PROJECT REPORT

Of

TREAD RUBBER

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Tread Rubber**.

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	:	**TREAD RUBBER**	
6	Name of the project / business activity proposed :		**TREAD RUBBER UNIT**	
7	Cost of Project	:	Rs.37.67 Lakhs	
8	Means of Finance			
	Term Loan		Rs.27.9 Lakhs	
	Own Capital		Rs.3.77 Lakhs	
	Working Capital		Rs.6 Lakhs	
9	Debt Service Coverage Ratio	:	2.39	
10	Pay Back Period	:	5	Years
11	Project Implementation Period	:	5-6	Months
12	Break Even Point	:	37%	
13	Employment	:	10	Persons
14	Power Requirement	:	40.00	HP
15	Major Raw materials	:	Rejected Rubber, Reclaim Rubber, Chemicals, China clay	
16	Estimated Annual Sales Turnover (Max Capacity)	:	150.52	Lakhs
17	Detailed Cost of Project & Means of Finance			

COST OF PROJECT

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Plant & Machinery	30.00
Furniture & Fixtures	1.00
Working Capital	6.67
Total	**37.67**

MEANS OF FINANCE

Particulars	Amount
Own Contribution	3.77
Working Capital(Finance)	6.00
Term Loan	27.90
Total	**37.67**

TREAD RUBBER

Introduction: The tread of a tire or track refers to the rubber on its circumference that makes contact with the road or the ground. As tires are used, the tread is worn off, limiting its effectiveness in providing traction. A worn tire can often be retreated. The tread is a thick extruded profile that surrounds the tire carcass. Tread compounds include additives to impart wear resistance and traction in addition to environmental resistance. Tread compound development is an exercise in compromise, as hard compounds have long wear characteristics but poor traction whereas soft compounds have good traction but poor wear characteristics.

Advantages of Retreading of Tyres: There are several advantages of retreading such as:

- Retreads are quite safe and are being used in all kind of vehicles nowadays. May it be taxis or trucks, school buses or military vehicles, retreading is being used in all of them.

- Retreading is highly environment friendly. When the existing tyres are made ready for further use, the manufactures save landfill space. Also, it reduces carbon dioxide emission and saves millions of gallons of oil which is required to manufacture new tyres. Therefore, when you get your old tyre retreaded instead of buying a new one, you play a major role in saving the precious natural resources.
- Retread process is not responsible for spreading large chunks of rubber on the roads and highways. According to recent studies, it happens due to abuses like tyre failure, caused by road hazards, tyre blasts and overloading to both new tyres and retread ones.
- Retreading allows tyre to perform same as a new tyre adding extra mile to your tyre life. The casing can be reused, and new treads can be added twice or thrice depending on the condition of the tyre.

Tread Rubber Market Analysis & Potential:

Retreading tires is the process of restoring old tires so that they can be used in automobiles. The process is technology-driven where the wornout and damaged threads are replaced with new treads. Tyre retreading can be done using 2 methods – cold process and hot process. Currently in India retreading is done 50% by the organized sector and the remaining 50% by the unorganized sector. India's retreading industry is estimated to be worth more than US$ 1 billion (INR 5,000 crore annually) with roughly 20,000 retreaders scattered in the organised and unorganised sector.

Machinery & Equipment's required:

Name	Cost
Mixing Mill	6 Lac
Kneader Machine	9 Lac
Extruder Machine(6 Inch)	5 Lac
PCTR (Pre Cured treated rubber press)	10 Lac

Machine cost will be Rs 30 Lac exclusive of GST. Value of the machine varies with the change in production capacity.

Raw material requirement: The raw materials required for Tread Rubber are as follow:

S No.	Name	Unit	Price
1	Rejected rubber	Kg	Rs 40-60
2	Reclaim rubber	Kg	Rs 30
3	Chemicals	Kg/Ltr.	Rs 50-200
4	China Clay	Kg	Rs 5

On an average raw material cost per Kg for tread rubber manufactured from procured process is approx. 75-85 per Kg. Value of raw material changes as per the quality and type of Rubber.

Manufacturing Process: The tyre coming from the customers is cleaned dully. Dust and mud are removed. The casing is inspected for cuts, ply section, condition of beads etc., and based on the condition of the casing, the tyre is selected or rejected. Under inflated conditions the selected tyre's crown area is buffed to the required texture and contour. This is for better bonding of procured rubber to the casing. The buffed casing is mounted on the tread building machine. Cushion compound is applied on the buffed tread area over

which the procured tread rubber is applied and stickled using rollers. The joint portion of the procured tread rubber is stepped to avoid possible opening during curing of the tyre. The build-up of the tyre is covered by a rubber envelope and placed in the “bonder” and the bonder steam is passed at specific temperature, which cures the cushion compound to complete the bonding of the tread on the casing.

