PROJECT REPORT

Of

PP BOX STRAPPING

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **PP Box Strapping**.

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 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	:	**PP Box Strapping**	
6	Name of the project / business activity proposed :		**PP Box Strapping Manufacturing Unit**	
7	Cost of Project	:	Rs.44.16 Lakhs	
8	Means of Finance			
	Term Loan		Rs.32.5 Lakhs	
	Own Capital		Rs.4.42 Lakhs	
	Working Capital		Rs.7.25 Lakhs	
9	Debt Service Coverage Ratio	:	2.13	
10	Pay Back Period	:	5	Years
11	Project Implementation Period	:	5-6	Months
12	Break Even Point	:	40%	
13	Employment	:	15	Persons
14	Power Requirement	:	50	HP
15	Major Raw materials	:	PP Resin, Plasticizer, Stabilizer, Other additives etc	
16	Estimated Annual Sales Turnover (Max Utilized Capacity)	:	151.36	Lakhs
17	Detailed Cost of Project & Means of Finance			

COST OF PROJECT

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Building /Shed 2000 Sq ft	Own/Rented
Plant & Machinery	35.00
Furniture & Fixtures	1.11
Working Capital	8.05
Total	**44.16**

MEANS OF FINANCE

Particulars	Amount
Own Contribution	4.42
Term Loan	32.50
Working Capital	7.25
Total	**44.16**

PP BOX STRAPPING

Strap is commonly used in the packaging industry to secure or fasten items. It may be made from a wide range of materials, such as plastic, steel, paper, or fabric. Usually the strap is secured to itself through various means, but it may also be secured to other items, such as pallets.

PP Strap (polypropylene strapping) is currently the most common used plastic strapping. The later developed Strap PET is of a better quality but this is also noticeable in the price. PP Strap meets the required properties, such as tensile strength, elasticity and tension loss for many applications without failure. Recognition: Polypropylene is often dull and usually has a checkered profile and is available in a few standard colours, black, bleu, white and yellow.

PP Strap in the longitudinal direction is easy to tear, and the specific gravity is lower than that of PET strap. PP strap stays afloat on water. The strap is secured by a heat weld, but also by making use of a buckle, depending on the application and the volume, with a hand-held device, strapping tool (semi-automatic) or a strapping machine (fully automatic).

Polypropylene strap (oriented or tensilized) is an economical material designed for light to medium duty unitizing, palletizing and bundling. It is available in various widths, thicknesses, and polymer variations (e.g., copolymers). Most polypropylene is embossed, some of which is also printed. This product offers higher elongation at break but tends to have irrecoverable dead stretch with constant stress. What is not generally known to end users is that polypropylene strapping will lose about 50% of the applied tension within one hour, and that this tension loss is accelerated with increases in ambient temperature, consequently

although suitable for packs with a degree of stored energy that will take up any relaxation that occurs in the strap, unacceptable strap slackness may occur after time if used on product that is 'Solid' such as bricks or concrete. Furthermore polypropylene strapping is susceptible to UV degradation and can quickly degrade if left outside exposed to the elements. The sensible choice of colour will retard the process, such as specifying black strap. Similarly, a UV inhibitor can be specified.

Polypropylene strapping may be printed, either during production and pre-embossing for the highest quality and precision, or post production over the embossing for a reduced quality. Both offer security and marketing advantages to the strapped product.

Strapping, also known as bundling and banding, is the process of applying a strap to an item to combine, stabilize, hold, reinforce, or fasten it. The strap may also be referred to as strapping. Strapping is most commonly used in the packaging industry.

Features:

1. Durability
2. Abrasion resistance
3. Moisture-proof

Application for Quality Products

PET straps are primarily used in transportation of different materials from one place to another. They prevent these materials from getting damaged. PET straps are light in weight and cost effective vis-à-vis steel straps. There are factors driving the PET strap market. PET straps are primarily made from recycled PET. Thus, they provide environment-friendly strapping solution.

Manufacturing process of PP Box Strapping

The various additives like plasticizer, stabilizers etc are added along with PP resin to the mixer of extrusion unit after measuring the weight of each individual raw material; the mixer mixes all raw material into a homogenous blend which is then feed to extruder via a hopper and feeder arrangement.

The Extruder heats the blend above its glass transition temperature so as to obtain a semi-solid PP, which is forced through a die to form four PP Straps simultaneously which are continuously extruded.

These straps are plunged in a quenching tank in order to quickly cool them to prevent any deformation, followed by which these straps are pulled in by a Power Take-Off Unit.

The power take-off unit utilizes appropriate gearbox and motor set to generate required speed and torque at roller, which ultimately transfer this power to PP Straps; therefore the PP Straps are pulled out of quenching tank feed to Hot Air Tunnel Oven.

