

WROUGHT IRON FURNITURE

1. INTRODUCTION:

Wrought iron is an iron alloy with a very low carbon – less than 0.08% content. Wrought iron is tough, malleable, ductile, corrosion-resistant and easily welded. The term Wrought Iron is specific to the fibrous, hand-refined material that served historically for millennia as the most used and useful form of iron. It is characterized by its composite structure. In the process of refining, iron and iron silicate are fused together. For most purposes, ductility is a more important measure of the quality of wrought iron than tensile strength.

Wrought iron is no longer produced on a commercial scale. At present, most products described as wrought iron, are actually made of hot rolled forgeable steel, viz. Guard rails, garden furniture gates etc. of ornamental designs.

2. PRODUCT & ITS APPLICATION:

The so called “Wrought iron furniture” is now made from hot rolled forging grade mild steel having good ductility, is used to make home decor items such as racks, table bases, desks, gates, beds, candle holders, curtain rods, bars and bar stools, fences and railing, with ornate designs.

Furniture is a product of design with several sizes, shapes and décor, to provide appealing aesthetics in addition to convenience and space saving. It serves as a form of decorative art. The “wrought Iron” or hot rolled products are easy to process and get desired shapes and ornate designs and may fulfill the purpose of designer or artists.

3. DESIRED QUALIFICATIONS FOR PROMOTER:

Any ITI, Diploma or graduate preferably with fabrication or marketing experience.

4. INDUSTRY OUTLOOK/TREND

The furniture market in India is highly fragmented with majority of the revenue being generated by unorganized sector, which includes onsite carpenters, independent furniture manufacturers and domestic retailers have accounted for nearly 85% of the furniture market revenue in the country. In the recent years, wrought iron furniture have found a niche market due to its unique designs and ornate designs.

The Indian furniture market, which has grown at a CAGR of 17.2% in last decade. The economic growth and policies of house for all, huge infrastructure investments, etc is likely to see annual rate growth of 15 % for next 5~7 year period. Heavy demand of household items including furniture and furnishing products from the urban class has historically been conducive to the growth of furniture market in India. This trend is expected stay in the future as well, as greater number of people are even in semi urban and rural areas are aspiring to achieve rise in the standard of living.

The outlook of furniture industry prospects remains optimistic, mainly driven by the demand from construction, household remodeling, commercial etc sectors; due to recent economic and industrial policies and measures taken by government.

5. MARKET POTENTIAL AND MARKETING ISSUES. IF ANY:

Demand for “Wrought Iron” furniture is generated from high income group in residential, commercial and office building as also from public place construction as it provides excellent aesthetic appeal for landscaping and decoration.

In view of growing income and standard of living and growth of construction industry at a rapid rate in the country, there is scope for these items. It is recommended to develop and produce aesthetic and modular design or art for use in furniture components and outdoor use with good ornate and intricate engraved floral shapes. Railing, fences, poles and furniture legs are the most in demand for wrought iron furniture items.

The growing phase of infrastructure and real estate market has augmented the demand for furniture products in the country. In the organized retail segment, the market is occupied by leading companies such as Godrej Interio, Home centre, Nilkamal, Durian Furniture, Style Spa among others, which have over the years grabbed significant position in the domestic market. Furthermore, the entry of international brands like IKEA etc is likely to strengthen trend for modular design and brand awareness.

The scope is good for furniture units in the recent that offer modular designs for furniture retailing in India. It is recommended to develop and produce aesthetic and modular design of furniture components with precision and good decor.

6. RAW MATERIAL REQUIREMENTS:

The forging grade hot rolled steel in various sections are the main raw materials for the project. The other items are consumables like welding rods, heat treatment and surface treatment chemicals.

7. MANUFACTURING PROCESS:

The process of manufacture involves operations as below.

- Cutting of material sheets, tubes, pipes, sections as per required dimensions. Cutting is done by sawing, shearing, or chiseling or torching

with hand-held torches. Certain components like cast iron and steel stock may be machined.

- Bending of steel rods, pipes etc. of round, and square, rectangular shape is done by hammering, with manual bending tools or via press.
- Black smithy has always been involved in wrought iron item fabrication and several process steps are cutting, splitting shaping and hot welding. The material with Artistic floral designs can be open die forged and hot welded to get the products similar to wrought iron quality.
- Assembling (joining of the pieces) is done by welding, hot forge welding, riveting, fasteners, or crimping. After the forging and welding the item is cooled and sand blasted.

It may undergo various surface treatments, coating polishing and painting. The assembly process is then completed. The finished product is then inspected and shipped.

8. MANPOWER REQUIREMENT:

The unit shall require highly skilled service persons. The unit can start from 7 employees initially and increase to 15 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	3	4	5	6	6
2	Semi-Skilled/ Helpers	7000	3	4	5	6	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		7	9	11	15	15

9. IMPLEMENTATION SCHEDULE:

The unit can be implemented within 6 months from the serious initiation of project work.

Sr No	Activities	Time Required in Months
1	Acquisition of Premises	2
2	Construction (if Applicable)	2
3	Procurement and Installation of Plant and Machinery	2
4	Arrangement of Finance	2
5	Manpower Recruitment and start up	2
	Total Time Required (Activities run concurrently)	6

10. COST OF PROJECT:

The unit will require total project cost of Rs 53.55 lakhs as shown below:

Sr No	Particulars	In Lakhs
1	Land	10.00
2	Building	25.00
3	Plant and Machinery	9.81
4	Fixtures and Electrical Installation	1.00
5	Other Assets/ Preliminary and Preoperative Expenses	1.20
6	Margin for working Capital	6.54
	TOTAL PROJECT COST	53.55

11. MEANS OF FINANCE:

The project will require promoter to invest about Rs 18.29 lakhs and seek bank loans of Rs 35.26 lakhs based on 70% loan on fixed assets.

