

PROJECT REPORT

Of

UPVC DOORS

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **UPVC Doors**.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]



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PROJECT AT A GLANCE

- 1 Name of the Entrepreneur : xxxxxxxxx
- 2 Constitution (legal Status) : xxxxxxxxx
- 3 Father / Spouse Name : xxxxxxxxx
- 4 Unit Address : xxxxxxxxxxxxxxxxxxxxxxxxx
- District : xxxxxxx
Pin: xxxxxxx State: xxxxxxxxx
Mobile xxxxxxx
- 5 Product and By Product : **UPVC DOORS**
- 6 Name of the project / business activity proposed : **UPVC DOORS MANUFACTURING UNIT**
- 7 Cost of Project : Rs.20.39 Lakhs
- 8 Means of Finance
Term Loan Rs.13.35 Lakhs
Own Capital Rs.2.04 Lakhs
Working Capital Rs.5 Lakhs
- 9 Debt Service Coverage Ratio : 2.79
- 10 Pay Back Period : 5 Years
- 11 Project Implementation Period : 5-6 Months
- 12 Break Even Point : 23%
- 13 Employment : 7 Persons
- 14 Power Requirement : 40.00 HP
- 15 Major Raw materials : Reinforcement steel, Screw & Hooks, Glass, Rubber gasket, Mosquito mesh, Wheel, Lockers,etc.
- 16 Estimated Annual Sales Turnover (Max Capacity) : 89.61 Lakhs
- 17 Detailed Cost of Project & Means of Finance

COST OF PROJECT

(Rs. In Lakhs)

Particulars	Amount
	Own/Rented
Land	5.00
Building / Shed 1000 Sq ft	8.33
Plant & Machinery	1.50
Furniture & Fixtures	5.56
Working Capital	20.39
Total	20.39

MEANS OF FINANCE

Particulars	Amount
Own Contribution	2.04
Working Capital(Finance)	5.00
Term Loan	13.35
Total	20.39

UPVC DOORS

Introduction: UPVC, also known as Unplasticized Polyvinyl Chloride, is a low maintenance building material used as a substitute for painted wood, mostly for window frames and doors. UPVC is a cheaper alternative to expensive hardwood timber and aluminium. It is a popular material due to its durability and it is a cost-effective option. UPVC is proven to offer excellent performance and durability; it is long-lasting and requires very little maintenance making it the perfect material for doors and windows. It is also recognized for its thermal efficiency, sound insulation, and great value for money.



Features of UPVC Doors:

1. One of the best properties of uPVC is that it is incredibly strong despite being lightweight, and uPVC doors can be secured with multi-point locking systems.
2. UPVC is very easy to install, remove, repair and reinstall, and all this can be done without causing any structural damage to your walls or columns.
3. . When combined with the right noise-cancelling door or window glass, UPVC is highly effective in providing acoustic insulation to your retail store.
4. UPVC as a material is extremely efficient at keeping external heat at bay, providing a strong insulating layer between the outdoors and the indoors.

UPVC Doors Market analysis: The Indian uPVC doors market is expected to grow at a CAGR of 7.0% during 2015-2020. The major drivers of the Indian uPVC doors market are increasing new housing construction and replacement activities, which have contributed to the growth of this market. Another important factor that drives this market is their tangible and intangible benefiting features, such as the uPVC doors are thermal, and water- and wind-resistant. They are corrosion-free. These doors are termite free, highly sound insulated, dustproof, highly durable, and need no maintenance. They are energy efficient and could save energy up to 25% to 30%.

Manufacturing process: The raw material is procured from the authorized vendor and stored in the inventory. At first, the PVC resin, stabilizer, lubricant, and coloring pigment is added to the Pellet mixer in the required ratio. The mixer rotates at high speed to spread the pellets evenly. The profile dies are mounted at the end of the extruder to give the desired shape of the UPVC structure profile; after approval from the production department. After this, the barrel heaters are started and brought to the

