

**PROJECT PROFILE**  
**ON**  
**MOULDED RUBBER GOODS**

**MONTH & YEAR**  
**JULY 2011**

**PREPARED BY**  
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# **MOULDED RUBBER GOODS**

## **INTRODUCTION**

Rubber moulded goods are used extensively in automobiles, railways, bicycles and many industrial and domestic appliances. The products range includes Bushes, 'O' Rings, Oil seals, Channels, Wiper blades, Shock absorbers, Rubber rollers for printing machines etc. A unit manufacturing these types of items can be set up as an ancillary unit to some large scale units manufacturing domestic appliances, automobiles, industrial machinery etc. In fact units such as TELCO, Ashok Leyland, Hindustan Motors, TVS-Suzuki, TI-Cycles etc., depend on small scale units for their entire range of rubber parts. Similarly railways and defence establishments also purchase many moulded rubber goods from these sources.

## **MARKET**

A huge domestic market growing furiously because of the huge production of passenger and commercial vehicles ensures a better future for consumption of rubber products. As 65% of the rubber goes into automobiles for various usages, the Indian Rubber Industry is set to grow at a fast pace.

The Indian rubber industry has been growing in strength and importance, as a part of India's burgeoning role in the global economy. India is the world's largest producer and the third largest consumer of natural rubber and India is also one of the fastest growing economy globally. With a stable annual growth rate of 8-9%, rising foreign exchange reserves, rapid expansion in the capital markets and FDI inflow, India proudly stakes its claim as the second fastest growing major economy in the world. These factors along with high concentration of automobile production and the presence of large and medium industries in South India, Chennai is the perfect place for the event India Rubber Expo-2011.

The Indian Rubber Expo 2011 is a testament to the confidence and relevance of India's largest rubber body the All India Rubber Industries Association AIRIA, the organiser of the India Rubber Expos. AIRIA, established in 1945 is comprised of over 1200 members and is headquartered in Mumbai.

It is considered to be one of the key players in global rubber business. Rapid progress in made in the production of natural rubber. India is home to some of the world's largest rubber enterprises through direct investment and technical collaboration.

There is no doubt that with rubber consumption stagnating in various Western countries and the shift in consumption of rubber to the Asia Pacific region, the focal country for this decade is India. There exists a huge scope for expansion causing import of machinery, technology, raw materials and export Rubber goods. There are 5000 units comprising 30 large scale, 300 medium scale and around 4600 small scale and tiny sectors in India.

These units are manufacturing more than 35000 rubber products, employing close to four hundred thousand people, which includes technically qualified support personnel's contributing Rs 40 Billion to the National Exchequer.

Natural rubber production in the country rose 3.7 per cent during 2010-11 against the previous year.

Domestic production stood at 8,31,400 tonnes in 2009-10 and 8,61,950 tonnes in 2010-11,as per the Rubber Board. The Rubber Board Chair anticipates the production for 2011-12 was 9,02,000 tonnes. Domestic consumption also increased by 2 per cent in 2010-11.

During 2010-11, growth in tyre production in the automotive sector grew by 23 per cent. Export of tyres also increased by 20 per cent. However, truck and bus tyre exports declined by five per cent.

The projected rubber consumption in 2011-12 is 9,77,000 tonnes.

During 2010-11 fiscal, exports stood at 28,424 tonnes compared with 25,090 tonnes in the previous fiscal. Imports accounted for 1,77,482 tonnes, 73 per cent of which was through duty free channels.

The chairperson said there would not be any shortage as the opening stock of rubber in 2011-12 was relatively high at 2,77,095 tonnes against 2,11,290 tonnes in 2010-11.

According to the International Rubber Study Group report, global rubber production-consumption balance in 2010 and 2011 showed deficits of 380,000 tonnes and 234,000 tonnes, respectively.

#### Automobile Industry and Rubber

India produces millions of passenger cars every year such as BMW, Nissan, Mitsubishi, Volvo, Toyota, Ford, Caparo, Swaraj Mazda, Fiat, Ford GM, Honda, Volvo Yamaha, Hyundai, Daimler, and Renault in addition to the Indian manufacturers such as Ashok Leyland, TVS, Hindustan Motors, Bajaj Auto, Hero Honda, Tata Motors Royal Enfield and Tafe Tractors have all set their manufacturing base in India. Together they have during the last decade set a great pace of growth to the rubber industry as well.