Sr No	Particulars	In Lakhs
1	Promoters Contribution	18.29
2	Loan Finance	35.26
	TOTAL:	53.55

12. WORKING CAPITAL REQUIREMENTS:

Working capital requirements are calculated as below:

Sr No	Particulars	Gross Amount	Margin %	Margin Amount	Bank Finance
1	Inventories	4.27	40	1.71	2.56
2	Receivables	4.06	40	1.62	2.43
3	Overheads	2.07	100	2.07	0.00
4	Creditors	2.85	40	1.14	1.71
	TOTAL	13.24		6.54	6.70

13. LIST OF MACHINERY REQUIRED:

Sr No	Particulars	UOM	Quantity	Rate	Total Value
	Main Machines/ Equipment				
1	Rod Twisting machine	Nos	1	160000	160000
2	Hand Shear Machines	Nos	3	12000	36000
3	Fly press	Nos	1	20000	20000
4	Manual Press brake	Nos	1	50000	50000
5	Forging Furnace	Nos	1	100000	100000
6	Open Die forging Hammer	Nos	1	230000	230000
7	Hot Forging Tools	LS	1	25000	25000
8	Sand Blasting Facility	Nos	1	80000	80000
9	Pickling and Surface treatment	Nos	1	60000	60000

10	Spray Painting Facility	Nos	1	30000	30000
Sr No	Particulars	UOM	Quantity	Rate	Total Value
11	Rod / Flat/ Pipe Bending Bench	Nos	2	20000	40000
12	Pillar Drill	Nos	1	30000	30000
13	Lathe	Nos	1	45000	45000
14	Welding Machine	Nos	2	25000	50000
	Subtotal:				956000
	Tools and Ancillaries				
1	Misc. equipment Dies tools etc.	LS	1	15000	15000
2	Hand Tools and gauges	LS	1	10000	10000
	Subtotal:				25000
	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	70000	70000
	Subtotal:				100000
	Other Assets/ Preliminary and Preoperative Expenses	LS	1	120000	120000
	TOTAL PLANT MACHINERY COST				1201000

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

1. Amritsar Machine Tools

Plot No. 542, Part - A, M. I. E.,
Bahadurgarh-124507, Haryana, India

2. Arpan Machine Tools

No. 12/3, Atika Industrial Area, Near Jaydev Foundry
Atika Industrial Area, Rajkot- 360002 Gujarat, India

3. RAJESH MACHINE TOOLS PVT. LTD.

New Nehrunagar Main Road, 2 - Kailashpati Society, Plot No. 7, Dhebar Road
(South), "ATIKA" Industrial Area,, Rajkot, Gujarat, India
<http://www.rajeshpowerpressindia.com>

The above list of machine supplier is illustrative. There are many machinery, dies and tools suppliers and consultants at several industrial clusters all over India where you may find suppliers of services and machineries for a chosen product mix.

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	48.67	60.83	73.00	85.16	97.33
3	Raw Materials & Other Direct Inputs	Rs Lakhs	34.14	42.68	51.22	59.75	68.29
4	Gross Margin	Rs. Lakhs	14.52	18.15	21.78	25.41	29.04
5	Overheads Except Interest	Rs. Lakhs	7.49	7.49	7.49	7.49	7.49
6	Interest	Rs. Lakhs	4.94	4.94	4.94	4.94	4.94
7	Depreciation	Rs. Lakhs	3.70	3.70	3.70	3.70	3.70

8	Net Profit Before Tax	Rs. Lakhs	-1.61	2.02	5.65	9.29	12.92
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The basis of profitability calculation:

The Unit will have capacity of 9000 units of modular wrought iron/ forge steel furniture items per year with product mix consisting of ornate designs that of various floral patterns and royal décor etc. The bulk /Distributor sales prices for average price range of product is taken at Rs 1500 to Rs 15000 as per order specified by retailers, for type of module, size, design, materials, grade, etc. The raw material used are forging grade hot rolled steel pipes, tubes, bars, etc. The direct costs of raw material costs and manufacturing for these products are taken at 60 ~ 70 %. The material requirements are considered with wastage/ scrap of 6 ~ 14 % of finished products, which can be sold at @ Rs 15 to 30 per Kg. and the income of same is added. Energy Costs are considered at Rs 7 per Kwh. 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 is can reach break-even capacity at 44.42 % of the installed capacity as depicted here below:

Sr No	Particulars	UOM	Value
1	Sales at Full Capacity	Rs. Lakhs	121.66
2	Variable Costs	Rs. Lakhs	85.36
3	Fixed Cost incl. Interest	Rs. Lakhs	16.13
4	Break Even Capacity	% of Inst Capacity	44.42

16. STATUTORY/ GOVERNMENT APPROVALS

The unit shall need industrial unit registration of state. The unit shall need approval for factory plan, for safety, fire requirement, registration as per Labor laws ESI, PF etc shall be required. The unit will also need GST registration. There are no pollution control requirements, while unit will have to ensure solid waste / scrap disposal in proper manner. Entrepreneur may contact State Pollution Control Board where ever it is applicable.

17. BACKWARD AND FORWARD INTEGRATION

The machines and equipments offer scope for diversification in to producing tailor made products for consumer for their industrial parts/ components by using the spare capacities and machine capabilities which may be attempted. As such there is not much scope for organic backward or forward integration.

18. TRAINING CENTERS/COURSES

There are no specific training centers for this product design or production technology. However, the dies and Tools development courses run by several centers of excellence viz Indo German Tool Room at Ahmedabad, Rajkot, Chennai, and CTTC Bhubaneswar 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) offers 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