desired temperature and pressure. The raw material is fed into the hopper of the extruder. From the hopper, these plastic pellets come into the feed section of the barrel. There is a screw inside the barrel which rotates about the vertical axis and compresses the pellets along its length. Pellets get melts down and flown plastically out through the extruder. This molten plastic is fed into shaped and drawn dies having the desired profile of the structure. After this, cooling and solidification of the molten plastic are performed using suitable cooling arrangements. After this, the solidified UPVC structures are fed into a cutting machine where these structures are cut down as per the desired length with allowable tolerance and stored in the inventory. In the next step, the sheet metal roll is brought from the inventory and fed into the sheet metal slitting machine. The sheet roll is arranged in such a way that one end of sheet roll is fed through the machine and the remaining coil set will unfold as the sheet fed through the machine. This machine cuts the sheet into fine strips along its length as per the desired width. Rotary cutters are arranged at precise locations to perform slitting operation. These fine strips of slitting sheets are winded over rolls using sheet winding machine. In the next step, these slitting sheets are fed into the Automatic roll forming machine. There is an arrangement of a series of rollers, with each of these rollers adding shape to the metal. The rolls work together and precisely produce very high volumes of the reinforced sheets of the desired cross section. After this finished MS sheets are fed into cutting machine where the rotary cutter cuts the sheets as per the desired length. In the next step, these reinforced sheets are fed into punching the press to punch the desired slots at the required location. In the next step, drilling is performed as per the desired profile over the surface of the UPVC structure for routing and drainage. This helps the removal of rainwater from the surface. Automatic Multi-axis drilling machines are used to perform these operations. In the next step, these reinforced sheets are inserted into UPVC structures and fixed firmly with screws. Torque guns are used at sufficient speed to impart the desired momentum in the screws. After this, welding of the reinforcement sheets is performed using the UPVC welding machine as per the desired profile of doors. The welding machine holds the parts to be weld and uses high-frequency acoustic vibrations to produce dynamic shear stress with frictional heat generation. This leads to

plastic deformation and weld formation. After this, these welded sheets are fed into the UPVC profile cleaning machine to trim off the burr, weld slag, and excess material. In the next step, an oil gasket is pasted firmly at the corners and faces assembled sheets using a gasket tool. The gasket acts as a seal to make the doors sound and waterproof. In the next step, door handles, latches, locks are assembled using screw and torque gun. After this glass cutting is performed as per the desired profile of the doors and windows using a glass cutting tool. The glass beads are cut at an angle of 45° using a glass beading cutting machine. These glass and glass beads are assembled to the doors using suitable glazing and gasket seals. In the next step, these doors are precisely checked as per the desired quality standards. After this, they are safely packed and dispatched in the required quantity.

Machinery Requirement: Basic machines and equipments are as follows:

Name	Cost(Rs.)
Double head cutting machine	480000
Glazing bead Cutting saw	80000
Manual end Milling Machine	55000
Portable Copy Router	45000
Manual tool for cleaning pneumatic	17500
Manual tool for water slot	10500
Manual V Welding tool	18000
Sub Total	706000
GST@ 18%	127080
Total Machine cost	833080

Raw material Requirement: Major raw material requirements are:

1. Reinforcement steel
2. Screw & Hooks
3. Glass

4. Rubber Gasket
5. Mosquito Mesh
6. Wheel for smooth sliding
7. Lockers etc..

This project report is prepared by taking the average size of UPVC Door to be 24sqft. (6*4 sqft.). Average raw material cost per square feet is approx. Rs 130.

Area:

The industrial setup requires space for Inventory, workshop or manufacturing area, space for power supply utilities and auxiliary like Generator setup. Also some of the area of building is required for office staff facilities, documentation, office furniture, etc. Thus, the approximate total area required for complete industrial setup is 1200 to 1500Sqft. Civil work will cost around 5 Lac (approx.)

Power Requirement –The power consumption required to run all the machinery could be approximated as 40 hp.

Manpower Requirement- There are requirement of skilled machine operators to run the machine set. Experience quality engineers are required for desired quality control. Some helpers are also required to transfer the material from one work station to other. Office staffs are required to maintain the documentation. The approximate manpower required is 7 including 1 Plant operator, 1 unskilled worker, 1 Helper and 1 security Guard. 3 Skilled worker including Accountant, Manager and sales personal each.