Tyre Companies running operations in India are MRF Ltd, TVS Sri Chakra Tyres, Apollo Tyres, Emerald Tyres, Michelin, Goodyear, JK Tyres Kumho Tyres ETC. India exports to over 85 countries including USA, Germany, France U.K, Italy, UAE, Saudi Arabia , Africa and Bangladesh.

The automobile production in the country is showing remarkable progress and any ancillary products such as rubber products which are used in automobiles. The growth in automobile production in the past can be seen from the following figures.

## **AUTOMOBILE PRODUCTION TRENDS**

### **No of vehicles**

<b>Category</b>	<b>2004-05</b>	<b>2005-06</b>	<b>2006-07</b>	<b>2007-08</b>	<b>2008-09</b>	<b>2009-10</b>	<b>2010-11</b>
Passenger Vehicles	1,209,876	1,309,300	1,545,223	1,777,583	1,838,593	2,357,411	2,987,296
Commercial Vehicles	353,703	391,083	519,982	549,006	416,870	567,556	752,735
Three Wheelers	374,445	434,423	556,126	500,660	497,020	619,194	799,553
Two Wheelers	6,529,829	7,608,697	8,466,666	8,026,681	8,419,792	10,512,903	13,376,451
<b>Grand Total</b>	<b>8,467,853</b>	<b>9,743,503</b>	<b>11,087,997</b>	<b>10,853,930</b>	<b>11,172,275</b>	<b>14,057,064</b>	<b>17,916,035</b>

Source: Society of Indian Automobile Manufacturers (SIAM)

## **INSTALLED CAPACITY**

<b>Product</b>	<b>Installed capacity per hour</b>	<b>No of working hours per day</b>	<b>Capacity per day</b>	<b>Capacity per annum 300 days per annum</b>
Moulded rubber goods	62.5 Kgs	8	500 Kgs	150 MT

## **PLANT AND MACHINERY**

<b>Sl. No</b>	<b>Description</b>	<b>Qty</b>	<b>Value</b>
1.	(i) Production machinery, Tools & Equipments consisting of the following : Mixing mill of size 16"x 42" with reduction gear, 60 HP motor & accessories	Whole Plant 1 No	4000000
2.	Mixing mill of size 14" x 36" with	1 No	

	reduction gear, 40 HP motor & accessories		
3.	Hydraulic Press - size 50" x 50" 4 day light-100 tons capacity, with powerpack and accessories	1 No	
4.	Extruder 75 mm screw dia., with 10 HP motor & accessories.	1 No	
5.	Steam heated, hand operated Fly press 14" x 14" platen size.	1 No	
6.	Steam heated, hand operated Fly press 16" x 16" platen size.	1 No	
7.	Steam heated, hand operated Fly press 24" x 24" platen size.	1 No	
8.	Steam Vulcaniser 4ft. dia. and 8 ft. long.		
9.	Baby boiler- oil fired 200 Kg/hr steam capacity with all pumps, motors, gauges and accessories.	1 No	
10.	Moulds Dies & Accessories		
11.	Miscellaneous tools & equipments		
12	Weighing scales: Platform type(100 Kg) Single Pan type(10Kg.)Digital type	1 No 1 No	
	(ii) Material handling equipments		200000
	(iii) Testing & Inspection equipments, tools and apparatus		300000
	<b>TOTAL</b>		<b>4500000</b>

## **MANUFACTURING PROCESS**

All the rubber chemicals are mixed with rubber (both synthetic and natural) after proper mastication in a Rubber Mixing Mill. Depending upon the nature of rubber used, it might be sometimes necessary sometimes to pass steam through the rollers. After the compounding is over, it is usual practice to extrude the same to form slabs and cut to pieces. After weighing, they are fed into moulds and cured either with steam or electrical heating in presses, which may be hand operated, hydraulic, automatic or semi-automatic. In some cases, where metallic inserts are required (like in oil seals) these inserts are first kept in the mould and covered with rubber compound of definite weight and cured in presses. It is the usual practice to use a bonding agent over the metal and the moulds are lubricated either with soap solution or aerosols or silicones.

