PROJECT REPORT

Of

UPVC PIPES

PURPOSE OF THE DOCUMENT

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

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.]

SAMADHAN
Nurturing Dreams - Innovative Solutions

Lucknow Office: Sidhivinayak Building , 27/1/B, Gokhlley Marg, Lucknow-226001

Delhi Office : Multi Disciplinary Training Centre, Gandhi Darshan Rajghat, New Delhi 110002

Email : info@udyami.org.in
Contact : +91 7526000333, 444, 555

PROJECT AT A GLANCE

1	Name of the Entreprenuer		xxxxxxxxxx	
2	Constitution (legal Status)		xxxxxxxxxx	
3	Father / Spouse Name		xxxxxxxxxxxx	
4	Unit Address	:	xxxxxxxxxxxxxxxxxxxxxxx	
			District : xxxxxxx	
			Pin: xxxxxxx	State: xxxxxxxxxx
			Mobile xxxxxxx	
5	Product and By Product	:	**UPVC PIPES**	
6	Name of the project / business activity proposed :		**UPVC PIPES MANUFACTURING UNIT**	
7	Cost of Project	:	Rs.24.39 Lakhs	
8	Means of Finance			
	Term Loan		Rs.18.45 Lakhs	
	Own Capital		Rs.2.44 Lakhs	
	Working capital		Rs.3.5 Lakhs	
9	Debt Service Coverage Ratio	:	2.56	
10	Pay Back Period	:	5	Years
11	Project Implementation Period	:	5-6	Months
12	Break Even Point	:	34%	
13	Employment	:	8	Persons
14	Power Requirement	:	30.00	HP
15	Major Raw materials	:	PVC Resins , Stabilizers, Other additives	
16	Estimated Annual Sales Turnover (Max Capacity)	:	107.00	Lakhs
17	Detailed Cost of Project & Means of Finance			

COST OF PROJECT

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Building /Shed 1000 Sq ft	5.00
Plant & Machinery	14.00
Furniture & Fixtures	1.50
Working Capital	3.89
Total	**24.39**

MEANS OF FINANCE

Particulars	Amount
Own Contribution	2.44
Working Capital(Finance)	3.50
Term Loan	18.45
Total	**24.39**

UPVC PIPE

Introduction: Unplasticized polyvinyl chloride (uPVC), also known as rigid PVC, Pipes & Fittings are used for all plumbing purposes in residential & commercial buildings. Ideally suited for looping at each floor level, outdoor installations & concealed pipelines for cold water distribution. uPVC is known as having strong resistance against chemicals, sunlight & oxidation from water. uPVC is widely used in construction because it is durable, cheap and easily worked. The material comes in a range of colors and finishes, including a photo-effect wood finish, and is used as a substitute for painted wood, mostly for window frames and sills when installing double glazing in new buildings, or to replace older single-glazed windows. Other uses include fascia, and siding or weather boarding. This material has almost entirely replaced the use of cast iron for plumbing and drainage, being used for waste pipes, drain pipes, gutters and down spouts. uPVC does not contain phthalates, since those are only added to flexible PVC, nor does it contain BPA.

Difference between uPVC and PVC: PVC is poly(vinyl chloride) polymer usually containing plasticizer plus some other additive (fillers, lubricants, stabilizers, …), whereas, UPVC is unplasticized poly(vinyl chloride), without any added plasticizing agent or with a small amount, but including other additives.

UPVC is harder than PVC due to absence of plasticizer. It is used to produce hard products, like windows frames and pipes. That is their main difference, but their similarity is that both are poly (vinyl chloride), same base polymer.

Applications:

- **Water Supply:** uPVC pipes are the best for water supply scheme, such as water supply distribution network, main line, casing for tube work and raising main for handpump.
- **Chemical Industries:** uPVC is very good for transporting of chloride acid and other chemicals.
- **Sewer Systems:** uPVC pipe of larger diameter can be used for sewer system.
- **Cable Conduits:** uPVC pipe is most suitable as electrical conduits.
- **Agriculture:** uPVC pipe is very suitable for agriculture purposes such as for irrigation sprinkling pipe for farm land & other purposes.
- **Crude oil lines:** uPVC pipe resist corruption, the deposit build up process is also difficult which result the low friction rate and thus making uPVC pipe the most suitable for the crude oil line.

