



MODEL PROJECT REPORT



PROJECT REPORT ON AUTOMOBILE TYRE RETREADING

SWAVALAMBI BHARAT ABHIYAN

PROJECT AT A GLANCE

- 1 Name of the Entrepreneur : xxxxxxxxx
- 2 Constitution (legal Status) : xxxxxxxxx
- 3 Father / Spouse Name : xxxxxxxxxxxxx
- 4 Unit Address : xxxxxxxxxxxxxxxxxxxxxxxxx
- District : xxxxxx
Pin: xxxxxxx State: xxxxxxxxx
Mobile xxxxxxx
- 5 Product and By Product : RETREADING CAR TYRES
- 6 Name of the project / business activity proposed : AUTOMOBILE TYRE RETREADING UNIT
- 7 Cost of Project : Rs.22.26 Lakhs
- 8 Means of Finance
Term Loan Rs.15.03 Lakhs
Own Capital Rs.2.23 Lakhs
Working capital Rs.5 Lakhs
- 9 Debt Service Coverage Ratio : 1.98
- 10 Pay Back Period : 5 Years
- 11 Project Implementation Period : 5-6 Months
- 12 Break Even Point : 55%
- 13 Employment : 8 Persons
- 14 Power Requirement : 30.00 HP
- 15 Major Raw materials : Precured Tread Rubber, Cushion Compound, Vulcanizing Solution, Envelope
- 16 Estimated Annual Sales Turnover (Max Capacity) : 75.39 Lakhs
- 17 Detailed Cost of Project & Means of Finance

COST OF PROJECT

(Rs. In Lakhs)

Particulars	Amount
Land	Own/Rented
Plant & Machinery	15.45
Furniture & Fixtures	1.25
Working Capital	5.56
Total	22.26

MEANS OF FINANCE

Particulars	Amount
Own Contribution	2.23
Working Capital(Finance)	5.00
Term Loan	15.03
Total	22.26

AUTOMOBILE TYRE RETREADING

Introduction: When the sole portion of a tyre wears out, a new sole can be applied on it or the whole tyre up to tread can be renewed. This retreated tyre can be used again and almost are equivalent to new tyres and work quite satisfactorily for reasonable periods. A retreated tyre is expected to give about 3/4 of mileage or even more as that of a new one. With the advancement of science & technology and the ever increasing demand for vehicular traffic due to ever increase in trade & commerce, playing of more trucks, busses, cars & Jeeps etc. is a must and consequently these speak for better prospects of tyre retreading services. Retreading of damaged tyre is done by conventional hot matrix curing in most cases. But recently a new technology has been developed called “Precured Tread Rubber Retreading Process” which is commonly known as “Cold Process Retreading”. In this process, the Precured Tread Rubber already has a tread pattern on it eliminating the need for a tread matrix at vulcanizing stage. Tread Rubber is precured along with other raw materials and manufactured in the factory under controlled conditions and given a well researched pattern ensuring that the transporter gets a reliable perfectly finish product. Retreading Tyre by precured method gives 50% more mileage than the tyre retreaded by conventional process. This report contains details of retreading Car Tyres.



Product & its Application: Tread assumes importance in either technology, hot or cold. It is that portion of the tyre, which is in contact with the road surface. It comprises of 20-25 per cent of the whole tyre body. The tyre body commands 75 to 80 per cent of the manufacturing cost of a tyre. Applying a new tread on the body of a worn tyre, gives it a fresh life. This fresh life, estimate industry experts, comes at half the price of a new tyre. An important criteria for retreading is however the quality of the fabric. If the core fabric of the tread is too damaged or already over used, retreading may not be possible. There are thus technological limitations too.

However, if the core fabric is in a good condition, the tyre is identified for potential retreading. Retreading is done either through a conventional method or a pre-cure method. The conventional method is sometimes referred to as the mould cure or hot cure process. An un-vulcanized rubber strip, after going through the process of vulcanization adapts to the mould, is applied to the buffed casing of the tyre. However, modern day processes have adapted to a pre-cure method. This modern method, also referred to as cold cure, has the strip already pressed while it is applied to the casing. The strip is stuck to the casing by a layer of compounded un-cured rubber also known as cushion or bonding gum. The un-cured rubber is vulcanized by applying heat and pressure. As of current, the patterns of retreading in India are 50 per cent pre-cured and 50 per cent conventional. Modern processing technology has enabled the process to run smoothly and seamlessly.