## **RAW MATERIALS**

For-lakhs nos      150000

	Qty- kgs	Rate/kg	Value Rs lakhs
Natural Rubber	36000	234.00	84.24
SBR-1712	4320	207.00	8.94
Neoprin rubber	7200	200.00	14.40
Nitrile Rubber	2880	200.00	5.76
Zinc Oxide	2880	120.00	3.46
China Clay	43200	7.00	3.02
Whiting	43200	6.00	2.59
Stearic acid	1440	75.00	1.08
Carbon black	1440	52.00	0.75

Accelerator	1080	150.00	1.62
TMTD			
Antioxidant	1080	105.00	1.13
PBN			
Plasticisers	3600	180.00	6.48
Rosin	720	90.00	0.65
Paraffin wax	720	72.00	0.52
Calcium silicate	14400	9.50	1.37
Sulphur	1440	15.00	0.22
Process oil	1440	42.00	0.60
Sodium nitrate	720	38.00	0.27
Amonium chloride	720	50.00	0.36

Miscellaneous Chemicals like talc etc

139.87

Packing materials	150000	0.75	1.13
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## UTILITIES

### Powers & Fuel

Three phase-		KW	75.00
Power charges Rs.lakhs p.a			9.90
Fuel-Rs	15000	p.m	1.80
Power & fuel			11.70
For process-Litres per day			2000
For human consumption-litres/day			200



## LOCATION LAND AND BUILDING

Built up area-Sq.ft	2000
Rent p.m.-Rs per 10 per sq.ft	20000
Advance-10 months. Rs	200000

## MANPOWER

		Monthly	Total
		wages	
Supervisor	1	9000	9000
Skilled	6	7000	42000
Unskilled	12	5000	60000
Accounts Assistant	1	6000	6000
Sales Executive	1	7000	7000
Security	2	5000	10000
sub total			134000
Add benefits		20%	26800
Total per month			160800
TOTAL PER ANNUM-Rs. lakhs			19.30

## COST OF PRODUCTION AND PROFITABILTY

### Assumptions

Installed capacity	150 MT of assorted Moulded Rubber Goods per annum
Capacity utilisation	Year-1 -60% Year -2 -70% Year-3 onwards- 80%
Selling price Per Piece	Rs.1.70
Raw materials	As per the details given above
Packing materials	As per details given above

Power & Fuel	Rs.11.70 lakhs per annum at 100%
Wages and salaries	Rs. 19.30 lakhs with increase 5% every year.
Repairs and Maintenance	Rs.0.60 lakh per annum
Depreciation	Written down value method -15 % on machinery
Selling general and administrative expenses	Rs.30000 per month
Interest on Term loan	14% per annum
Interest on working capital	14 % per annum
Income tax	34 % on profits

## **MACHINERY SUPPLIERS:**

### **(a) Rubber Processing Machinery**

1. M/s. INDIAN EXPELLER WORKS PRIVATE LTD, A-4, Naroda Industrial Estate Ahmedabad - 382 330
2. M/s. MATHARU ENGINEERING WORKS, Plot No.1, Unit No.4  
Opp. Tatwagyan Vidyapeeth, Ghodbunder Road, Chitalsar, Thane - 400 607
3. M/s. MODERN RUBBER MACHINERY MANUFACTURERS PVT. LTD  
310, Jogani Industrial Estate, 541, Senapati Bapat Marg, Dadar, Mumbai - 400 028
4. M/s. EMSON INDUSTRIES, 6-A, Shri Ram Industrial Estate,  
Kaley Marg, Bail Bazar, Kurla, Mumbai - 400 070
5. M/s. MODERN HYDRAULICS, 5, Italian Building(Ground Floor),  
381, Sane Gruji Marg, Agripada, Near I.T.I., Mumbai - 400 011
6. M/s. PERUMACHERIL CASTING INDUSTRIES, Market landing  
Kottayam - 686 001, Kerala
7. M/s. HIND HYDRAULICS & ENGINEERS, E-43/1, Okhla Industrial Area  
Phase-II New Delhi - 110 0020

8. M/s. MICROMERTICS ENGINEERS (P) LTD, 298, 4th Floor, Khaleel Shiraji Estate Fountain Plaza, Pantheon Road, Egmore, Chennai - 600 028
9. M/s. ANANT ENGINEERING WORKS, Bassi Road, Sirihind(N.Rly), Punjab - 140 406
10. M/s. SANTOSH INDUSTRIES, A-1, Sone Udyog, Parsi Panchayat Marg Andheri(East), Mumbai - 400 069