Machines & equipments: Basic machines & equipments are:

Name	Unit	Price
Extruder	1	950000
Mixer	1	70000
Cut of machine	1	42350
Inject printing machine	1	40000

Hopper & feeder	1	132000
Cooling tank	1	120000
Other equipments		45650

Raw material requirements: Major raw material are as follows:

1. PVC Resins
2. Stabilizers
3. Other Additives

Manufacturing Process: The various raw materials are procured from vendors and stored in raw material inventory as per production requirement, form where they are brought to manufacturing unit, where they are fed to mixer in appropriate quantity as per type of UPVC Pipe which is to be made.

The raw material blend is fed to the extruder via a hopper and feeder arrangement which simply melts the raw material blend which is mostly PVC resin into a semi solid state which is then extruded into a continuous pipe by forcing it against the die and mandrel arrangement.

If a thin walled tube is to be produced then this continuous tube is fed to a tube drawing machine which further reduces it's wall thickness followed by which its moved via cooling tank where water bath cools of the pipe.

A Inject Printing machine prints the required information onto the pipe at fixed interval as per the length of the pipe. The continuous Pipe is then simply cut in required length by a cut-off machine and are ready for sale.

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 1000 to 1200Sqft. Civil work cost will be around 5 Lac Rs.(Approx.)

Power Requirement –The power consumption required to run all the machinery could be approximated as 30hp.

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 8 including 1 Supervisor, 1 Plant operator and 1 unskilled worker , 1 Helper, 1 Security guard. 3 Skilled worker including Accountant, Manager and Sales person.

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

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

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
SOURCES OF FUND					
Own Contribution	2.44	-			
Reserve & Surplus	4.96	6.95	9.52	13.69	17.95
Depriciation & Exp. W/off	2.75	2.37	2.04	1.76	1.52
Increase In Cash Credit	3.50				
Increase In Term Loan	18.45	-	-	-	-
Increase in Creditors	1.89	0.25	0.15	0.15	0.15
TOTAL :	**33.99**	**9.56**	**11.72**	**15.60**	**19.63**
APPLICATION OF FUND					
Increase in Fixed Assets	20.50	-	-	-	-
Increase in Stock	1.57	0.21	0.19	0.20	0.21
Increase in Debtors	4.35	0.69	0.66	0.70	0.74
Repayment of Term Loan	2.05	4.10	4.10	4.10	4.10
Taxation	-	1.04	1.43	2.05	2.69
Drawings	3.00	3.50	5.00	7.00	10.00
TOTAL :	**31.47**	**9.54**	**11.38**	**14.05**	**17.74**
Opening Cash & Bank Balance	-	2.53	2.55	2.89	4.44
Add : Surplus	2.53	0.02	0.34	1.55	1.89
Closing Cash & Bank Balance	**2.53**	**2.55**	**2.89**	**4.44**	**6.33**

PROJECTED BALANCE SHEET

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Capital Account					
Opening Balance	-	4.40	6.81	9.90	14.54
Add: Additions	2.44	-	-	-	-
Add: Net Profit	4.96	5.90	8.09	11.64	15.26
Less: Drawings	3.00	3.50	5.00	7.00	10.00
Closing Balance	4.40	6.81	9.90	14.54	19.80
CC Limit	3.50	3.50	3.50	3.50	3.50
Term Loan	16.40	12.30	8.20	4.10	-
Sundry Creditors	1.89	2.14	2.29	2.44	2.60
TOTAL :	**26.19**	**24.75**	**23.89**	**24.58**	**25.89**
APPLICATION OF FUND					
Fixed Assets (Gross)	20.50	20.50	20.50	20.50	20.50
Gross Dep.	2.75	5.12	7.16	8.93	10.45
Net Fixed Assets	17.75	15.38	13.34	11.57	10.05
Current Assets					
Sundry Debtors	4.35	5.03	5.69	6.39	7.13
Stock in Hand	1.57	1.78	1.98	2.17	2.38
Cash and Bank	2.53	2.55	2.89	4.44	6.33
TOTAL :	**26.19**	**24.75**	**23.89**	**24.58**	**25.89**

