver. There is very good potential for good design and aesthetic designed products.

## **6. RAW MATERIAL REQUIREMENTS:**

Structural section, round and square tubes, pipes, rods, flats, of various metal are required viz mild steel, stainless steel, aluminum extrusions, brass bronze and cast iron. Other materials are fasteners and consumables like welding materials.

## **7. MANUFACTURING PROCESS:**

The process of manufacture involves operations as below.

- Cutting of material sheets, tubes, pipes, sections as per required dimensions in shear machine. Certain components like cast iron and steel rods may be machined.
- Bending twisting and of rods/ pipes and forming of sheets in bending machine, press brake as per need.
- Welding of sections, pipes and sheets, Drilling and threading of components
- Pickling and surface treatment like phosphating, anodizing, hard chrome plating etc. to provide surface finish to components. Painting and polishing of components.
- Assembly of parts with fasteners.
- Inspection and packing for dispatch/ installations.

The entrepreneur should also develop several new aesthetic designs for different uses in residential as well as commercial premises.

## **8. MANPOWER REQUIREMENT:**

The unit shall require highly skilled service persons. The unit can start from 8 employees initially and increase to 23 or more depending on business volume.

Sr. No	Type of Employees	Monthly Salary	No of Employees				
			Year 1	Year 2	Year 3	Year 4	Year 5
1	Skilled Operators	16000	2	2	3	3	3
2	Semi-Skilled/ Helpers	7000	2	2	3	5	6
3	Supervisor/ Manager	20000	0	0	0	1	1
4	Accounts/ Marketing	15000	1	1	1	1	1
5	Other Staff	7000	0	0	0	1	1
	TOTAL		5	5	7	11	12

## 9. IMPLEMENTATION SCHEDULE:

The unit can be implemented within 3 months from the serious initiation of project work.

Sr No	Activities	Time Required in Months
1	Acquisition of Premises	-
2	Construction (if Applicable)	-
3	Procurement and Installation of Plant and Machinery	2
4	Arrangement of Finance	2
5	Manpower Recruitment and start up	1
	Total Time Required (Some Activities run concurrently)	3

## 10. COST OF PROJECT:

The unit will require total project cost of Rs 9.04 lakhs as shown below:

Sr No	Particulars	In Lakhs
1	Land	0.00
2	Building	0.00
3	Plant and Machinery	3.51
4	Fixtures and Electrical Installation	0.50

5	Other Assets/ Preliminary and Preoperative Expenses	0.30
6	Margin for working Capital	4.73
	TOTAL PROJECT COST	9.04

### 11. MEANS OF FINANCE:

The project will require promoter to invest about Rs 5.80 lakhs and seek bank loans of Rs 3.24 lakhs based on 70% loan on fixed assets.

Sr No	Particulars	In Lakhs
1	Promoters Contribution	5.80
2	Loan Finance	3.24
	TOTAL:	9.04

### 12. WORKING CAPITAL REQUIREMENTS:

Working capital requirements are calculated as below:

Sr No	Particulars	Gross Amount	Margin %	Margin Amount	Bank Finance
1	Inventories	3.79	40	1.51	2.27
2	Receivables	3.06	40	1.22	1.83
3	Overheads	0.98	100	0.98	0.00
4	Creditors	2.52	40	1.01	1.51
	TOTAL	10.35		4.73	5.62

### 13. LIST OF MACHINERY REQUIRED:

Sr No	Particulars	UOM	Quantity	Rate	Total Value
	Main Machines/ Equipment				
1	Flat / wire Rod twisting machine	Nos	1	40000	40000
2	Shearing Machines	Nos	3	12000	36000
3	Fly Press	Nos	1	20000	20000
4	Manual Press brake	Nos	1	40000	40000

5	Hand Drills and tools	Nos	1	20000	20000
6	Pickling and Surface treatment	Nos	1	75000	75000
7	Sand Blasting Facility	Nos	1	25000	25000
<b>Sr No</b>	<b>Particulars</b>	<b>UOM</b>	<b>Quantity</b>	<b>Rate</b>	<b>Total Value</b>
8	Spray Painting Facility	Nos	1	15000	15000
9	Pipe Bending Machine	Nos	1	10000	10000
10	Welding Machine	Nos	2	25000	50000
	Subtotal:				331000
	Tools and Ancillaries				
1	Misc. equipment Dies tools etc.	LS	1	10000	10000
2	Hand Tools and gauges	LS	1	10000	10000
	Subtotal:				20000
	Fixtures and Elect Installation				
	Storage and transport bins	LS	1	10000	10000
	Office Furniture	LS	1	5000	5000
	Telephones/ Computer	LS	1	15000	15000
	Electrical Installation	LS	1	20000	20000
	Subtotal:				50000
	Other Assets/ Preliminary and Preoperative Expenses	LS	1	30000	30000
	<b>TOTAL PLANT MACHINERY COST</b>				<b>431000</b>

All the machines and equipment are available from local manufacturers. The entrepreneur needs to ensure proper selection of product mix and proper type of machines and tooling to have modern and flexible designs. It may be worthwhile to look at reconditioned imported machines, dies and tooling. Some of the machinery and dies and tooling suppliers are listed.