Market Potential: As day by day, more and more vehicles are running on roads, hence more tyres are required for replacement. With further growth of economy, there will be an increase in transport as well as passenger vehicles and hence more tyres will be required. Hence, there is a very wide scope for retread tyres as an original replacement. Retreading of tyres in the commercial vehicle segment is poised for growth. The biggest driver for growth will be the rising use of radial truck and bus tyres. The other drivers will include the rise in multi-axle trucks, road infrastructure and highway connectivity. It is the operational savings that have led to the rise in popularity of tyre retreading in India. In the commercial vehicle segment especially. No section in the commercial vehicle industry is immune to

retreading. May it be a 49-tonne tractor-trailer or a 1-tonne mini truck. Retreading of tyres is catching up. A retreaded tyre costs around 30 per cent less than a new tyre. At the other end, a retreaded tyre performs up to 80 per cent of a new tyre under similar operating conditions. It is the value for money a retreaded tyre offers, which has made it a favorite of a transporter.

Raw Material: Major raw materials are as follows:

1. Precured Tread Rubber
2. Cushion Compound
3. Vulcanizing Solution
4. Envelope

Machinery Requirement: Major machines and equipments are as follows:

S No.	Name	Quantity	Amount
1.	Buffing machine with dust collector builder tyre truck bonder/three tyre LCV/Passenger bonder with curing rims and Electric hoist	1	850000
2.	Work bench envelope/ Tyre stand Gantry	1	75000
3.	Boiler capacity . 300 kg/hrs.	1	450000
4.	100 lbs working pressure Air compressor fitted with 5 H P Motor	1	70000
5.	Cost of Auxiliary items. i.e. pipe erection Electric fittings, Retreading, Tools, Mechanical Hoist with Trolley etc.	Ls	100000
	Total Amount		1545000

Manufacturing Process: The manufacturing of retreading rubber is done in the following stages:

- Compounding: Removing unwanted materials such as nails, rivets etc.
- Mixing: Reclaimed rubber and oils;
- Extruding: The mixture of rubber so obtained is put into extruder to form rubber sheets.
- Retreading: Before retreading tyre is buffed and it is allowed to stick properly. Tyres are buffed properly to remove all undesired rubber and to clean surface. The retreading rubber is now put on its outer surface with an adhesive solution.

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 buildup 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.

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 1500 to 2000Sqft.

Power Requirement: The power consumption required to run all the machinery could be approximated as 30 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 8 including 1 Supervisor, 1 Machine Operator, 1 unskilled worker, 1 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

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 BALANCE SHEET					
PARTICULARS	I	II	III	IV	V
<u>SOURCES OF FUND</u>					
<u>Capital Account</u>					
Opening Balance	-	3.84	5.93	9.09	11.97
Add: Additions	2.23	-	-	-	-
Add: Net Profit	2.11	2.89	5.17	6.88	8.30
Less: Drawings	0.50	0.80	2.00	4.00	5.20
Closing Balance	3.84	5.93	9.09	11.97	15.08
CC Limit	5.00	5.00	5.00	5.00	5.00
Term Loan	13.36	10.02	6.68	3.34	-
Sundry Creditors	0.61	0.69	0.73	0.78	0.83
TOTAL :	22.81	21.63	21.51	21.09	20.90
<u>APPLICATION OF FUND</u>					
Fixed Assets (Gross)	16.70	16.70	16.70	16.70	16.70
Gross Dep.	2.44	4.52	6.30	7.81	9.11
Net Fixed Assets	14.26	12.18	10.40	8.89	7.59
Current Assets					
Sundry Debtors	3.25	3.74	4.15	4.58	5.03
Stock in Hand	3.49	3.87	4.23	4.60	4.98
Cash and Bank	1.82	1.86	2.74	3.03	3.30
TOTAL :	22.81	21.63	21.51	21.09	20.90

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PROJECTED PROFITABILITY STATEMENT					
PARTICULARS	I	II	III	IV	V
A) SALES					
Gross Sale	48.68	56.06	62.21	68.65	75.39
Total (A)	48.68	56.06	62.21	68.65	75.39
B) COST OF SALES					
Raw Material Consumed	26.24	29.52	31.48	33.45	35.42
Electricity Expenses	3.20	3.42	3.65	3.88	4.11
Repair & Maintenance	0.97	1.12	1.24	1.37	1.51
Labour & Wages	7.18	7.54	8.30	9.54	10.97
Depreciation	2.44	2.08	1.78	1.51	1.29
Cost of Production	40.03	43.69	46.45	49.76	53.30
Add: Opening Stock /WIP	-	2.18	2.39	2.65	2.93
Less: Closing Stock /WIP	2.18	2.39	2.65	2.93	3.21
Cost of Sales (B)	37.85	43.47	46.19	49.49	53.01
C) GROSS PROFIT (A-B)	10.83	12.59	16.01	19.16	22.38
	22.24%	22.46%	25.75%	27.91%	29.68%
D) Bank Interest (Term Loan)	1.63	1.33	0.96	0.60	0.23
ii) Interest On Working Capital	0.55	0.55	0.55	0.55	0.55
E) Salary to Staff	6.05	7.26	8.71	10.45	12.54
F) Selling & Adm Expenses Exp.	0.49	0.56	0.62	0.69	0.75
TOTAL (D+E)	8.72	9.70	10.85	12.28	14.07
H) NET PROFIT	2.11	2.89	5.17	6.88	8.30
I) Taxation	-	-	-	-	-
J) PROFIT (After Tax)	2.11	2.89	5.17	6.88	8.30