Approvals & Registration Requirement:

Basic registration required in this project:

- GST Registration
- Udyog Aadhar Registration (Optional)
- Choice of a Brand Name of the product and secure the name with Trademark if require

Bank Term Loan: Rate of Interest is assumed to be at 11%

Depreciation: Depreciation has been calculated as per the Provisions of Income Tax Act, 1961

Implementation Schedule:

S No.	Activity	Time required
1.	Acquisition of premises	1-2 Months
2.	Procurement & installation of Plant & Machinery	1-2 Months
3.	Arrangement of Finance	1.5-2 Months
4.	Requirement of required Manpower	1 Month
5.	Commercial Trial Runs	1 Month
	Total time Required (some activities shall run concurrently)	5-6 Months

FINANCIALS

PROJECTED CASH FLOW STATEMENT					
PARTICULARS	I	II	III	IV	V
<u>SOURCES OF FUND</u>					
Own Contribution	2.04	-			
Reserve & Surplus	3.47	6.08	8.55	11.23	14.25
Depriciation & Exp. W/off	1.90	1.65	1.43	1.24	1.08
Increase In Cash Credit	5.00				
Increase In Term Loan	13.35	-	-	-	-
Increase in Creditors	1.00	0.17	0.18	0.19	0.20
TOTAL :	26.75	7.90	10.16	12.66	15.53
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	14.83	-	-	-	-
Increase in Stock	1.94	0.34	0.36	0.38	0.40
Increase in Debtors	4.90	1.04	0.95	1.01	1.06
Repayment of Term Loan	1.48	2.97	2.97	2.97	2.97
Taxation	-	0.91	1.28	1.68	2.14
Drawings	2.00	2.50	3.00	3.50	4.00
TOTAL :	25.15	7.76	8.56	9.54	10.57
Opening Cash & Bank Balance	-	1.60	1.75	3.34	6.46
Add : Surplus	1.60	0.14	1.60	3.12	4.96
Closing Cash & Bank Balance	1.60	1.75	3.34	6.46	11.42

PROJECTED BALANCE SHEET					
PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Capital Account					
Opening Balance	-	3.51	6.18	10.44	16.49
Add: Additions	2.04	-	-	-	-
Add: Net Profit	3.47	5.17	7.27	9.54	12.11
Less: Drawings	2.00	2.50	3.00	3.50	4.00
Closing Balance	3.51	6.18	10.44	16.49	24.60
CC Limit	5.00	5.00	5.00	5.00	5.00
Term Loan	11.86	8.90	5.93	2.96	0.00
Sundry Creditors	1.00	1.17	1.34	1.53	1.73
TOTAL :	21.37	21.24	22.72	25.98	31.33
APPLICATION OF FUND					
Fixed Assets (Gross)	14.83	14.83	14.83	14.83	14.83
Gross Dep.	1.90	3.55	4.98	6.22	7.30
Net Fixed Assets	12.93	11.28	9.85	8.61	7.53
Current Assets					
Sundry Debtors	4.90	5.94	6.89	7.90	8.96
Stock in Hand	1.94	2.27	2.63	3.01	3.41
Cash and Bank	1.60	1.75	3.34	6.46	11.42
TOTAL :	21.37	21.24	22.72	25.98	31.33

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PROJECTED PROFITABILITY STATEMENT					
PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	49.00	59.40	68.89	78.96	89.61
Total (A)	49.00	59.40	68.89	78.96	89.61
B) COST OF SALES					
Raw Material Consumed	29.95	34.99	40.32	45.94	51.84
Electricity Expenses	2.36	2.66	2.95	3.25	3.55
Repair & Maintenance	1.96	2.38	2.76	3.16	3.58
Labour & Wages	4.03	4.44	4.92	5.51	6.18
Depreciation	1.90	1.65	1.43	1.24	1.08
Cost of Production	40.21	46.11	52.38	59.10	66.22
Add: Opening Stock /WIP	-	1.44	1.69	1.96	2.24
Less: Closing Stock /WIP	1.44	1.69	1.96	2.24	2.55
Cost of Sales (B)	38.77	45.86	52.11	58.81	65.92
C) GROSS PROFIT (A-B)	10.23	13.54	16.78	20.15	23.68
	20.87%	22.79%	24.35%	25.51%	26.43%
D) Bank Interest (Term Loan)	1.45	1.18	0.86	0.53	0.20
ii) Interest On Working Capital	0.55	0.55	0.55	0.55	0.55
E) Salary to Staff	3.78	4.54	5.44	6.26	6.89
F) Selling & Adm Expenses Exp.	0.98	1.19	1.38	1.58	1.79
TOTAL (D+E)	6.76	7.46	8.23	8.92	9.43
H) NET PROFIT	3.47	6.08	8.55	11.23	14.25
	7.1%	10.2%	12.4%	14.2%	15.9%
I) Taxation	-	0.91	1.28	1.68	2.14
J) PROFIT (After Tax)	3.47	5.17	7.27	9.54	12.11
Raw Material Consumed	Capacity	Rate per sqft.	Amount (Rs.)		
	Utilisation				
I	40%	130.00	29.95		
II	45%	135.00	34.99		
III	50%	140.00	40.32		
IV	55%	145.00	45.94		
V	60%	150.00	51.84		