Tread utilizes fresh rubber and rubber reclaimed from various rubber products; the reclaimed rubber is generally used upto 1.5% of total mass of rubber used in order to lower the overall cost as reclaimed rubber is readily vulcanized and will require none of the processes required till vulcanization & Doping, it will also add to CSR as the use of reclaimed rubber also contributes in saving environment but it cannot be used in excess as it will increase the entropy of the rubber reducing its material properties which are essential to be maintained in case of tread of tyre.

The Fresh Rubber is obtained by processing Natural or Synthetic Latex (Polyisoprene + Water) which is extracted from tree or made in plant in a reactor vessel respectively; which is used as raw material in any rubber product manufacturing, the fresh latex is feed to cleansing reactor vessel in which various impurities like starch and cellulose in latex are absorbed in chemical solvents leaving behind Rubber Latex.

This Rubber Latex is feed to vulcanization reactor vessel in which vulcanization is carried out. Vulcanization is process of heating rubber latex in presence of Sulphur and desired impurities in order to obtain disulphide bonding and cross-linking in elastomer which provides rubber its strength and durability. The vulcanization is performed as per application of the rubber that is being produced i.e. the impurities that are being added other than sulphur; which in this case are carbon black, accelerators, antioxidants, antiozonants, retarders, and peptizers generally.

The rubber is obtained from the vulcanization reactor vessel which is a thick semi-solid material and is mixed with reclaimed rubber obtained from rubber reclamation machine, using a mixer; the rubber obtained is feed to the extruder which draws this rubber into sheets of required size by forcing it

through appropriately sized die utilizing pressure and temperature which are generated by the extruder systems as per requirement. These sheets of rubber are feed to Pre-Cured Tread Rubber Press which utilizing power press arrangement and mould, sets the rubber into the shape of treads of tyre, thus tyre treads are obtained which are checked for quality and sent 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 2000 to 2500Sqft.

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 10 including 1 Supervisor, 2 Plant operator, 1 unskilled worker, 2 Helper and 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.
- NOC from State Pollution Control Board

FINANCIALS

PROJECTED CASH FLOW STATEMENT

PARTICULARS	I	II	III	IV	V
SOURCES OF FUND					
Own Contribution	3.77	-			
Reserve & Surplus	10.75	13.52	15.78	17.81	19.75
Depriciation & Exp. W/off	4.60	3.92	3.33	2.84	2.41
Increase In Cash Credit	6.00				
Increase In Term Loan	27.90	-	-	-	-
Increase in Creditors	2.93	0.27	0.27	0.28	0.29
TOTAL :	**55.94**	**17.71**	**19.38**	**20.92**	**22.45**
APPLICATION OF FUND					
Increase in Fixed Assets	31.00	-	-	-	-
Increase in Stock	5.62	0.52	0.53	0.54	0.55
Increase in Debtors	4.15	0.60	0.41	0.42	0.43
Repayment of Term Loan	3.10	6.20	6.20	6.20	6.20
Taxation	1.07	2.03	2.37	4.45	5.93
Drawings	7.00	7.50	8.00	8.50	9.00
TOTAL :	**51.94**	**16.85**	**17.51**	**20.12**	**22.11**
Opening Cash & Bank Balance	-	4.00	4.85	6.73	7.53
Add : Surplus	4.00	0.86	1.87	0.81	0.34
Closing Cash & Bank Balance	**4.00**	**4.85**	**6.73**	**7.53**	**7.87**

PROJECTED BALANCE SHEET					
PARTICULARS	**I**	**II**	**III**	**IV**	**V**
SOURCES OF FUND					
Capital Account					
Opening Balance	-	6.44	10.43	15.84	20.70
Add: Additions	3.77	-	-	-	-
Add: Net Profit	9.67	11.50	13.41	13.36	13.83
Less: Drawings	7.00	7.50	8.00	8.50	9.00
Closing Balance	6.44	10.43	15.84	20.70	25.53
CC Limit	6.00	6.00	6.00	6.00	6.00
Term Loan	24.80	18.60	12.40	6.20	-
Sundry Creditors	2.93	3.19	3.47	3.74	4.03
TOTAL :	**40.16**	**38.23**	**37.71**	**36.64**	**35.55**
APPLICATION OF FUND					
Fixed Assets (Gross)	31.00	31.00	31.00	31.00	31.00
Gross Dep.	4.60	8.52	11.85	14.68	17.10
Net Fixed Assets	26.40	22.49	19.15	16.32	13.90
Current Assets					
Sundry Debtors	4.15	4.75	5.17	5.59	6.02
Stock in Hand	5.62	6.13	6.66	7.20	7.76
Cash and Bank	4.00	4.85	6.73	7.53	7.87
TOTAL :	**40.16**	**38.23**	**37.71**	**36.64**	**35.55**