PROJECTED CASH FLOW STATEMENT					
PARTICULARS	I	II	III	IV	V
<u>SOURCES OF FUND</u>					
Own Contribution	2.23	-			
Reserve & Surplus	2.11	2.89	5.17	6.88	8.30
Depriciation & Exp. W/off	2.44	2.08	1.78	1.51	1.29
Increase In Cash Credit	5.00				
Increase In Term Loan	15.03	-	-	-	-
Increase in Creditors	0.61	0.08	0.05	0.05	0.05
TOTAL :	27.42	5.05	6.99	8.44	9.64
<u>APPLICATION OF FUND</u>					
Increase in Fixed Assets	16.70	-	-	-	-
Increase in Stock	3.49	0.38	0.36	0.37	0.39
Increase in Debtors	3.25	0.49	0.41	0.43	0.45
Repayment of Term Loan	1.67	3.34	3.34	3.34	3.34
Taxation	-	-	-	-	-
Drawings	0.50	0.80	2.00	4.00	5.20
TOTAL :	25.60	5.01	6.11	8.14	9.37
Opening Cash & Bank Balance	-	1.82	1.86	2.74	3.03
Add : Surplus	1.82	0.04	0.88	0.30	0.27
Closing Cash & Bank Balance	1.82	1.86	2.74	3.03	3.30

COMPUTATION OF RETREADING CAR TYRES			
Item to be Manufactured Retreading Car Tyres			
Manufacturing Capacity per day		20	Pcs
No. of Working Hour		8	
No of Working Days per month		25	
No. of Working Day per annum		300	
Total Production per Annum		6,000	Pcs
Total Production per Annum		6,000	Pcs
Year		Capacity	RETREADING CAR TYRES
		Utilisation	
I		70%	4,200.00
II		75%	4,500.00
III		80%	4,800.00
IV		85%	5,100.00
V		90%	5,400.00

COMPUTATION OF RAW MATERIAL					
Item Name		Quantity of Raw Material	Unit	Unit Rate	Total CostPer Annum (100%)
Precured Tread Rubber		28.00	MT	1,15,000.00	32,20,000.00
Cushion Compound		2,800.00	Ltr	120.00	3,36,000.00
Vulcanizing Solution		100.00	Ltr	120.00	12,000.00
Envelope		6,000.00	Pcs	30.00	1,80,000.00
Total					37,48,000.00
Total Raw material in Rs lacs					37.48

Raw Material Consumed	Capacity		Amount (Rs.)		
	Utilisation				
I	70%		26.24		
II	75%		29.52	5% Increase in Cost	
III	80%		31.48	5% Increase in Cost	
IV	85%		33.45	5% Increase in Cost	
V	90%		35.42	5% Increase in Cost	

<u>COMPUTATION OF SALE</u>					
Particulars	I	II	III	IV	V
Op Stock	-	210.00	225.00	240.00	255.00
Production	4,200.00	4,500.00	4,800.00	5,100.00	5,400.00
	4,200.00	4,710.00	5,025.00	5,340.00	5,655.00
Less : Closing Stock(15 Days)	210.00	225.00	240.00	255.00	270.00
Net Sale	3,990.00	4,485.00	4,785.00	5,085.00	5,385.00
Sale Price per Tyre	1,220.00	1,250.00	1,300.00	1,350.00	1,400.00
Sale (in Lacs)	48.68	56.06	62.21	68.65	75.39

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					
PARTICULARS	I	II	III	IV	V
Finished Goods					
(15 Days requirement)	2.18	2.39	2.65	2.93	3.21
Raw Material					
(15 Days requirement)	1.31	1.48	1.57	1.67	1.77
Closing Stock	3.49	3.87	4.23	4.60	4.98

COMPUTATION OF WORKING CAPITAL REQUIREMENT			
Particulars	Amount	Margin(10%)	Net Amount
Stock in Hand	3.49		
Less:			
Sundry Creditors	0.61		
Paid Stock	2.88	0.29	2.59
Sundry Debtors	3.25	0.32	2.92
Working Capital Requirement			5.51
Margin			0.61
MPBF			5.51
Working Capital Demand			5.00