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PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	65.20	75.51	85.41	95.90	107.00
Total (A)	**65.20**	**75.51**	**85.41**	**95.90**	**107.00**
B) COST OF SALES					
Raw Material Consumed	37.83	42.78	45.83	48.89	51.94
Elecricity Expenses	2.97	3.20	3.42	3.65	3.88
Repair & Maintenance	5.22	7.55	10.25	12.47	14.98
Labour & Wages	4.79	5.08	5.53	6.09	6.69
Depreciation	2.75	2.37	2.04	1.76	1.52
Cost of Production	53.55	60.97	67.08	72.86	79.02
Add: Opening Stock /WIP	-	0.94	1.07	1.21	1.36
Less: Closing Stock /WIP	0.94	1.07	1.21	1.36	1.52
Cost of Sales (B)	52.61	60.84	66.94	72.71	78.86
C) GROSS PROFIT (A-B)	12.58	14.67	18.46	23.19	28.13
	19.30%	**19.43%**	**21.62%**	**24.18%**	**26.29%**
D) Bank Interest (Term Loan)	2.00	1.63	1.18	0.73	0.28
ii) Interest On Working Capital	0.39	0.39	0.39	0.39	0.39
E) Salary to Staff	3.28	3.44	3.96	4.55	5.23
F) Selling & Adm Expenses Exp.	1.96	2.27	3.42	3.84	4.28
TOTAL (D+E)	**7.62**	**7.72**	**8.94**	**9.50**	**10.18**
H) NET PROFIT	4.96	6.95	9.52	13.69	17.95
	7.6%	**9.2%**	**11.1%**	**14.3%**	**16.8%**
I) Taxation	-	1.04	1.43	2.05	2.69
J) PROFIT (After Tax)	4.96	5.90	8.09	11.64	15.26

Raw Material Consumed	Capacity Utilisation		Amount (Rs.)		
I	65%		37.83		
II	70%		42.78	5% Increase in Cost	
III	75%		45.83	5% Increase in Cost	
IV	80%		48.89	5% Increase in Cost	
V	85%		51.94	5% Increase in Cost	

COMPUTATION OF MAKING OF UPVC PIPES			
Item to be Manufactured Upvc Pipes			
Manufacturing Capacity per day		400	kg
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		1,20,000	kg
Total Production per Annum		1,20,000	kg
Year		Capacity Utilisation	UPVC PIPES
I		65%	78,000.00
II		70%	84,000.00
III		75%	90,000.00
IV		80%	96,000.00
V		85%	1,02,000.00

COMPUTATION OF RAW MATERIAL

Item Name		Quantity of Raw Material	Unit	Unit Rate of	Total CostPer Annum (100%)
PVC Resins		90,000.00	kg	50.00	45,00,000.00
Stabilizers		20,000.00	kg	60.00	12,00,000.00
Other Additives					1,20,000.00
					-
					-
Total					**58,20,000.00**
Total Raw material in Rs lacs					58.20

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					
PARTICULARS	I	II	III	IV	V
Finished Goods					
(5 Days requirement)	0.94	1.07	1.21	1.36	1.52
Raw Material					
(5 Days requirement)	0.63	0.71	0.76	0.81	0.87
Closing Stock	**1.57**	**1.78**	**1.98**	**2.17**	**2.38**

COMPUTATION OF WORKING CAPITAL REQUIREMENT			
Particulars	**Amount**	**Margin(10%)**	**Net Amount**
Stock in Hand	1.57		
Less:			
Sundry Creditors	1.89		
Paid Stock	**- 0.32**	**- 0.03**	**- 0.29**
Sundry Debtors	4.35	0.43	3.91
Working Capital Requirement			**3.62**
Margin			0.40
MPBF			**3.62**
Working Capital Demand			**3.50**

COMPUTATION OF SALE

Particulars	I	II	III	IV	V
Op Stock	-	1,300.00	1,400.00	1,500.00	1,600.00
Production	78,000.00	84,000.00	90,000.00	96,000.00	1,02,000.00
	78,000.00	85,300.00	91,400.00	97,500.00	1,03,600.00
Less : Closing Stock(5 Days)	1,300.00	1,400.00	1,500.00	1,600.00	1,700.00
Net Sale	76,700.00	83,900.00	89,900.00	95,900.00	1,01,900.00
Sale Price per kg	85.00	90.00	95.00	100.00	105.00
Sale (in Lacs)	**65.20**	**75.51**	**85.41**	**95.90**	**107.00**

BREAK UP OF LABOUR				
Particulars		Wages	No of	Total
		Per Month	Employees	Salary
Supervisor		12,000.00	1	12,000.00
Plant Operator		10,000.00	1	10,000.00
Unskilled Worker		6,000.00	1	6,000.00
Helper		4,000.00	1	4,000.00
Security Guard		6,000.00	1	6,000.00
				38,000.00
Add: 5% Fringe Benefit				1,900.00
Total Labour Cost Per Month				39,900.00
Total Labour Cost for the year (In Rs. Lakhs)			5	4.79

