

# **ROLLING SHUTTERS**

## **1. INTRODUCTION:**

A roller shutter, roller door or overhead sliding shutter panel is a type of door or window shutter consisting of many horizontal slats (or sometimes bars or web systems) hinged together. The door is raised to open it and lowered to close it. On large doors, the action may be motorized. It provides protection against wind and rain. In shutter form, it is used in front of a window or door for protection from vandalism and burglary attempts. This gives extra protection and beautiful slat profiles with colors and graphics add beauty to your offices, shops or even home garages or any other place.

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

In shops, go downs, workshop, sheds, and even in office and residential buildings, rolling shutters are used. These are made of carbon steel sheets and therefore, they provide strong, long lasting protection. The shutter does not hinder as it is rolled up and wound over an overhead mandrel shaft. It does not hinder movement of people or vehicles through the doors. In view of these advantages, they are preferred protection.

Generally these are made of 24 and 26 gauge steel strip and the formed slats may have 50, 75 or 100 mm width. Now a days these shutters provide aesthetic value to establishment and hence they are made from extruded Aluminum sections for slats, stainless steel rods and tube or perforated painted steel or stainless steel strips. Other items are torsion spring, guide rails, overhead box, gear, chain or motorized drive system coupled to winding shaft and sprocket wheel.

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

Any person, preferably with manufacturing or marketing experience and ITI, Diploma or graduation in technical field.

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

For rolling shutters, key factors underpinning growth in the market are non-residential/commercial buildings, has seen lower growth compared to housing sector. However the commercial construction and industrial / ware house is expected to see growth in view of GST regime and other policies of government. From 2015 onward, reasonable expansion is expected due to massive infrastructure investments. Additionally, sub-sectors within manufacturing such as transport, etc have demand for high insulated systems / refrigerated units. The agri-processing and food production units have demand for a variety of rolling shutters/ door products door of high value and hygienic environment.

In general terms, the industrial doors market has erratic trends at times with demand. More importantly an underlying. In regard to specific market trends, increased requirements in terms of security have placed an increasing emphasis on higher-quality products.

Looking forward, the market outlook for commercial and industrial doors is positive but forecasts indicate only modest growth in the short-medium term. The outlook is based on a slowing trend of new construction orders and the uncertainty affecting business confidence and investment levels.

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

Roller Shutters have become widely used protective door system for variety of applications. They are also used in trucks, other special goods carriers, ambulances, etc. vehicles due to compact design and non-obtrusive designs.

Demand for roller shutters is from new commercial and office building construction. The construction industry is growing at a rapid rate in the country. Therefore there is scope for

these items. It is recommended to develop and produce aesthetic and modular design of slat profiles and other components with precision and good.

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

CR Strips galvanizes steel of 14, 18, 22, 24, 26, 28 SWG thicknesses and 50mm, 75mm 100mm width or of desired width are required. The unit can also choose pre painted steel sheets. Other items are rods, pipes, wire mesh, Aluminum extruded sections, angles, sections, springs and fasteners.

## **7. MANUFACTURING PROCESS:**

The process has following steps

- Roll forming M.S. Strips of desired width in a roll forming machine to get slats or formed strips. These slats are cut to standard or required length.
- The bottom slat is formed from 14 /16 swg to give strength and floor seal. They are also slotted to give locking system.
- Similarly, Guide rail, angle etc. profiles are formed.
- These interlocking profiles called slats are assembled as per length of curtain.
- Other components like curtain winding shaft, brackets, enclosure and fixing frames are manufactured as per design.
- The curtain is assembled with shaft, spring etc. All the components are assembled and painted.
- The mechanized shutters have sprocket wheels/ gear mounted on shaft.
- The drive shaft mechanism for manual or motorized operation is manufactured. The bought out motor drive and drive shaft sub assembly is prepared and packed.
- These sub-assemblies and components are packed for delivery and on site assembly.

The fabrication and inspection has to be carried per BIS specification No: 6248.

However product has to be made and supplied as per customer's dimensional specifications.

## 8. MANPOWER REQUIREMENT:

The unit shall require highly skilled service persons. The unit can start from 7 employees initially and increase to 17 or more depending on business volume.

Sr No	Type of Employees	Monthly Salary	Year 1	Year 2	Year 3	Year 4	Year 5
1	Skilled Operators	18000	2	2	3	3	3
2	Semi-Skilled/ Helpers	7000	3	3	6	8	8
1	Supervisor/ Manager	30000	0	0	0	1	1
2	Accounts/ Marketing	16000	1	1	1	1	1
3	Other Staff	7000	1	1	1	1	1
	TOTAL		7	8	15	17	17

## 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	1
2	Construction (if Applicable)	1
3	Procurement and Installation of Plant and Machinery	2
4	Arrangement of Finance	2
5	Manpower Recruitment and start up	1
	Total Time Required (Activities run concurrently)	3

## 10. COST OF PROJECT:

The unit will require total project cost of Rs 41.65 lakhs as shown below:

Sr No	Particulars	In Lakhs
1	Land	0.00
2	Building	20.00

3	Plant and Machinery	11.85
4	Fixtures and Electrical Installation	2.00
5	Other Assets/ Preliminary and Preoperative Expenses	1.50
6	Margin for working Capital	6.30
	TOTAL PROJECT COST	41.65

## 11. MEANS OF FINANCE:

The project will require promoter to invest about Rs 15.13 lakhs and seek bank loans of Rs 26.52 lakhs based on 70% loan on fixed assets.