<u>BREAK UP OF LABOUR</u>				
Particulars		Wages	No of	Total
		Per Month	Employees	Salary
Supervisor		18,000.00	1	18,000.00
Machine Operator		15,000.00	1	15,000.00
Unskilled Worker		10,000.00	1	10,000.00
Helper		8,000.00	1	8,000.00
Security Guard		6,000.00	1	6,000.00
				57,000.00
Add: 5% Fringe Benefit				2,850.00
Total Labour Cost Per Month				59,850.00
Total Labour Cost for the year (In Rs. Lakhs)			5	7.18

<u>BREAK UP OF SALARY</u>				
Particulars		Salary	No of	Total
		Per Month	Employees	Salary
Manager		20,000.00	1	20,000.00
Accountant cum store keeper		16,000.00	1	16,000.00
Sales		12,000.00	1	12,000.00
Total Salary Per Month				48,000.00
Add: 5% Fringe Benefit				2,400.00
Total Salary for the month				50,400.00
Total Salary for the year (In Rs. Lakhs)			3	6.05

COMPUTATION OF DEPRECIATION				
Description	Land	Plant & Machinery	Furniture	TOTAL
Rate of Depreciation		15.00%	10.00%	
Opening Balance	Leased	-	-	-
Addition	-	15.45	1.25	16.70
	-	15.45	1.25	16.70
		-	-	
TOTAL		15.45	1.25	16.70
Less : Depreciation	-	2.32	0.13	2.44
WDV at end of Ist year	-	13.13	1.13	14.26
Additions During The Year	-	-	-	-
	-	13.13	1.13	14.26
Less : Depreciation	-	1.97	0.11	2.08
WDV at end of IIInd Year	-	11.16	1.01	12.18
Additions During The Year	-	-	-	-
	-	11.16	1.01	12.18
Less : Depreciation	-	1.67	0.10	1.78
WDV at end of IIIrd year	-	9.49	0.91	10.40
Additions During The Year	-	-	-	-
	-	9.49	0.91	10.40
Less : Depreciation	-	1.42	0.09	1.51
WDV at end of IV year	-	8.06	0.82	8.89
Additions During The Year	-	-	-	-
	-	8.06	0.82	8.89
Less : Depreciation	-	1.21	0.08	1.29
WDV at end of Vth year	-	6.86	0.74	7.59

REPAYMENT SCHEDULE OF TERM LOAN						11.0%	
Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
I	Opening Balance						
	Ist Quarter	-	15.03	15.03	0.41	-	15.03
	IInd Quarter	15.03	-	15.03	0.41	-	15.03
	IIIRD Quarter	15.03	-	15.03	0.41	0.84	14.20
	Ivth Quarter	14.20	-	14.20	0.39	0.84	13.36
					1.63	1.67	
II	Opening Balance						
	Ist Quarter	13.36	-	13.36	0.37	0.84	12.53
	IInd Quarter	12.53	-	12.53	0.34	0.84	11.69
	IIIRD Quarter	11.69	-	11.69	0.32	0.84	10.86
	Ivth Quarter	10.86		10.86	0.30	0.84	10.02
					1.33	3.34	
III	Opening Balance						
	Ist Quarter	10.02	-	10.02	0.28	0.84	9.19
	IInd Quarter	9.19	-	9.19	0.25	0.84	8.35
	IIIRD Quarter	8.35	-	8.35	0.23	0.84	7.51
	Ivth Quarter	7.51		7.51	0.21	0.84	6.68
					0.96	3.34	
IV	Opening Balance						
	Ist Quarter	6.68	-	6.68	0.18	0.84	5.84
	IInd Quarter	5.84	-	5.84	0.16	0.84	5.01
	IIIRD Quarter	5.01	-	5.01	0.14	0.84	4.17
	Ivth Quarter	4.17		4.17	0.11	0.84	3.34
					0.60	3.34	
V	Opening Balance						
	Ist Quarter	3.34	-	3.34	0.09	0.84	2.50
	IInd Quarter	2.50	-	2.50	0.07	0.84	1.67
	IIIRD Quarter	1.67	-	1.67	0.05	0.84	0.83
	Ivth Quarter	0.83		0.83	0.02	0.84	-
					0.23	3.34	

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

<u>CALCULATION OF D.S.C.R</u>					
PARTICULARS	I	II	III	IV	V
<u>CASH ACCRUALS</u>	4.55	4.97	6.94	8.39	9.60
Interest on Term Loan	1.63	1.33	0.96	0.60	0.23
Total	6.18	6.30	7.91	8.99	9.83
<u>REPAYMENT</u>					
Repayment of Term Loan	1.67	3.34	3.34	3.34	3.34
Interest on Term Loan	1.63	1.33	0.96	0.60	0.23
Total	3.30	4.67	4.30	3.94	3.57
DEBT SERVICE COVERAGE RATIO	1.87	1.35	1.84	2.28	2.75
AVERAGE D.S.C.R.			1.98		

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		70%		3.20
II		75%		3.42
III		80%		3.65
IV		85%		3.88
V		90%		4.11