PROJECT REPORT

Of

AIR SPRINGS

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Air Springs Manufacturing unit.

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	:	xxxxxxxxxxxxxxxxxxxxxx District : xxxxxxx Pin: xxxxxxx State: xxxxx Mobile xxxxxxx
5	Product and By Product	:	**AIR SPRING**
6	Name of the project / business activity proposed :		**AIR SPRING MANUFACTURING UNIT**
7	Cost of Project	:	Rs.24.07 Lakhs
8	Means of Finance Term Loan Own Capital Working Capital		 Rs.15.84 Lakhs Rs.2.41 Lakhs Rs.5.82 Lakhs
9	Debt Service Coverage Ratio	:	2.85
10	Pay Back Period	:	5 Years
11	Project Implementation Period	:	5-6 Months
12	Break Even Point	:	25%
13	Employment	:	12 Persons
14	Power Requirement	:	50.00 HP
15	Major Raw materials	:	Air Fitting, Nut/Bolt, Bead Plate, Bellows, Girdle, Bumper and Piston
16	Estimated Annual Sales Turnover (Max Capacity)	:	194.51 Lakhs
17	Detailed Cost of Project & Means of Finance		

COST OF PROJECT

(Rs. In Lakhs)

Particulars	**Amount**
Land	Own/Rented
Plant & Machinery	17.00
Furniture & Fixtures	0.60
Working Capital	6.47
Total	**24.07**

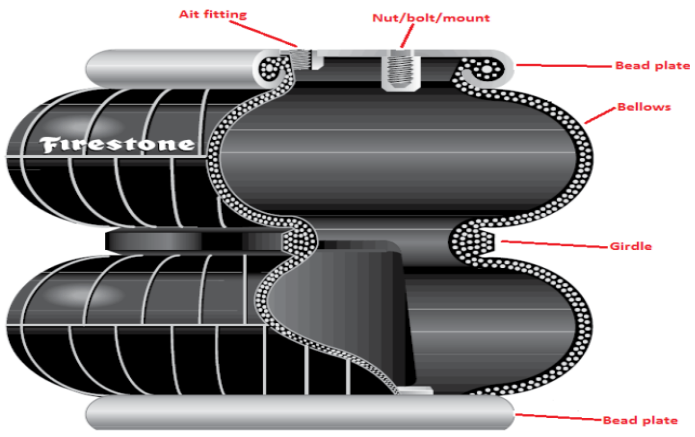
MEANS OF FINANCE

Particulars	**Amount**
Own Contribution	2.41
Working Capital(Finance)	5.82
Term Loan	15.84
Total	**24.07**

AIR SPRING MANUFACTURING UNIT

Introduction:

Air springs have been used in heavy duty vehicle suspension systems and as required, nearly a century, where they have been able to provide usefulness by taking advantage of the compressed air required for vehicle braking systems. Air springs have provided a two-fold advantage over mechanical leaf- or coil-springs. One advantage with air suspension is the extra comfort provided by being able to vary the air pressure inside the spring, which changes the spring rate, and therefore, ride quality. Additionally, because variable control over air pressure adjusts the deck or trailer height, aligning loading docks to the level of the deck is possible when dock plates are unavailable. Air is directed into air springs, the bladders allow them to expand in a linear fashion, which permits them to be used as force-developing actuators, like pneumatic cylinders, and as such, rod attachments are available to mimic the function of them. Most often, however, an air actuator is simply two end plates connected by a bladder, and as they're pressurized, force pushes the plates away from each other. Air spring are also excellent for constant force applications, such as pulley tensioners or drum roller compression devices. All air springs are single-acting, unless they are coupled together so one extends while the other retracts.



Uses & Market Potential:

Air springs are widely utilized in industry and transportation. Commonly as actuators in amusement park rides, packaging equipment, clutch systems, conveyor belts and scissor lifts, they also act as vibration insulators in centrifuges, commercial laundry machines, measuring and weighing machinery, and textile looms. While the air spring has impacted many industries like oil, logging, construction and manufacturing, it is most prominent in the automobile industry where the air spring is used in suspensions for vehicle brands like Lincoln, Cadillac, Hummer, and Jeep. The global Air Springs market is valued at 2265.3 million USD in 2020 is expected to reach 2735.4 million USD by the end of 2026, growing at a CAGR of 2.7% during 2021-2026. Globally, the Air Springs industry market is concentrated by Continental, Trelleborg, Vibracoustic, Bridgestone, etc. as the manufacturing technology of Air Springs is relatively much more mature. Also, some enterprises are still well-known for the wonderful performance of their Air Springs and related services. At the same time, some countries such as Germany, Japan and USA are remarkable in the global Air Springs industry because of their market share and technology status of Air Springs.