1. Ace Tech Tools Private Limited  
New No. 217, Old No. 95, Lake View Road West Mambalam,  
Chennai-600033, Tamil Nadu
2. Naugara Exports  
6148/6, Guru Nanak Marg,

Ambala Cantt, Haryana,

3. Swan Machine Tools Private Limited  
Krupal ShahMenit House, Kadia Kui,  
Relief Road, Ahmedabad - 380001

4. Shalimar Enterprises  
Near Bal Bhavan,  
Khokhara Maninagar East,  
Ahmedabad-380008, Gujarat, India

6. Om Industries  
Plot No. 1-A, Pt. Kishori Lal Complex,  
Wazirpur Road, Faridabad-121002

#### 14. PROFITABILITY CALCULATIONS:

Sr No	Particulars	UOM	Year Wise estimates				
			Year 1	Year 2	Year 3	Year 4	Year 5
1	Capacity Utilization	%	40	50	60	70	80
2	Sales	Rs Lakhs	36.67	45.83	55.00	64.16	73.33
3	Raw Materials & Other Direct Inputs	Rs Lakhs	30.28	37.85	45.42	52.99	60.56
4	Gross Margin	Rs. Lakhs	6.39	7.98	9.58	11.17	12.77
5	Overheads Except Interest	Rs. Lakhs	5.43	5.43	5.43	5.43	5.43
6	Interest	Rs. Lakhs	0.45	0.45	0.45	0.45	0.45
7	Depreciation	Rs. Lakhs	0.43	0.43	0.43	0.43	0.43
8	Net Profit Before Tax	Rs. Lakhs	0.07	1.66	3.26	4.86	6.45

The basis of profitability calculation:

The Unit will have capacity of 3000 MT per year of fabrication of Grills, Fencing and Railings of Outdoor as well as indoor application made from Mild steel, cast products and stainless steel with different designs and sizes. The bulk sale/ distribution sales prices ranges from Rs 35 per Kg for simple MS products to Rs 300 per kg for high end products depending on design and surface finish etc. size and order volumes. For exclusive items and murals/ sculptures made from castings and/ or Brass, Bronze, SS steel with plating/ metal coating etc. products, the prices range from 600 per kg to Rs 1200 per kg.

The raw material cost ranges from Rs 30 to 55 per kg for Mild steel and that of stainless steel, brass, etc. range from Rs 60 to 300 per Kg. The material requirements are considered with wastage/ scrap etc. of 7 % of finished products. The unusable scrap is sold at @ Rs 18 ~ 200 per Kg. and the income of same is added. Energy Costs are considered at Rs 7 per Kwh and fuel cost is considered at Rs. 65 per liter. The depreciation of plant is taken at 10 % and Interest costs are taken at 14 -15 % depending on type of industry.

## 15. BREAK EVEN ANALYSIS

The project can reach break-even capacity at 39.58 % of the installed capacity as depicted here below:

Sr No	Particulars	UOM	Value
1	Sales at Full Capacity	Rs. Lakhs	91.66
2	Variable Costs	Rs. Lakhs	75.70
3	Fixed Cost incl. Interest	Rs. Lakhs	6.32
4	Break Even Capacity	% of Inst Capacity	39.58

## 16. STATUTORY/ GOVERNMENT APPROVALS

The unit shall have to get state industrial unit registration from DIC, IEC Code for Export and local authority clearance. Depending on structure of finance the company shall need to register company with registrar of companies. The registration and approval for factory plan, safety for Fire etc. requirement, registration as per Labour laws ESI, PF etc. shall be required as per rules and applicability. Before starting the unit will also need GST registration for procurement of materials as also for sale of goods.

As such there is no pollution control registration requirements, except installation of chimney/ blowers for heat treatment furnace / pickling line and ensure safe environment as per rules of factory safety. Solid waste disposal shall have to meet the required norms. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

## **17. BACKWARD AND FORWARD INTEGRATION**

The machines and equipment offer scope for diversification in to producing general and industrial fabrication activities. The unit can also offer few standard products for consumer and industrial use by using the spare capacities and machine capabilities. As such there is not much scope for organic backward or forward integration.

## **18. TRAINING CENTERS/COURSES**

There are no specific training centers for these products technology. There are training for dies and tools development run by several centers of excellence viz Indo German Tool Room at Ahmedabad, Rajkot, Chennai, and CTTC Bhubaneswar etc. shall be helpful.

The most important scope of learning is in new product design and development by associating with institutes like NID etc. Entrepreneur may also study the new product designs, product range, features and specifications of leading Brands / competitors across the world by scanning the Internet and downloading data. Viz. North American, Europe, China etc. markets.

Udyamimitra portal ( link : [www.udyamimitra.in](http://www.udyamimitra.in) ) can also be accessed for hand-

holding services viz. application filling / project report preparation, EDP, financial Training, Skill Development, mentoring etc.

Entrepreneurship program helps to run business successfully is also available from Institutes like Entrepreneurship Development Institute of India (EDII) and its affiliates all over India.

**Disclaimer:**

Only few machine manufacturers are mentioned in the profile, although many machine manufacturers are available in the market. The addresses given for machinery manufacturers have been taken from reliable sources, to the best of knowledge and contacts. However, no responsibility is admitted, in case any inadvertent error or incorrectness is noticed therein. Further the same have been given by way of information only and do not carry any recommendation.

Source:- Udyami Mitra/Sidbi