The Hot Air Tunnel Oven is a hot air circulation system within an enclosed space that is utilized to heat these straps and as an another take-off unit is placed across the oven the PP straps are under constant tension and along with thermal effect due to oven heating the straps experience elongation thus their thickness is further reduced.

Another take-off unit across the oven pulls the straps out of oven and feeds it to embossing unit, which generates pattern over these straps which allows better grip during box strapping at users end.

The printer unit is next to embossing unit which simply prints certain information on to straps as per customer or manufacturers requirement, if printed PP straps are to be produced.

These straps are then feed to Annealing Oven with Quenching Tank which has its own feed mechanism to move the straps through quenching tank. It essentially heats the PP straps so as to relive work stresses, thus enhances life and strength of straps followed by which they are cooled in its quenching tank to room temperature.

Another take-off unit is placed across the annealing oven which pulls the PP straps from oven and feeds them to 6-Station strap winder, which winds the 4 straps simultaneously over their respective cardboard cores. These straps rolls are packed in cartons and sent for sale.

PP Box Strapping Market analysis

PET straps are largely used by the cotton industry, which accounts for a 45% share, followed by automotive, appliance, and others. India has about 30 manufacturers, with the western region being the principal supplier. The market is expected to record a high CAGR of 14% from 2015 to 2020.

There has been a rise in demand for consumer electronics, household appliances, pharmaceutical products, medical devices, and textile goods, which is projected to result in an increase in demand for strapping material as a suitable packaging material. Growth in mail orders and the logistics business, along with expansion of the e-commerce industry, is projected to further boost the demand for strapping materials.

Description of Machinery & Equipment

Following machineries are required for manufacturing process of PP Box Strapping.

- Extruder
- Quenching Tank
- First Stretching Unit
- Orientation Unit
- Second Stretching Unit
- Printing Unit
- Embossing Unit
- Air Annealing Oven with water chilling unit
- Third Stretching Unit
- Three Station PLC Winder Unit

PROJECTED BALANCE SHEET

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Capital Account					
Opening Balance	-	4.72	7.37	11.94	17.79
Add: Additions	4.42	-	-	-	-
Add: Net Profit	4.31	8.65	12.57	15.85	19.34
Less: Drawings	4.00	6.00	8.00	10.00	14.00
Closing Balance	4.72	7.37	11.94	17.79	23.13
CC Limit	7.25	7.25	7.25	7.25	7.25
Term Loan	28.89	21.67	14.44	7.22	-
Sundry Creditors	0.84	0.96	1.08	1.22	1.36
TOTAL :	**41.69**	**37.24**	**34.71**	**33.47**	**31.73**
APPLICATION OF FUND					
Fixed Assets (Gross)	36.11	36.11	36.11	36.11	36.11
Gross Dep.	5.36	9.92	13.81	17.11	19.92
Net Fixed Assets	30.75	26.19	22.30	19.00	16.19
Current Assets					
Sundry Debtors	4.83	5.31	6.01	6.76	7.57
Stock in Hand	4.07	4.49	5.01	5.57	6.19
Cash and Bank	2.05	1.26	1.39	2.14	1.79
TOTAL :	**41.69**	**37.24**	**34.71**	**33.47**	**31.73**
	-	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	90.48	106.20	120.10	135.13	151.36
Total (A)	**90.48**	**106.20**	**120.10**	**135.13**	**151.36**
B) COST OF SALES					
Raw Mateiral Consumed	50.40	57.41	64.85	72.90	81.60
Electricity Expenses	4.57	4.95	5.33	5.71	6.09
Repair & Maintenance	0.45	0.53	0.60	0.68	0.76
Labour & Wages	11.02	12.12	13.34	14.67	16.14
Depreciation	5.36	4.56	3.88	3.31	2.81
Cost of Production	71.80	79.57	88.00	97.26	107.40
Add: Opening Stock /WIP	-	2.39	2.57	2.85	3.14
Less: Closing Stock /WIP	2.39	2.57	2.85	3.14	3.47
Cost of Sales (B)	69.41	79.39	87.72	96.96	107.07
C) GROSS PROFIT (A-B)	21.07	26.80	32.38	38.17	44.29
	23.29%	**25.24%**	**26.96%**	**28.25%**	**29.26%**
D) Bank Interest (Term Loan)	3.53	2.88	2.09	1.29	0.50
ii) Interest On Working Capital	0.80	0.80	0.80	0.80	0.80
E) Salary to Staff	7.92	8.71	9.58	10.54	11.60
F) Selling & Adm Expenses Exp.	4.52	5.31	6.01	6.76	7.57
TOTAL (D+E)	**16.77**	**17.70**	**18.47**	**19.39**	**20.46**
H) NET PROFIT	4.31	9.11	13.91	18.78	23.84
	4.8%	**8.6%**	**11.6%**	**13.9%**	**15.7%**
I) Taxation	-	0.46	1.34	2.93	4.50
J) PROFIT (After Tax)	4.31	8.65	12.57	15.85	19.34

