PROJECT PROFILE

ON

HOSPITAL AND INDUSTRIAL SHEETING

MONTH & YEAR
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HOSPITAL AND INDUSTRIAL SHEETING

(A) INTRODUCTION

Items like Hospital and Industrial rubber sheeting's , Oil resistant sheeting's, Chemical resistant tank linings are all manufactured by the process of calendering. Hospital sheeting's are plain sheeting's of about 0.4 mm thickness and a width of about 1 metres. The new design of hospital sheeting's with fabric insertion known as Mackintosh is gaining wide acceptance. Industrial sheeting's can also be plain or with fabric reinforcement depending on the customer's requirements.

(B) MARKET

The main uses of hospital sheeting's are that they are used as bed sheets in hospitals and as baby sheets. Industrial sheeting's are widely used for the manufacture of washers, seals, which are required in large numbers. With the phenomenal growth in the industrial and health care sectors in recent times, there is an ever increasing demand for these sheeting's.

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.

INSTALLED CAPACITY

Product	Installed capacity per hour	No of working hours per day	Capacity per day	Capacity per annum 300 days per annum
Hospital & Industrial Sheeting	62.5 metres	16	500 metres	300000 metres

PLANT AND MACHINERY

Sl. No	Description	Qty	Value
1.	(i) Production machinery, Tools & Equipments consisting of the following : Mixing mill of size 14" x 36" with reduction gear, 40 HP motor & accessories	Whole Plant 2 Nos	5750000
2.	3-Roll calendaring machine of size 14" x 42" with 40 HP motor & accessories.	1 No	
3.	Steam Vulcaniser, 5' dia and 15' long with trolley arrangement.	1 No	
4.	Baby boiler 150 Kg/hr. Steam generation capacity at 150 psi, with 3 HP feed water motor.	1 No	
5.	Winding & Unwinding machine with all accessories.	1 No	
6.	Miscellaneous equipments, tools & building table etc.		
7.	Weighing Scales: Platform type (100 Kg) Single Pan type (10Kg.)- Digital type	 1 No 1 No	
	(ii) Material handling equipments		90000
	(iii) Testing & Inspection equipments tools & apparatus.		160000
	TOTAL		6000000

MANUFACTURING PROCESS

1. Process Outline

The various ingredients are compounded in a mixing mill and fed in the form of a sheeting from the mixing rolls into a calendering machine. Rubber sheetings without any fabric support are made in thickness of 0.5 to 3 mm. Two or four roll calenders are used for this pupose.The sheet may be calendered onto a liner or onto a take-off belt from which it is wrapped in a liner.The sheets are then laid on a table, trimmed to size and wrapped on a drum with interleaving fabric and the assembly is cured in open staem vulcanizing chambers. Sometimes the sheets are dusted with talc powder or treated with a liquid anti-tack. Hospital sheets are 0.5 to 1mm thick and are required to have very smooth finish and texture.

For certain applications, the rubber sheeting is required to have the support of some fabric material. Insertion sheetings are amde in thickness ranging from 1.5 to 5 mm. They have a sandwich construction. The reinforcement is provided by square oven light weight fabric, which is rubber coated on both sides by frictioning on a calender or by rubberising with dough on a spreading machine.

RAW MATERIALS

For -Metres	300000		
	Qty-kgs	Rate/kg	Value Rs lakhs
Natural Rubber	84000	234.00	196.56
Stearic acid	1620	75.00	1.22
Zinc Oxide	4200	120.00	5.04
GPF Black	12000	52.00	6.24
China Clay/Whiting	84000	7.00	5.88
Barytes	18000	12.00	2.16
Pine tar	1620	45.00	0.73
Sulphur	1980	15.00	0.30

Titanium dioxide	2400	130.00	3.12
Anti oxidant	780	300.00	2.34
Acceleartor	1200	1200.00	14.40
Aromatic oil	4200	250.00	10.50
Fabric cloth			7.20
Miscellaneous Chemicals like talc etc			3.00
			258.68
Packing materials	300000	0.75	2.25

LOCATION LAND & BUILDING

Built up area-Sq.ft	3000
Rent p.m.-Rs per 10 per sq.ft	30000
Advance-10 months. Rs	300000

Utilities

Power & Fuel

Three phase-	KW	90.00
Power charges Rs.lakhs p.a		23.76
Fuel-Rs 15000 p.m		1.80
Power & fuel		25.56
For process-Litres per day		2000
For human consumption-litres/day		200

MAN POWER:

		Monthly wages	Total
Supervisor	1	9000	9000
Skilled	6	7000	42000
Unskilled	16	5000	80000
Accounts Assistant	1	6000	6000