BREAK UP OF SALARY				
Particulars		Salary	No of	Total
		Per Month	Employees	Salary
Manager		10,000.00	1	12,000.00
Accountant cum store keeper		8,000.00	1	8,000.00
Sales		6,000.00	1	6,000.00
Total Salary Per Month				26,000.00
Add: 5% Fringe Benefit				1,300.00
Total Salary for the month				27,300.00
Total Salary for the year (In Rs. Lakhs)			3	3.28

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	14.00	1.50	20.50
	-	5.00	14.00	1.50	20.50
		-	-	-	
TOTAL		5.00	14.00	1.50	20.50
Less : Depreciation	-	0.50	2.10	0.15	2.75
WDV at end of Ist year	-	4.50	11.90	1.35	17.75
Additions During The Year	-	-	-	-	-
	-	4.50	11.90	1.35	17.75
Less : Depreciation	-	0.45	1.79	0.14	2.37
WDV at end of IInd Year	-	4.05	10.12	1.22	15.38
Additions During The Year	-	-	-	-	-
	-	4.05	10.12	1.22	15.38
Less : Depreciation	-	0.41	1.52	0.12	2.04
WDV at end of IIIrd year	-	3.65	8.60	1.09	13.34
Additions During The Year	-	-	-	-	-
	-	3.65	8.60	1.09	13.34
Less : Depreciation	-	0.36	1.29	0.11	1.76
WDV at end of IV year	-	3.28	7.31	0.98	11.57
Additions During The Year	-	-	-	-	-
	-	3.28	7.31	0.98	11.57
Less : Depreciation	-	0.33	1.10	0.10	1.52
WDV at end of Vth year	-	2.95	6.21	0.89	10.05

REPAYMENT SCHEDULE OF TERM LOAN						11.0%	
Year	**Particulars**	**Amount**	**Addition**	**Total**	**Interest**	**Repayment**	**Cl Balance**
I	Opening Balance						
	Ist Quarter	18.45	-	18.45	0.51	-	18.45
	Iind Quarter	18.45	-	18.45	0.51	-	18.45
	IIIrd Quarter	18.45	-	18.45	0.51	1.03	17.43
	Ivth Quarter	17.43	-	17.43	0.48	1.03	16.40
					2.00	2.05	
II	Opening Balance						
	Ist Quarter	16.40	-	16.40	0.45	1.03	15.38
	Iind Quarter	15.38	-	15.38	0.42	1.03	14.35
	IIIrd Quarter	14.35	-	14.35	0.39	1.03	13.33
	Ivth Quarter	13.33		13.33	0.37	1.03	12.30
					1.63	4.10	
III	Opening Balance						
	Ist Quarter	12.30	-	12.30	0.34	1.03	11.28
	Iind Quarter	11.28	-	11.28	0.31	1.03	10.25
	IIIrd Quarter	10.25	-	10.25	0.28	1.03	9.23
	Ivth Quarter	9.23		9.23	0.25	1.03	8.20
					1.18	4.10	
IV	Opening Balance						
	Ist Quarter	8.20	-	8.20	0.23	1.03	7.18
	Iind Quarter	7.18	-	7.18	0.20	1.03	6.15
	IIIrd Quarter	6.15	-	6.15	0.17	1.03	5.13
	Ivth Quarter	5.13		5.13	0.14	1.03	4.10
					0.73	4.10	
V	Opening Balance						
	Ist Quarter	4.10	-	4.10	0.11	1.03	3.08
	Iind Quarter	3.08	-	3.08	0.08	1.03	2.05
	IIIrd Quarter	2.05	-	2.05	0.06	1.03	1.03
	Ivth Quarter	1.03		1.03	0.03	1.03	- 0.00
					0.28	4.10	

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	7.71	8.27	10.14	13.40	16.78
Interest on Term Loan	2.00	1.63	1.18	0.73	0.28
Total	9.72	9.91	11.32	14.13	17.06
REPAYMENT					
Repayment of Term Loan	2.05	4.10	4.10	4.10	4.10
Interest on Term Loan	2.00	1.63	1.18	0.73	0.28
Total	4.05	5.73	5.28	4.83	4.38
DEBT SERVICE COVERAGE RATIO	**2.40**	**1.73**	**2.14**	**2.92**	**3.89**
AVERAGE D.S.C.R.			**2.56**		

COMPUTATION OF ELECTRICITY				
(A) POWER CONNECTION				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	30	
Load Factor			0.7460	
Electricity Charges		per unit	7.50	
Total Working Days			300	
Electricity Charges				4,02,840.00
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%				4.57
Year		**Capacity**		**Amount**
				(in Lacs)
I		65%		2.97
II		70%		3.20
III		75%		3.42
IV		80%		3.65
V		85%		3.88

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