Product:

Air Spring

Raw Material:

The raw materials required are:

- Air Fitting
- Nut/Bolt/Mount
- Bead Plate

- Bellows
- Girdle
- Bumper
- Piston

Manufacturing Process:

The steps are:

- ✓ First of all, twin carcass drums provide for optimum cycle time distribution between components application on one drum and dynamic stitching plus unloading by manipulator on the other drum.
- ✓ After that, two dedicated beads setting and turn-up stations are connected to the carcass building station by means of automatic manipulators, travelling high speed guides.
- ✓ The specially designed transfer devices pick-up the air spring carcass from the carcass drum and transfer it to the corresponding turn-up station on both sides of the system.
- ✓ Positioning of the carcass inside the turn-up station is executed automatically by the manipulator, while special center lock device keeps it in position during the bead setting and turn-up operations.
- ✓ The same manipulator removes the finished green air spring from the turn-up station after bead setting and mechanical turn-up operations and brings it to the unloading station on its way back to the carcass drum for picking up a new carcass.
- ✓ The finished green air springs from both turn-up stations are automatically unloaded by manipulators. Material application on the drums is controlled by special cameras and sensors in automatic mode.

Area:

The industrial setup requires space for Inventory, workshop or manufacturing area, space for power supply utilities and polishing area. Also, some of the area of building is required for office staff facilities, office furniture, etc. Thus, the approximate total area required for complete industrial setup is 2000-2500Sqft.

Cost of Machines:

Machine	**Quantity**	**Rate**
Fully automatic "INTERTECH" Uni-Stage Building System	1	1650000
Other Equipment's	-	50000
Total Amount		**1700000**

Power Requirement- The estimated Power requirement is taken at 50 HP.

Manpower Requirement– Following manpower is required:

- Machine operator-2
- Skilled/unskilled worker-3
- Helper-4
- Manager cum Accountant-1
- Sales Personnel-2

FINANCIALS

PROJECTED BALANCE SHEET

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Capital Account					
Opening Balance	-	3.45	5.95	9.51	13.25
Add: Additions	2.41	-	-	-	-
Add: Net Profit	5.25	7.10	9.06	10.74	12.52
Less: Drawings	4.20	4.60	5.50	7.00	9.00
Closing Balance	3.45	5.95	9.51	13.25	16.78
CC Limit	5.82	5.82	5.82	5.82	5.82
Term Loan	14.08	10.56	7.04	3.52	-
Sundry Creditors	3.33	3.96	4.62	5.30	6.00
TOTAL :	**26.68**	**26.29**	**26.99**	**27.89**	**28.60**
APPLICATION OF FUND					
Fixed Assets (Gross)	17.60	17.60	17.60	17.60	17.60
Gross Dep.	2.61	4.83	6.72	8.33	9.70
Net Fixed Assets	14.99	12.77	10.88	9.27	7.90
Current Assets					
Sundry Debtors	4.69	5.81	6.84	7.93	9.08
Stock in Hand	5.10	7.39	8.61	9.89	11.23
Cash and Bank	1.90	0.33	0.66	0.80	0.40
TOTAL :	**26.68**	**26.29**	**26.99**	**27.89**	**28.60**
	-	-	-	-	-

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	100.57	124.43	146.55	169.90	194.51
Total (A)	**100.57**	**124.43**	**146.55**	**169.90**	**194.51**
B) COST OF SALES					
Raw Material Consumed	66.56	79.20	92.32	105.94	120.07
Elecricity Expenses	3.36	3.92	4.48	5.04	5.60
Repair & Maintenance	2.01	2.49	2.93	3.40	3.89
Labour & Wages	11.97	14.96	18.25	21.91	25.85
Depreciation	2.61	2.22	1.89	1.61	1.37
Cost of Production	86.50	102.79	119.88	137.89	156.77
Add: Opening Stock /WIP	-	2.88	3.43	4.00	4.60
Less: Closing Stock /WIP	2.88	3.43	4.00	4.60	5.23
Cost of Sales (B)	83.62	102.25	119.31	137.29	156.14
C) GROSS PROFIT (A-B)	16.95	22.18	27.25	32.61	38.37
	16.86%	**17.83%**	**18.59%**	**19.19%**	**19.73%**
D) Bank Interest i) (Term Loan)	1.72	1.40	1.02	0.63	0.24
ii) Interest On Working Capital	0.64	0.64	0.64	0.64	0.64
E) Salary to Staff	7.31	9.21	10.87	13.80	16.28
F) Selling & Adm Expenses Exp.	1.81	3.11	4.40	4.76	5.84
G) TOTAL (D+E+F)	**11.48**	**14.36**	**16.92**	**19.83**	**23.00**
H) NET PROFIT	5.48	7.82	10.33	12.78	15.37
	5.4%	**6.3%**	**7.0%**	**7.5%**	**7.9%**
I) Taxation	0.23	0.72	1.27	2.04	2.85
J) PROFIT (After Tax)	5.25	7.10	9.06	10.74	12.52