Sales Executive	1	7000	7000
Security	1	5000	5000
sub total			149000
Add benefits		20%	29800
Total per month			178800
TOTAL PER ANNUM-Rs. lakhs			21.46

COST OF PRODUCTION AND PROFITABILTY

Assumptions

Installed capacity	3,00,000 metres per annum
Capacity utilisation	Year-1 -60% Year -2 -70% Year-3 onwards- 80%
Selling price	Rs.130.00 per metres
Raw materials	As per the details given above
Packing materials	As per details given above
Power	Rs.25.56 lakhs per annum at 100%
Wages and salaries	Rs. 21.46 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

SUPPLIERS OF MACHINERY & EQUIPMENTS

(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 - 600 058

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

(e) All miscellaneous equipments, tools, dies, moulds, fabricated items etc. can be procured from local sources.

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 - 600 006
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, Apnaghar, 103 Marshells Road, Egmore

Chennai- 600 008

7. M/s. KURIAN ABRAHAM LTD,13/1, 423 M S Road, Parvathipuram, Nagercoil-629 001

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 - 600 001

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.

(c) Miscellaneous Items

All other miscellaneous items can be easily procured from the market sources

FINANCIAL ASPECTS

1. COST OF PROJECT

	[Rs.lakhs]
Land & Building (Advance)	3.00
Plant & Machinery	60.00
Other Misc. assets	2.00
Pre-Operative expenses	4.00
Margin for WC	5.08
	74.08

2. MEANS OF FINANCE

Capital	29.08
Term Loan	45.00
	74.08

3. COST OF PRODUCTION & PROFITABILITY STATEMENT

[Rs.lakhs]

Years	1	2	3	4	5
Installed Capacicity-metres	300000	300000	300000	300000	300000
Utilisation	60%	70%	80%	80%	80%
Production/Sales-metres	180000	210000	240000	240000	240000
Selling Price per metre -Rs.	130.00				
Sales Value (Rs.lakhs)	**234.00**	**273.00**	**312.00**	**312.00**	**312.00**
Raw Materials	155.21	181.08	206.94	206.94	206.94
Packing Materials	1.35	1.58	1.80	1.80	1.80
Power& fuel	15.34	17.89	20.45	20.45	20.45
Wages & Salaries	21.46	22.53	23.66	24.84	26.08
Repairs & Maintenance	0.60	0.66	0.73	0.80	0.88
Depreciation	9.00	7.65	6.50	5.53	4.70
Cost of Production	202.96	231.39	260.08	260.36	260.85
Selling, Admin, & General exp	3.60	3.78	3.97	4.17	4.38

Interest on Term Loan	6.30	5.51	3.94	2.36	0.79
Interest on Working Capital	2.82	2.82	2.82	2.82	2.82
Total	215.68	243.50	270.81	269.71	268.84
Profit Before Tax	18.32	29.50	41.19	42.29	43.16
Provision for tax	6.17	9.93	13.86	14.24	14.53
Profit After Tax	**12.15**	**19.57**	**27.33**	**28.05**	**28.63**
Add: Depreciation	9.00	7.65	6.50	5.53	4.70
Cash Accruals	21.15	27.22	33.83	33.58	33.33
Repayment of Term loan	0.00	11.25	11.25	11.25	11.25

4. WORKING CAPITAL:

	Months Consumptions	Values	%	Margin Amount	Bank Finance
Raw Materials	0.50	6.47	25%	1.62	4.85
Consumables	2.00	0.23	25%	0.06	0.17
Finished goods	0.50	8.46	25%	2.12	6.34
Debtors	0.50	9.75	10%	0.98	8.77
Expenses	1.00	0.30	100%	0.30	0.00
		25.21		5.08	20.13

5. PROFITABILITY RATIOS BASED ON 80% UTILISATION

$$\frac{\text{Profit after Tax}}{\text{Sales}} = \frac{27.33}{312.00} \quad 9\%$$

$$\frac{\text{Profit before Interest and Tax}}{\text{Total Investment}} = \frac{47.95}{94.21} \quad 51\%$$

$$\frac{\text{Profit after Tax}}{\text{Promoters Capital}} = \frac{27.33}{29.08} \quad 94\%$$

6. BREAK EVEN LEVEL

Fixed Cost (FC):

	[Rs.lakhs]
Wages & Salaries	23.66
Repairs & Maintenance	0.73
Depreciation	6.50
Admin. & General expenses	3.97
Interest on TL	3.94
	38.80

Profit Before Tax (P) 41.19

$$BEL = \frac{FC \times 100}{FC + P} = \frac{38.80}{79.99} \times \frac{80}{100} \times 100$$

39% of installed capacity