

PROJECT PROFILE
ON
PRESSURE COOKER GASKETS

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PRESSURE COOKER GASKETS

INTRODUCTION

The gaskets in pressure cookers act as seals. A pressure cooker gasket is used to prevent the escape of steam through the gap between the lid and the bottom of the cooker during the cooking process. This will ensure that the cooking takes place faster and more efficiently, which also results in considerable saving of cooking gas used in the process.

MARKET

Pressure cookers have gained wide popularity among people on account of the immense convenience offered by them as an efficient, faster and easy to handle device in most of the middle class and upper middle class homes of today, for their day to day cooking. They are also easily affordable by many. Because of their demand and popularity many popular brands of these in different sizes are available in the market. Some of the very popular brands such as Prestige, Hawkins and Premier are in great demand. With the increasing pace of urbanization, economic growth and rising levels of income of the general populace, the demand for pressure cookers is bound to increase substantially in the years to come. Further, the gaskets are a frequently replaceable item because of wear and tear caused by the daily usage of cookers. AS such they are sold in many provision and departmental stores. Thus there is a good scope fro manufacturing these gaskets in the small scale sector.

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
Pressure cooker gaskets	63 Nos	8	500 Nos	150000 Nos.

PLANT AND MACHINERY

Sl. No	Description	Qty	Value
1.	(i) Production machinery, Tools & Equipments consisting of the following: Mixing mill of size 10" × 24" with reduction	Whole Plant	1610000

	Gear, 15 HP motor and accessories	1 No	
2.	Rubber hot feed Extruder of size 3” with 10 HP.motor and accessories including Die Plates.	1 No	
3.	Rubber moulding Hydraulic Press 24” × 24” with 6 Day lights, capacity 150 tons, with 5 HP motor and power pack	1 No	
4.	Baby boiler 150 Kg/hr steam capacity with all Accessories (Diesel fired)	1 No	
5.	Weighing scales: Platform type (100 Kg) Single Pan Type(10Kg) Digital type	1 No 1 No	
	(ii). Moulds & accessories		90000
	(iii). Testing & Inspection equipments		100000
	TOTAL		1800000

MANUFACTURING PROCESS

The required raw materials of rubber and the compounding ingredients are fed into a mixing mill for proper mastication and subsequent mixing of the necessary ingredients. The compounded material is then passed through an extruder with a suitable die to form the gasket geometry. These extruded strips are then cut to suitable lengths and placed in the mould cavities of a multi day light hydraulic press and cured under heat and pressure. The heat may be supplied by steam or electricity.

RAW MATERIALS

For-lakhs nos	150000		
	Qty-kgs	Rate/kg	Value
			Rs lakhs
Nitrile Rubber	1860	210.00	3.91
SBR-1502	2820	207.00	5.84
FEF Balck	195.00	52.00	0.10
Calcium carbonate	1400.00	20.00	0.28
Paraffin wax	232	72.00	0.17
Coumerne resin	175.00	180.00	0.32
Zinc Oxide	2880	120.00	3.46
Stearic acid	1440	75.00	1.08
Antioxidant PBN	1080	125.00	1.35
Accelerator TMTD	35	138.00	0.05
MBT	35.00	170.00	0.06
ZDC	35.00	170.00	0.05
Sulphur	24.00	9.00	0.00
Miscellaneous Chemicals like talc etc			1.20
Total			17.86
Packing materials	150000	0.75	1.13

LOCATION LAND AND BUILDING

Built up area-Sq.ft	1200
Rent p.m.-Rs per 10 per sq.ft	12000
Advance-10 months. Rs	120000

UTILITIES

Power & fuel

Three phase-	KW	20.00
Power charges Rs.lakhs p.a		2.64
Fuel-Rs	15000 p.m	1.80
Power & fuel		4.44
For process-Litres per day		2000
For human consumption- litres/day		200

MANPOWER

		Monthly	Total
		wages	
Supervisor	1	9000	9000
Skilled	4	7000	28000
Unskilled	4	5000	20000
Accounts Assistant	1	6000	6000
Sales Executive	1	7000	7000
Security	2	5000	10000
sub total			80000
Add benefits		20%	16000
Total per month			96000
TOTAL PER ANNUM-Rs. lakhs			11.52

COST OF PRODUCTION AND PROFITABILITY

Assumptions

Installed capacity	1.50 lakh nos. of various pressure cooker gaskets per annum
Capacity utilisation	Year-1 -60% Year -2 -70% Year-3 onwards- 80%
Selling price	Rs.39.00 per piece
Raw materials	As per the details given above
Packing materials	As per details given above
Power & Fuel	Rs.4.44 lakhs per annum at 100%
Wages and salaries	Rs.11.52 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:

1. M/s.Indian Expeller Works Private Ltd, A-4, Naroda Industrial Estate
Ahmedabad – 383 330
2. M/s. Matharu Engineering Works, Plot No.1, Unit No.4, Opp. Tatwagyan
Vidyapeeth
Ghodbunder Road, Chitalsar, Thane - 400607

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 – 400 011

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 Castings Industries, Market Landing, Kottayam – 686 001, Kerala

7. M/s. Hind Hydraulics & Engineers, E-43/1, Okhla industrial Area, Phase –II
New Delhi – 110 002

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, Sirihindi (N.Rly), Punjab – 140 406

10. M/s. Santhosh 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, 1st 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. Madras Metallurgical Services, 5, Lalithapuram Street, Royapettah, Chennai
- 600014

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. ABS 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, Apnagar, 103 Marshells Road, Egmore
Chennai – 600 008
7. M/s. Kurian Abraham Ltd, 13/1, 423 MS 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 Division, 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 Nungabakkam, Chennai – 600 001
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)	1.20
Plant & Machinery	18.00
Other Misc. assets	1.00
Pre-Operative expenses	2.00
Margin for WC	0.89
	<u>23.09</u>

2. MEANS OF FINANCE

Capital	9.59
Term Loan	13.50
	<u>23.09</u>

3. COST OF PRODUCTION & PROFITABILITY STATEMENT

	[Rs.lakhs]				
Years	1	2	3	4	5
Installed Capacity-Nos	150000	150000	150000	150000	150000
Utilisation	60%	70%	80%	80%	80%
Production/Sales-Nos	90000	105000	120000	120000	120000
Selling Price per piece -Rs.	39.00				
Sales Value (Rs.lakhs)	35.10	40.95	46.80	46.80	46.80
Raw Materials	10.72	12.50	14.29	14.29	14.29
Packing Materials	0.68	0.79	0.90	0.90	0.90
Power& fuel	2.66	3.11	3.55	3.55	3.55
Wages & Salaries	11.52	12.10	12.71	13.35	14.02
Repairs & Maintenance	0.60	0.66	0.73	0.80	0.88
Depreciation	2.70	2.30	1.95	1.66	1.41
Cost of	<u>28.88</u>	<u>31.46</u>	<u>34.13</u>	<u>34.55</u>	<u>35.05</u>

Production					
Selling, Admin, & General exp	3.60	3.78	3.97	4.17	4.38
Interest on Term Loan	1.89	1.65	1.18	0.71	0.24
Interest on Working Capital	0.37	0.37	0.37	0.37	0.37
Total	34.74	37.26	39.65	39.80	40.04
Profit Before Tax	0.36	3.70	7.15	7.00	6.76
Provision for tax	0.12	1.26	2.43	2.38	2.30
Profit After Tax	0.24	2.44	4.72	4.62	4.46
Add:	2.70	2.30	1.95	1.66	1.41
Depreciation					
Cash Accruals	2.94	4.73	6.67	6.28	5.87
Repayment of Term loan	0.00	3.38	3.38	3.38	3.36

4. WORKING CAPITAL:

	Months Consumptions	Values	%	Margin Amount	Bank Finance
Raw Materials	0.50	0.45	25%	0.11	0.34
Consumables	2.00	0.11	25%	0.03	0.08
Finished goods	0.50	1.20	25%	0.30	0.90
Debtors	0.50	1.46	10%	0.15	1.31
Expenses	1.00	0.30	100%	0.30	0.00
		3.52		0.89	2.63

5. PROFITABILITY RATIOS BASED ON 80% UTILISATION

$$\frac{\text{Profit after Tax}}{\text{Sales}} = \frac{4.72}{46.80} \quad 10\%$$

$$\frac{\text{Profit before Interest and Tax}}{\text{Total Investment}} = \frac{8.70}{25.72} \quad 34\%$$

$$\frac{\text{Profit after Tax}}{\text{Promoters Capital}} = \frac{4.72}{9.59} \quad 49\%$$

6. BREAK EVEN LEVEL

Fixed Cost (FC):

	[Rs.lakhs]
Wages & Salaries	12.71
Repairs & Maintenance	0.73
Depreciation	1.95
Admin. & General expenses	3.97
Interest on TL	1.18
	<u>20.54</u>

Profit Before Tax (P) 7.15

$$\text{BEL} = \frac{\text{FC} \times 100}{\text{FC} + \text{P}} = \frac{20.54}{27.69} \times \frac{80}{100} \times 100$$

59% of installed capacity