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PROJECTED PROFITABILITY STATEMENT

PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	103.74	118.85	129.17	139.72	150.52
Total (A)	**103.74**	**118.85**	**129.17**	**139.72**	**150.52**
B) COST OF SALES					
Raw Material Consumed	58.50	63.84	69.30	74.88	80.58
Elecricity Expenses	3.84	4.14	4.43	4.73	5.02
Repair & Maintenance	8.30	9.51	10.33	11.18	12.04
Labour & Wages	11.09	12.20	13.42	14.76	16.23
Depreciation	4.60	3.92	3.33	2.84	2.41
Cost of Production	86.33	93.60	100.81	108.38	116.29
Add: Opening Stock /WIP	-	4.64	5.07	5.51	5.96
Less: Closing Stock /WIP	4.64	5.07	5.51	5.96	6.42
Cost of Sales (B)	81.69	93.17	100.38	107.93	115.83
C) GROSS PROFIT (A-B)	22.05	25.69	28.79	31.79	34.68
	21.26%	**21.61%**	**22.29%**	**22.75%**	**23.04%**
D) Bank Interest (Term Loan)	3.03	2.47	1.79	1.11	0.43
ii) Interest On Working Capital	0.66	0.66	0.66	0.66	0.66
E) Salary to Staff	5.54	6.65	7.98	9.42	10.83
F) Selling & Adm Expenses Exp.	2.07	2.38	2.58	2.79	3.01
TOTAL (D+E)	**11.31**	**12.16**	**13.02**	**13.98**	**14.93**
H) NET PROFIT	10.75	13.52	15.78	17.81	19.75
	10.4%	**11.4%**	**12.2%**	**12.7%**	**13.1%**
I) Taxation	1.07	2.03	2.37	4.45	5.93
J) PROFIT (After Tax)	9.67	11.50	13.41	13.36	13.83

COMPUTATION OF MAKING OF TREAD RUBBER			
Item to be Manufactured Tread Rubber			
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	TREAD RUBBER
		Utilisation	
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

Raw Material Consumed	Capacity	Rate per Kg	Amount (Rs.)
	Utilisation		
I	65%	75.00	58.50
II	70%	76.00	63.84
III	75%	77.00	69.30
IV	80%	78.00	74.88
V	85%	79.00	80.58

COMPUTATION OF SALE					
Particulars	**I**	**II**	**III**	**IV**	**V**
Op Stock	-	3,900.00	4,200.00	4,500.00	4,800.00
Production	78,000.00	84,000.00	90,000.00	96,000.00	1,02,000.00
	78,000.00	87,900.00	94,200.00	1,00,500.00	1,06,800.00
Less : Closing Stock(15 Days)	3,900.00	4,200.00	4,500.00	4,800.00	5,100.00
Net Sale	74,100.00	83,700.00	89,700.00	95,700.00	1,01,700.00
Sale Price per Kg	140.00	142.00	144.00	146.00	148.00
Sale (in Lacs)	**103.74**	**118.85**	**129.17**	**139.72**	**150.52**

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					
PARTICULARS	I	II	III	IV	V
Finished Goods					
(15 Days requirement)	4.64	5.07	5.51	5.96	6.42
Raw Material					
(10 Days requirement)	0.98	1.06	1.16	1.25	1.34
Closing Stock	**5.62**	**6.13**	**6.66**	**7.20**	**7.76**

COMPUTATION OF WORKING CAPITAL REQUIREMENT			
Particulars	**Amount**	**Margin(10%)**	**Net Amount**
Stock in Hand	5.62		
Less:			
Sundry Creditors	2.93		
Paid Stock	**2.69**	**0.27**	**2.42**
Sundry Debtors	4.15	0.41	3.73
Working Capital Requirement			**6.16**
Margin			0.68
MPBF			**6.16**
Working Capital Demand			**6.00**

BREAK UP OF LABOUR				
Particulars		Wages	No of	Total
		Per Month	Employees	Salary
Supervisor		20,000.00	1	20,000.00
Plant Operator		15,000.00	2	30,000.00
Unskilled Worker		12,000.00	1	12,000.00
Helper		10,000.00	2	20,000.00
Security Guard		6,000.00	1	6,000.00
				88,000.00
Add: 5% Fringe Benefit				4,400.00
Total Labour Cost Per Month				92,400.00
Total Labour Cost for the year (In Rs. Lakhs)			7	11.09