COMPUTATION OF MAKING OF UPVC DOORS			
Item to be Manufactured	UPVC Doors		
Manufacturing Capacity per day		192	sqft
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		57,600	sqft
Total Production per Annum		57,600	set
Year		Capacity	UPVC DOORS
		Utilisation	
I		40%	23,040.00
II		45%	25,920.00
III		50%	28,800.00
IV		55%	31,680.00
V		60%	34,560.00

COMPUTATION OF SALE					
Particulars	I	II	III	IV	V
Op Stock	-	768.00	864.00	960.00	1,056.00
Production	23,040.00	25,920.00	28,800.00	31,680.00	34,560.00
	23,040.00	26,688.00	29,664.00	32,640.00	35,616.00
Less : Closing Stock(10 Days)	768.00	864.00	960.00	1,056.00	1,152.00
Net Sale	22,272.00	25,824.00	28,704.00	31,584.00	34,464.00
Sale Price per sqft.	220.00	230.00	240.00	250.00	260.00
Sale (in Lacs)	49.00	59.40	68.89	78.96	89.61

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					
PARTICULARS	I	II	III	IV	V
<u>Finished Goods</u>					
(10 Days requirement)	1.44	1.69	1.96	2.24	2.55
<u>Raw Material</u>					
(5 Days requirement)	0.50	0.58	0.67	0.77	0.86
Closing Stock	1.94	2.27	2.63	3.01	3.41

COMPUTATION OF WORKING CAPITAL REQUIREMENT			
Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	1.94		
Less:			
Sundry Creditors	1.00		
Paid Stock	0.94	0.09	0.84
Sundry Debtors	4.90	0.49	4.41
Working Capital Requirement			5.25
Margin			0.58
MPBF			5.25
Working Capital Demand			5.00

BREAK UP OF LABOUR				
Particulars		Wages Per Month	No of Employees	Total Salary
Plant Operator		10,000.00	1	10,000.00
Unskilled Worker		8,000.00	1	8,000.00
Helper		8,000.00	1	8,000.00
Security Guard		6,000.00	1	6,000.00
				32,000.00
Add: 5% Fringe Benefit				1,600.00
Total Labour Cost Per Month				33,600.00
Total Labour Cost for the year (In Rs. Lakhs)			4	4.03

BREAK UP OF SALARY				
Particulars		Salary Per Month	No of Employees	Total Salary
Manager		12,000.00	1	12,000.00
Accountant cum store keeper		10,000.00	1	10,000.00
Sales		8,000.00	1	8,000.00
Total Salary Per Month				30,000.00
Add: 5% Fringe Benefit				1,500.00
Total Salary for the month				31,500.00
Total Salary for the year (In Rs. Lakhs)			3	3.78