**(b) Steam Boilers**

1. M/s. THERMAX LTD, 610, Anna Salai, Chennai -600 006
2. M/s. MAXIMA BOILERS PVT LTD, 574/80,Mount Road, Congress building, Teynampet, Chennai-600 006
3. M/s. FIRETECH BOILERS PVT.LTD, No.211, 2nd. Cross, 38th Main BTM Layout, 2nd. Stage, Bangalore - 560 068
4. M/s. MAXTHERM, K3, Ambattur Industrial Estate, Ambattur, Chennai - 600058
5. M/s. SOUTHERN BOILERS & EQUIPMENTS PVT.LTD, Y-169, Ist. Street Anna Nagar, Chennai- 600 040

**(c) Weighing Machines & Balances**

1. M/s. GIRI BROTHERS PRIVATE LTD, P.B.No. 1646, No. 51, Rajaji Salai Chennai - 600 001
2. M/s. TAMILNADU SCALE INDUSTRIES, 166, Broadway, Chennai -600 108

**(d) Testing & Measuring Instruments**

1. M/s. P.B. SHAH & CO, 182, Linghi Chetty Street, Chennai - 600 001
2. M/s. BLUE STAR LTD, 620, Anna Salai, Chennai - 600 006
3. M/s. MADRAS METALLURGICAL SERVICES, 5, Lalithapuram Street, Royapettah Chennai - 600 014
4. M/s. PRESTO STANTEST PVT. LTD, C-117, F.F. Complex, Okhla Industrial Area New Delhi - 110 020
5. M/s. PROLIFIC ENGINEERS, D-91, Sector -2, Noida -201 301

6. M/s. A B S INSTRUMENTS PVT. LTD, 22, Electronics Complex, Guindy  
Chennai - 600 032

## **SUPPLIERS OF RAW MATERIALS**

### **(a) Rubber**

1. M/s. VIRAJ RUBBERS PRIVATE LTD, 2-A, GNT Road, Ponniannanmedu,  
Madhavaram Post, Chennai - 600 110
2. M/s. SILPRO TRADING CO, 8, Venkataratnam Road, Teynampet, Chennai -  
600 018
3. M/s. ARASU RUBBER CORPORATION LTD, 259, Anna Salai, Chennai -  
600006
4. M/s. R.K. POLYMER, 196/5, Govindappa Naicken Street, Chennai - 600 001
5. M/s. AVT RUBBER PRODUCTS LTD, 22, Marshells Road, Egmore, Chennai-  
600 008
6. M/s. GOODLUCK RUBBER HOUSE, Apnagar, 103 Marshells Road, Egmore  
Chennai- 600 008
7. M/s. KURIAN ABRAHAM LTD, 13/1, 423 M S Road, Parvathipuram, Nagercoil-  
629001
8. M/s. COCHIN MALABAR ESTATES, AND INDS.LTD, 6/117, Race Course  
Road Coimbatore- 641 018

### **(b) Rubber Chemicals**

1. M/s. BAYER INDIA LTD, 749, Anna Salai, Chennai - 600 002
2. M/s. NATIONAL ORGANIC CHEMICAL INDUSTRIES LTD, 8, Haddows Road  
Chennai - 600 006
3. M/s. A.V. THOMAS & CO (INDIA) LTD, 22, Marshalls Road, Egmore, Chennai-  
600 008
4. M/s. DUJODWALA INDUSTRIES, 43, Armenian Street, Chennai - 600 001
5. M/s. BHARAT CARBON INDUSTRIES, 43, Buxipur Industrial Area

Gorakhpur -273 001, U.P.