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Own Contribution	2.41	-	-	-	-
Reserve & Surplus	5.48	7.82	10.33	12.78	15.37
Depriciation & Exp. W/off	2.61	2.22	1.89	1.61	1.37
Increase In Cash Credit	5.82	-	-	-	-
Increase In Term Loan	15.84	-	-	-	-
Increase in Creditors	3.33	0.63	0.66	0.68	0.71
TOTAL :	**35.48**	**10.67**	**12.88**	**15.07**	**17.45**
APPLICATION OF FUND					
Increase in Fixed Assets	17.60	-	-	-	-
Increase in Stock	5.10	2.28	1.23	1.28	1.34
Increase in Debtors	4.69	1.11	1.03	1.09	1.15
Repayment of Term Loan	1.76	3.52	3.52	3.52	3.52
Taxation	0.23	0.72	1.27	2.04	2.85
Drawings	4.20	4.60	5.50	7.00	9.00
TOTAL :	**33.58**	**12.23**	**12.55**	**14.93**	**17.85**
Opening Cash & Bank Balance	-	1.90	0.33	0.66	0.80
Add : Surplus	1.90	- 1.56	0.32	0.14	- 0.40
Closing Cash & Bank Balance	**1.90**	**0.33**	**0.66**	**0.80**	**0.40**

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL

PARTICULARS	I	II	III	IV	V
Finished Goods					
(10 Days requirement)	2.88	3.43	4.00	4.60	5.23
Raw Material					
(10 Days requirement)	2.22	3.96	4.62	5.30	6.00
Closing Stock	**5.10**	**7.39**	**8.61**	**9.89**	**11.23**

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	5.10		
Less:			
Sundry Creditors	3.33		
Paid Stock	**1.77**	**0.18**	**1.60**
Sundry Debtors	4.69	0.47	4.22
Working Capital Requirement			**5.82**
Margin			0.65
MPBF			**5.82**
Working Capital Demand			**5.82**

REPAYMENT SCHEDULE OF TERM LOAN 11.0%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	Cl Balance
I	Opening Balance						
	Ist Quarter	-	15.84	15.84	0.44	-	15.84
	Iind Quarter	15.84	-	15.84	0.44	-	15.84
	IIIrd Quarter	15.84	-	15.84	0.44	0.88	14.96
	Ivth Quarter	14.96	-	14.96	0.41	0.88	14.08
					1.72	1.76	
II	Opening Balance						
	Ist Quarter	14.08	-	14.08	0.39	0.88	13.20
	Iind Quarter	13.20	-	13.20	0.36	0.88	12.32
	IIIrd Quarter	12.32	-	12.32	0.34	0.88	11.44
	Ivth Quarter	11.44		11.44	0.31	0.88	10.56
					1.40	3.52	
III	Opening Balance						
	Ist Quarter	10.56	-	10.56	0.29	0.88	9.68
	Iind Quarter	9.68	-	9.68	0.27	0.88	8.80
	IIIrd Quarter	8.80	-	8.80	0.24	0.88	7.92
	Ivth Quarter	7.92		7.92	0.22	0.88	7.04
					1.02	3.52	
IV	Opening Balance						
	Ist Quarter	7.04	-	7.04	0.19	0.88	6.16
	Iind Quarter	6.16	-	6.16	0.17	0.88	5.28
	IIIrd Quarter	5.28	-	5.28	0.15	0.88	4.40
	Ivth Quarter	4.40		4.40	0.12	0.88	3.52
					0.63	3.52	
V	Opening Balance						
	Ist Quarter	3.52	-	3.52	0.10	0.88	2.64
	Iind Quarter	2.64	-	2.64	0.07	0.88	1.76
	IIIrd Quarter	1.76	-	1.76	0.05	0.88	0.88
	Ivth Quarter	0.88		0.88	0.02	0.88	- 0.00
					0.24	3.52	

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	7.86	9.32	10.95	12.35	13.89
Interest on Term Loan	1.72	1.40	1.02	0.63	0.24
Total	9.57	10.73	11.96	12.98	14.14
REPAYMENT					
Repayment of Term Loan	1.76	3.52	3.52	3.52	3.52
Interest on Term Loan	1.72	1.40	1.02	0.63	0.24
Total	3.48	4.92	4.54	4.15	3.76
DEBT SERVICE COVERAGE RATIO	**2.75**	**2.18**	**2.64**	**3.13**	**3.76**
AVERAGE D.S.C.R.			**2.85**		

Assumptions:

1. Production Capacity of Air Springs Manufacturing unit is taken at 170 Pcs per day. First year, Capacity has been taken @ 30%.

2. Working shift of 10 hours per day has been considered.

3. Raw Material stock and Finished goods closing stock has been taken for 10 days.

4. Credit period to Sundry Debtors has been given for 14 days.

5. Credit period by the Sundry Creditors has been provided for 15 days.

6. Depreciation and Income tax has been taken as per the Income tax Act,1961.

7. Interest on working Capital Loan and Term loan has been taken at 11%.

8. Salary and wages rates are taken as per the Current Market Scenario.

9. Power Consumption has been taken at 50 HP.

10. Selling Prices & Raw material costing has been increased by 3% & 2% respectively in the subsequent years.

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