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Own Contribution	4.42	-			
Net Profit	4.31	9.11	13.91	18.78	23.84
Depreciation & Exp. W/off	5.36	4.56	3.88	3.31	2.81
Increase In Cash Credit	7.25				
Increase In Term Loan	32.50	-	-	-	-
Increase in Creditors	0.84	0.12	0.12	0.13	0.15
TOTAL :	**54.67**	**13.78**	**17.91**	**22.22**	**26.80**
APPLICATION OF FUND					
Increase in Fixed Assets	36.11	-	-	-	-
Increase in Stock	4.07	0.41	0.52	0.57	0.62
Increase in Debtors	4.83	0.48	0.70	0.75	0.81
Repayment of Term Loan	3.61	7.22	7.22	7.22	7.22
Taxation	-	0.46	1.34	2.93	4.50
Drawings	4.00	6.00	8.00	10.00	14.00
TOTAL :	**52.62**	**14.57**	**17.78**	**21.47**	**27.15**
Opening Cash & Bank Balance	-	2.05	1.26	1.39	2.14
Add : Surplus	2.05	- 0.79	0.14	0.75	- 0.35
Closing Cash & Bank Balance	**2.05**	**1.26**	**1.39**	**2.14**	**1.79**

COMPUTATION OF PP BOX STRAPPING MANUFACTURING UNIT

Items to be Manufactured PP Box Strapping

Manufacturing Capacity per Day		800.00	kg
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		240,000	kg
Year		Capacity	PP Box Strapping
		Utilisation	
I		60%	144,000
II		65%	156,000
III		70%	168,000
IV		75%	180,000
V		80%	192,000

COMPUTATION OF RAW MATERIAL

Item Name		**Quantity of Raw Material**	**Unit**	**Unit Rate of**	**Total CostPer Annum (100%)**
Raw Material Cost		240,000.00	kg	35.00	8,400,000.00
Total		**240,000.00**			**8,400,000.00**

Total Raw material in Rs lacs	at 100% Capacity		84.00
Cost per Kg		(In Rs)	**35.00**

Raw Material Consumed	**Capacity Utilisation**	**Rate**	**Amount (Rs.)**
I	60%	35.00	50.40
II	65%	36.80	57.41
III	70%	38.60	64.85
IV	75%	40.50	72.90
V	80%	42.50	81.60

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	I	II	III	IV	V
Finished Goods					
(10 Days requirement)	2.39	2.57	2.85	3.14	3.47
Raw Material					
(10 Days requirement)	1.68	1.91	2.16	2.43	2.72
Closing Stock	**4.07**	**4.49**	**5.01**	**5.57**	**6.19**

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	4.07		
Less:			
Sundry Creditors	0.84		
Paid Stock	**3.23**	**0.32**	**2.91**
Sundry Debtors	4.83	0.48	4.34
Working Capital Requirement			**7.25**
Margin			0.81
MPBF			**7.25**
Working Capital Demand			**7.25**

BREAK UP OF LABOUR

Particulars		Wages Per Month	No of Employees	Total Salary
Plant Operator		15,000.00	1	15,000.00
Unskilled Worker		8,500.00	6	51,000.00
Helper		5,000.00	2	10,000.00
Security Guard		7,500.00	1	7,500.00
				83,500.00
Add: 10% Fringe Benefit				8,350.00
Total Labour Cost Per Month				91,850.00
Total Labour Cost for the year (In Rs. Lakhs)			10	11.02

BREAK UP OF SALARY

Particulars		Salary Per Month	No of Employees	Total Salary
Accountant cum store keeper		10,000.00	1	10,000.00
Administrative Staffs		12,500.00	4	50,000.00
Total Salary Per Month				60,000.00
Add: 10% Fringe Benefit				6,000.00
Total Salary for the month				66,000.00
Total Salary for the year (In Rs. Lakhs)			5	7.92

COMPUTATION OF DEPRECIATION

Description	Land	Building/shed	Plant & Machinery	Furniture	**TOTAL**
Rate of Depreciation			**15.00%**	**10.00%**	
Opening Balance	Own/Rented		-	-	-
Addition	-		35.00	1.11	36.11
	-		35.00	1.11	36.11
TOTAL		-	35.00	1.11	36.11
Less : Depreciation	-	-	5.25	0.11	5.36
WDV at end of Ist year	-	-	29.75	1.00	30.75
Additions During The Year	-	-	-	-	-
	-	-	29.75	1.00	30.75
Less : Depreciation	-	-	4.46	0.10	4.56
WDV at end of IInd Year	-	-	25.29	0.90	26.19
Additions During The Year	-	-	-	-	-
	-	-	25.29	0.90	26.19
Less : Depreciation	-	-	3.79	0.09	3.88
WDV at end of IIIrd year	-	-	21.49	0.81	22.30
Additions During The Year	-	-	-	-	-
	-	-	21.49	0.81	22.30
Less : Depreciation	-	-	3.22	0.08	3.31
WDV at end of IV year	-	-	18.27	0.73	19.00
Additions During The Year	-	-	-	-	-
	-	-	18.27	0.73	19.00
Less : Depreciation	-	-	2.74	0.07	2.81
WDV at end of Vth year	-	-	15.53	0.66	16.19