Sr No	Particulars	In Lakhs
1	Promoters Contribution	15.13
2	Loan Finance	26.51
	TOTAL:	41.65

## 12. WORKING CAPITAL REQUIREMENTS:

Working capital requirements are calculated as below:

Sr No	Particulars	Gross Amount	Margin %	Margin Amount	Bank Finance
1	Inventories	4.20	40	1.68	2.52
2	Receivables	4.01	40	1.60	2.40
3	Overheads	1.90	100	1.90	0.00
4	Creditors	2.80	40	1.12	1.68
	TOTAL	12.90		6.30	6.60

## 13. LIST OF MACHINERY REQUIRED:

Sr No	Particulars	UOM	Quantity	Rate	Total Value
	Main Machines/ Equipment				
1	Roll forming Machine	Nos	2	350000	700000
2	Hand Hear Machines	Nos	2	15000	30000

3	Mech Screw press	Nos	1	150000	150000
4	Manual Press brake	Nos	1	30000	30000
5	Lathe	Nos	1	65000	65000
6	Pillar Drill	Nos	1	50000	50000
7	Spring Coiling Machine	Nos	1	25000	25000
12	Welding Machine	Nos	2	25000	50000
	Subtotal:				1100000
	<b>Tools and Ancillaries</b>				
1	Misc. equipment Dies tools etc.	LS	1	60000	60000
2	Hand Tools and gauges	LS	1	25000	25000
	Subtotal:				85000
	<b>Fixtures and Elect Installation</b>				
	Storage and transport bins and trolleys	LS	1	50000	50000
	Office Furniture	LS	1	20000	20000
	Telephones/ Computer	LS	1	30000	30000
	Electrical Installation	LS	1	100000	100000
	Subtotal:				200000
	Other Assets/ Preliminary and Preoperative Expenses	LS	1	150000	150000
	<b>TOTAL PLANT MACHINERY COST</b>				<b>1535000</b>

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. PMT MACHINES LTD.  
Behind PCMC Building, Mumbai-Pune Road, Pimpri,  
Pune 411 018. Maharashtra, India.
2. Machineries and Spares  
Ranjit Chawla (Director)201, Karmastambh, LBS Marg, Vikhroli West

Mumbai - 400083, Maharashtra, India

3. Pacific Engineering Corporation  
A-297, MIDC-Mahape, Near Mahape Bus Depot,  
Thane-Belapur Road, MahapeMidc, Navi Mumbai-400710
4. Hercules Roll Formings  
Puneet Oberoi (Director), Plant 1, C-113, BSR Industrial Area,  
Ghaziabad – 201002, Uttar Pradesh, India

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	Ra Lakhs	48.07	60.09	72.10	84.12	96.14
3	R M. & Other Direct Inputs	Ra Lakhs	33.58	41.97	50.36	58.76	67.15
4	Gross Margin	Rs. Lakhs	14.49	18.12	21.74	25.36	28.99
5	Overheads Except Interest	Rs. Lakhs	7.67	7.67	7.67	7.67	7.67
6	Interest	Rs. Lakhs	3.71	3.71	3.71	3.71	3.71
7	Depreciation	Rs. Lakhs	3.54	3.54	3.54	3.54	3.54
8	Net Profit Before Tax	Rs. Lakhs	-0.42	3.20	6.83	10.45	14.07

The basis of profitability calculation:

The Unit will have capacity of 8000 units per year for average 150 sqft size doors or equivalent. The designs considered are rolled ms sheet profiles, with few high value shutters

of aluminum grill doors for shopping centers / offices etc. in line with the current trend. The sale prices for rolling shutters range from Rs 100 to 500 per sq. ft.

The material costs for MS sheets is taken at Rs 35 to 45 per Kg. Aluminum extruded sections/ grills and stainless steel sheets are taken at 150 ~ 250 per Kg. extruded sections, pipes etc. The decorative sections/ PVC panes, etc cost ranges from Rs 500 to 2500 per unit. wastage/ scrap to be sold at @ Rs 20 ~ 50 per Kg depending on type and the income of same is added. Consumables costs also considered based on prevailing rate. 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 41.16 % of the installed capacity as depicted here below:

Sr No	Particulars	UOM	Value
1	Sales at Full Capacity	Rs. Lakhs	120.17
2	Variable Costs	Rs. Lakhs	83.94
3	Fixed Cost incl. Interest	Rs. Lakhs	14.91
4	Break Even Capacity	% of Inst Capacity	41.16

## **16. STATUTORY/ GOVERNMENT APPROVALS**

The unit will require state industry unit registration with District Industry center. No other procedures are involved. For export, IEC Code and local authority clearances. The industry registration and approval for factory plan, safety etc are required as per factory inspectorate and labor laws. Other registration are as per Labor laws are ESI, PF etc. 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, however the unit will have to ensure safe environment through installation of chimney etc as per rules. 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 several consumer and industrial parts/ components and parts. The unit can utilize the spare capacities. As such there is not much scope for organic backward or forward integration. The business needs building up reputation, ensuring reliability and quality of services rendered. Also personal rapport of key persons can generate good business volumes from OEM units and ancillary component unit. The location with good catchment area ensures good market potential to new business units.

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

There are no specific training centers for production technology. However joining as apprentice in can helpful. The Prototype Development Centers can provide some assistance and for foundry technology, casting, machining, dies and Tools development, courses run by centers of excellence viz Indo German Tool Room at Ahmedabad, Rajkot, Chennai, etc shall be helpful.

The most important scope of learning is in product design and development by study of the product range, features and specifications of leading Brands / competitors across the world by scanning the Internet and downloading data from websites.

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, 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.