6. M/s. RUBO-CHEM INDUSTRIES(P) LTD, 403/404, Laxmi Commercial Complex Senapati Bapat Marg, Mumbai - 400 028
7. M/s. I.C.I. INDIA LTD, Rubber Chemicals Divn,149, Montieth Road, Chennai - 600 008
8. M/s. MONSANTO CHEMICALS OF INDIA LTD, F-4, Third Phase, Thiru Vi Ka Industrial Estate, Chennai - 600 097
9. M/s. PHILIPS CARBON BLACK LTD, 22, Marshalls Road, Egmore, Chennai - 600 008
10. M/s. R.K. POLYMER, 196/5, Govindappa Naicken Street, Chennai - 600001
11. M/s. SOUTH INDIA RUBBER & CHEMICALS, C-4, Ram Square, No.2, Village Road Nungambakkam, Chennai - 600 034
12. M/s. MANICKAVELU CORPORATION, Plot No. W-300, 19th Street, Sector – C Anna Nagar western Extn, Chennai - 600 101

## FINANCIAL ASPECTS

### 1. COST OF PROJECT

	[Rs.lakhs]
Land & Building (Advance)	2.00
Plant & Machinery	45.00
Other Misc. assets	2.00
Pre-Operative expenses	4.00
Margin for WC	3.08
	<u>56.08</u>

### 2. MEANS OF FINANCE

Capital	22.33
Term Loan	33.75
	<u>56.08</u>

### 3. COST OF PRODUCTION & PROFITABILITY STATEMENT

	[Rs.lakhs]				
Years	1	2	3	4	5
Installed Capacity-MTs	150	150	150	150	150
Utilisation	60%	70%	80%	80%	80%
Production/Sales-MTs	90	105	120	120	120
Selling Price per piece -Rs.	1.70				
Sales Value (Rs.lakhs)	<b>153.00</b>	<b>178.50</b>	<b>204.00</b>	<b>204.00</b>	<b>204.00</b>
Raw Materials	83.92	97.91	111.89	111.89	111.89
Packing Materials	0.68	0.79	0.90	0.90	0.90
Power& fuel	7.02	8.19	9.36	9.36	9.36
Wages & Salaries	19.30	20.26	21.27	22.33	23.45
Repairs & Maintenance	0.60	0.66	0.73	0.80	0.88
Depreciation	6.75	5.74	4.88	4.15	3.52
Cost of Production	<u>118.27</u>	<u>133.55</u>	<u>149.03</u>	<u>149.43</u>	<u>150.00</u>
Selling, Admin, & General exp	3.60	3.78	3.97	4.17	4.38
Interest on Term Loan	4.73	4.13	2.95	1.77	0.59

Interest on Working Capital	1.70	1.70	1.70	1.70	1.70
Total	128.30	143.16	157.65	157.07	156.67
Profit Before Tax	24.70	35.34	46.35	46.93	47.33
Provision for tax	8.32	11.90	15.60	15.80	15.93
Profit After Tax	<b>16.38</b>	<b>23.44</b>	<b>30.75</b>	<b>31.13</b>	<b>31.40</b>
Add: Depreciation	6.75	5.74	4.88	4.15	3.52
Cash Accruals	23.13	29.18	35.63	35.28	34.92
Repayment of Term loan	0.00	8.44	8.44	8.44	8.43

#### 4. WORKING CAPITAL:

	Months	Values	%	Margin Amount	Bank Finance
	Consumptions				
Raw Materials	0.50	3.50	25%	0.88	2.62
Consumables	2.00	0.11	25%	0.03	0.08
Finished goods	0.50	4.93	25%	1.23	3.70
Debtors	0.50	6.38	10%	0.64	5.74
Expenses	1.00	0.30	100%	0.30	0.00
		15.22		3.08	12.14

#### 5. PROFITABILITY RATIOS BASED ON 80% UTILISATION

$$\frac{\text{Profit after Tax}}{\text{Sales}} = \frac{30.75}{204.00} \quad 15\%$$

$$\frac{\text{Profit before Interest and Tax}}{\text{Total Investment}} = \frac{51.00}{68.22} \quad 75\%$$

$$\frac{\text{Profit after Tax}}{\text{Promoters Capital}} = \frac{30.75}{22.33} \quad 138\%$$

## 6. BREAK EVEN LEVEL

Fixed Cost (FC):

	[Rs.lakhs]
Wages & Salaries	21.27
Repairs & Maintenance	0.73
Depreciation	4.88
Admin. & General expenses	3.97
Interest on TL	2.95
	<u>33.80</u>

Profit Before Tax (P) 46.35

$$\text{BEL} = \frac{\text{FC} \times 100}{\text{FC} + \text{P}} = \frac{33.80}{80.15} \times \frac{80}{100}$$

34% of installed capacity