BREAK UP OF SALARY				
Particulars		Salary	No of	Total
		Per Month	Employees	Salary
Manager		18,000.00	1	18,000.00
Accountant cum store keeper		14,000.00	1	14,000.00
Sales		12,000.00	1	12,000.00
Total Salary Per Month				44,000.00
Add: 5% Fringe Benefit				2,200.00
Total Salary for the month				46,200.00
Total Salary for the year (In Rs. Lakhs)			3	5.54

COMPUTATION OF DEPRECIATION				
Description	Land	Plant & Machinery	Furniture	**TOTAL**
Rate of Depreciation		**15.00%**	**10.00%**	
Opening Balance	Leased	-	-	-
Addition	-	30.00	1.00	31.00
	-	30.00	1.00	31.00
		-	-	
TOTAL		30.00	1.00	31.00
Less : Depreciation	-	4.50	0.10	4.60
WDV at end of Ist year	-	25.50	0.90	26.40
Additions During The Year	-	-	-	-
	-	25.50	0.90	26.40
Less : Depreciation	-	3.83	0.09	3.92
WDV at end of IInd Year	-	21.68	0.81	22.49
Additions During The Year	-	-	-	-
	-	21.68	0.81	22.49
Less : Depreciation	-	3.25	0.08	3.33
WDV at end of IIIrd year	-	18.42	0.73	19.15
Additions During The Year	-	-	-	-
	-	18.42	0.73	19.15
Less : Depreciation	-	2.76	0.07	2.84
WDV at end of IV year	-	15.66	0.66	16.32
Additions During The Year	-	-	-	-
	-	15.66	0.66	16.32
Less : Depreciation	-	2.35	0.07	2.41
WDV at end of Vth year	-	13.31	0.59	13.90

REPAYMENT SCHEDULE OF TERM LOAN						11.0%	
Year	**Particulars**	**Amount**	**Addition**	**Total**	**Interest**	**Repayment**	**Cl Balance**
I	Opening Balance						
	Ist Quarter	-	27.90	27.90	0.77	-	27.90
	Iind Quarter	27.90	-	27.90	0.77	-	27.90
	IIIrd Quarter	27.90	-	27.90	0.77	1.55	26.35
	Ivth Quarter	26.35	-	26.35	0.72	1.55	24.80
					3.03	3.10	
II	Opening Balance						
	Ist Quarter	24.80	-	24.80	0.68	1.55	23.25
	Iind Quarter	23.25	-	23.25	0.64	1.55	21.70
	IIIrd Quarter	21.70	-	21.70	0.60	1.55	20.15
	Ivth Quarter	20.15		20.15	0.55	1.55	18.60
					2.47	6.20	
III	Opening Balance						
	Ist Quarter	18.60	-	18.60	0.51	1.55	17.05
	Iind Quarter	17.05	-	17.05	0.47	1.55	15.50
	IIIrd Quarter	15.50	-	15.50	0.43	1.55	13.95
	Ivth Quarter	13.95		13.95	0.38	1.55	12.40
					1.79	6.20	
IV	Opening Balance						
	Ist Quarter	12.40	-	12.40	0.34	1.55	10.85
	Iind Quarter	10.85	-	10.85	0.30	1.55	9.30
	IIIrd Quarter	9.30	-	9.30	0.26	1.55	7.75
	Ivth Quarter	7.75		7.75	0.21	1.55	6.20
					1.11	6.20	
V	Opening Balance						
	Ist Quarter	6.20	-	6.20	0.17	1.55	4.65
	Iind Quarter	4.65	-	4.65	0.13	1.55	3.10
	IIIrd Quarter	3.10	-	3.10	0.09	1.55	1.55
	Ivth Quarter	1.55		1.55	0.04	1.55	- 0.00
					0.43	6.20	

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	14.27	15.41	16.74	16.19	16.24
Interest on Term Loan	3.03	2.47	1.79	1.11	0.43
Total	17.30	17.88	18.53	17.30	16.67
REPAYMENT					
Repayment of Term Loan	3.10	6.20	6.20	6.20	6.20
Interest on Term Loan	3.03	2.47	1.79	1.11	0.43
Total	6.13	8.67	7.99	7.31	6.63
DEBT SERVICE COVERAGE RATIO	**2.82**	**2.06**	**2.32**	**2.37**	**2.52**
AVERAGE D.S.C.R.			**2.39**		

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		65%		3.84
II		70%		4.14
III		75%		4.43
IV		80%		4.73
V		85%		5.02

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