COMPUTATION OF DEPRECIATION					
Description	Land	Building/shed	Plant & Machinery	Furniture	TOTAL
Rate of Depreciation		10.00%	15.00%	10.00%	
Opening Balance	Leased		-	-	-
Addition	-	5.00	8.33	1.50	14.83
	-	5.00	8.33	1.50	14.83
		-	-	-	
TOTAL		5.00	8.33	1.50	14.83
Less : Depreciation	-	0.50	1.25	0.15	1.90
WDV at end of Ist year	-	4.50	7.08	1.35	12.93
Additions During The Year	-	-	-	-	-
	-	4.50	7.08	1.35	12.93
Less : Depreciation	-	0.45	1.06	0.14	1.65
WDV at end of IIInd Year	-	4.05	6.02	1.22	11.28
Additions During The Year	-	-	-	-	-
	-	4.05	6.02	1.22	11.28
Less : Depreciation	-	0.41	0.90	0.12	1.43
WDV at end of IIIrd year	-	3.65	5.12	1.09	9.85
Additions During The Year	-	-	-	-	-
	-	3.65	5.12	1.09	9.85
Less : Depreciation	-	0.36	0.77	0.11	1.24
WDV at end of IV year	-	3.28	4.35	0.98	8.61
Additions During The Year	-	-	-	-	-
	-	3.28	4.35	0.98	8.61
Less : Depreciation	-	0.33	0.65	0.10	1.08
WDV at end of Vth year	-	2.95	3.70	0.89	7.53

REPAYMENT SCHEDULE OF TERM LOAN						11.0%	
Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
I	Opening Balance						
	Ist Quarter	13.35	-	13.35	0.37	-	13.35
	IInd Quarter	13.35	-	13.35	0.37	-	13.35
	IIIrd Quarter	13.35	-	13.35	0.37	0.74	12.61
	Ivth Quarter	12.61	-	12.61	0.35	0.74	11.87
					1.45	1.48	
II	Opening Balance						
	Ist Quarter	11.87	-	11.87	0.33	0.74	11.13
	IInd Quarter	11.13	-	11.13	0.31	0.74	10.38
	IIIrd Quarter	10.38	-	10.38	0.29	0.74	9.64
	Ivth Quarter	9.64		9.64	0.27	0.74	8.90
					1.18	2.97	
III	Opening Balance						
	Ist Quarter	8.90	-	8.90	0.24	0.74	8.16
	IInd Quarter	8.16	-	8.16	0.22	0.74	7.42
	IIIrd Quarter	7.42	-	7.42	0.20	0.74	6.68
	Ivth Quarter	6.68		6.68	0.18	0.74	5.93
					0.86	2.97	
IV	Opening Balance						
	Ist Quarter	5.93	-	5.93	0.16	0.74	5.19
	IInd Quarter	5.19	-	5.19	0.14	0.74	4.45
	IIIrd Quarter	4.45	-	4.45	0.12	0.74	3.71
	Ivth Quarter	3.71		3.71	0.10	0.74	2.97
					0.53	2.97	
V	Opening Balance						
	Ist Quarter	2.97	-	2.97	0.08	0.74	2.22
	IInd Quarter	2.22	-	2.22	0.06	0.74	1.48
	IIIrd Quarter	1.48	-	1.48	0.04	0.74	0.74
	Ivth Quarter	0.74		0.74	0.02	0.74	- 0.00
					0.20	2.97	

Door to Door Period 60 Months
Moratorium Period 6 Months
Repayment Period 54 Months

CALCULATION OF D.S.C.R					
PARTICULARS	I	II	III	IV	V
CASH ACCRUALS	5.37	6.82	8.70	10.78	13.19
Interest on Term Loan	1.45	1.18	0.86	0.53	0.20
Total	6.82	8.00	9.55	11.31	13.40
REPAYMENT					
Repayment of Term Loan	1.48	2.97	2.97	2.97	2.97
Interest on Term Loan	1.45	1.18	0.86	0.53	0.20
Total	2.93	4.15	3.82	3.50	3.17
DEBT SERVICE COVERAGE RATIO	2.33	1.93	2.50	3.24	4.23
AVERAGE D.S.C.R.			2.79		

COMPUTATION OF ELECTRICITY				
(A) POWER CONNECTION				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	40	
Load Factor			0.7460	
Electricity Charges		per unit	7.50	
Total Working Days			300	
Electricity Charges				5,37,120.00
Add : Minimim Charges (@ 10%)				
(B) DG set				
No. of Working Days			300	days
No of Working Hours			0.3	Hour per day
Total no of Hour			90	
Diesel Consumption per Hour			8	
Total Consumption of Diesel			720	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			0.47	
Add : Lube Cost @15%			0.07	
Total			0.54	
Total cost of Power & Fuel at 100%				5.91
	Year	Capacity		Amount
				(in Lacs)
	I	40%		2.36
	II	45%		2.66
	III	50%		2.95
	IV	55%		3.25
	V	60%		3.55

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