REPAYMENT SCHEDULE OF TERM LOAN 11.0%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Cl Balance
I	Opening Balance						
	Ist Quarter	-	32.50	32.50	0.89	-	32.50
	Iind Quarter	32.50	-	32.50	0.89	-	32.50
	IIIrd Quarter	32.50	-	32.50	0.89	1.81	30.69
	Ivth Quarter	30.69	-	30.69	0.84	1.81	28.89
					3.53	3.61	
II	Opening Balance						
	Ist Quarter	28.89	-	28.89	0.79	1.81	27.08
	Iind Quarter	27.08	-	27.08	0.74	1.81	25.28
	IIIrd Quarter	25.28	-	25.28	0.70	1.81	23.47
	Ivth Quarter	23.47		23.47	0.65	1.81	21.67
					2.88	7.22	
III	Opening Balance						
	Ist Quarter	21.67	-	21.67	0.60	1.81	19.86
	Iind Quarter	19.86	-	19.86	0.55	1.81	18.06
	IIIrd Quarter	18.06	-	18.06	0.50	1.81	16.25
	Ivth Quarter	16.25		16.25	0.45	1.81	14.44
					2.09	7.22	
IV	Opening Balance						
	Ist Quarter	14.44	-	14.44	0.40	1.81	12.64
	Iind Quarter	12.64	-	12.64	0.35	1.81	10.83
	IIIrd Quarter	10.83	-	10.83	0.30	1.81	9.03
	Ivth Quarter	9.03		9.03	0.25	1.81	7.22
					1.29	7.22	
V	Opening Balance						
	Ist Quarter	7.22	-	7.22	0.20	1.81	5.42
	Iind Quarter	5.42	-	5.42	0.15	1.81	3.61
	IIIrd Quarter	3.61	-	3.61	0.10	1.81	1.81
	Ivth Quarter	1.81		1.81	0.05	1.81	0.00
					0.50	7.22	

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	9.67	13.21	16.45	19.16	22.15
Interest on Term Loan	3.53	2.88	2.09	1.29	0.50
Total	13.19	16.09	18.53	20.45	22.65
REPAYMENT					
Repayment of Term Loan	3.61	7.22	7.22	7.22	7.22
Interest on Term Loan	3.53	2.88	2.09	1.29	0.50
Total	7.14	10.10	9.31	8.51	7.72
DEBT SERVICE COVERAGE RATIO	**1.85**	**1.59**	**1.99**	**2.40**	**2.93**
AVERAGE D.S.C.R.			**2.13**		

COMPUTATION OF SALE

Particulars	I	II	III	IV	V
Op Stock	-	4,800.00	5,200.00	5,600.00	6,000.00
Production	144,000.00	156,000.00	168,000.00	180,000.00	192,000.00
	144,000.00	160,800.00	173,200.00	185,600.00	198,000.00
Less : Closing Stock(10 Days)	4,800.00	5,200.00	5,600.00	6,000.00	6,400.00
Net Sale	139,200.00	155,600.00	167,600.00	179,600.00	191,600.00
Avg Sale Price per Kg	65.00	68.25	71.66	75.24	79.00
Sale (in Lacs)	**90.48**	**106.20**	**120.10**	**135.13**	**151.36**

COMPUTATION OF ELECTRICITY

(A) POWER CONNECTION				
Total Working Hour per day		Hours	8	
Electric Load Required		HP	50	
Load Factor			0.7460	
Electricity Charges		per unit	7.50	
Total Working Days			300	
Electricity Charges				6.71
Add : Minimim Charges (@ 10%)				
(B) DG set				
No. of Working Days			300	days
No of Working Hours			0.5	Hour per day
Total no of Hour			150	
Diesel Consumption per Hour			8	
Total Consumption of Diesel			1,200	
Cost of Diesel			65.00	Rs. /Ltr
Total cost of Diesel			0.78	
Add : Lube Cost @15%			0.12	
Total			**0.90**	
Total cost of Power & Fuel at 100%				7.61
Year		**Capacity**		**Amount**
				(in Lacs)
I		60%		4.57
II		65%		4.95
III		70%		5.33
IV		75%		5.71
V		80%		6.09

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