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# Pre-Feasibility Study

## ARTIFICIAL RUBBER TILES MANUFACTURING PLANT



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**Ministry of Industries & Production  
Government of Pakistan**

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**January 2021**

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## 1 DISCLAIMER

This information memorandum is to introduce the subject matter and provide a general idea and information on the said matter. Although, the material included in this document is based on data/information gathered from various reliable sources; however, it is based upon certain assumptions, which may differ from case to case. The information has been provided on as is where is basis without any warranties or assertions as to the correctness or soundness thereof. Although, due care and diligence has been taken to compile this document, the contained information may vary due to any change in any of the concerned factors, and the actual results may differ substantially from the presented information. SMEDA, its employees or agents do not assume any liability for any financial or other loss resulting from this memorandum in consequence of undertaking this activity. The contained information does not preclude any further professional advice. The prospective user of this memorandum is encouraged to carry out additional diligence and gather any information which is necessary for making an informed decision, including taking professional advice from a qualified consultant/technical expert before taking any decision to act upon the information.

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### Document Control

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## 2 EXECUTIVE SUMMARY

Artificial Rubber Tiles are safe, comfortable and protective floor covering. Rubber tiles can be installed easily over nearly any smooth surface including concrete, asphalt, wood, or tile. The interlocking tab design holds the tiles together securely without the need for expensive adhesives, tapes, or the labor to apply them. The rubber tiles are commonly used in gym, hospitals, restaurants, laboratories, play areas, bathrooms, shops, and houses. They are available in different colors and textures.

This particular pre-feasibility study is for setting up a 'Artificial Rubber Tile Manufacturing Unit'. The proposed unit will produce 2X2 ft size rubber tiles of different colors and designs. Produced tiles will be directly sold to business consumers and for general consumer through wholesalers in major cities of Pakistan. The proposed unit has capacity to produce 230,400 rubber tiles (96 tiles / hour) in a year based on 300 working on single shift (08 hours shift) basis. However, initial capacity utilization is assumed 70%, while maximum capacity utilization will be 90%. This production capacity is estimated to be economically viable and justifies the capital as well as operational cost of the project. However, entrepreneur's knowledge of industry, competitive pricing and strong linkage with suppliers and wholesalers network are key factors for the success of this business.

Total project cost is estimated as Rs. 13.141 million with capital investment of Rs. 11.205 million and working capital Rs. 1.936 million. Based on an equity finance model, the project NPV is around Rs. 12.959 million, with an IRR of 35% and Payback Period of 3.42 years. The project will provide employment opportunities to 15 people including the Owner. The legal business status of this project is assumed to be 'Sole Proprietorship'.

## 3 INTRODUCTION TO SMEDA

The Small and Medium Enterprises Development Authority (SMEDA) was established in October 1998 with an objective to provide fresh impetus to the economy through development of Small and Medium Enterprises (SMEs).

With a mission "to assist in employment generation and value addition to the national income, through development of the SME sector, by helping increase the number, scale and competitiveness of SMEs", SMEDA has carried out 'sectoral research' to identify policy, access to finance, business development services, strategic initiatives and institutional collaboration and networking initiatives.

Preparation and dissemination of prefeasibility studies in key areas of investment has been a successful hallmark of SME facilitation by SMEDA.

Concurrent to the prefeasibility studies, a broad spectrum of business development services is also offered to the SMEs by SMEDA. These services include identification of experts and consultants and delivery of need based capacity building programs of different types in addition to business guidance through help desk services.

## **4 PURPOSE OF THE DOCUMENT**

The objective of the pre-feasibility study is primarily to facilitate potential entrepreneurs in project identification for investment. The project pre-feasibility may form the basis of an important investment decision and in order to serve this objective, the document/study covers various aspects of project concept development, start-up, and production, marketing, finance and business management.

The purpose of this document is to facilitate potential investors in **Artificial Rubber Tiles Manufacturing** business by providing them with a general understanding of the business with the intention of supporting potential investors in crucial investment decisions.

The need to come up with pre-feasibility reports for undocumented or minimally documented sectors attains greater imminence as the research that precedes such reports reveal certain thumb rules; best practices developed by existing enterprises by trial and error, and certain industrial norms that become a guiding source regarding various aspects of business set-up and its successful management.

Apart from carefully studying the whole document one must consider critical aspects provided later, which form basis of any Investment Decision.

## **5 BRIEF DESCRIPTION OF PROJECT & PRODUCT**

Known for its great versatility and durability, rubber flooring has become a more accessible surface choice for users in recent years. Rubber flooring has developed into an interior decorating option that accommodates heavy foot traffic and offers its own distinctive style. Whether it is required to create workout rooms or need an enduring surface for kids' play-room, rubber flooring provides ample opportunities to accompany whatever area or place to be enhanced. Rubber tiles can be made from either natural tree rubber or from synthetic materials, which are often recycled from vehicle tires. These materials allow for an extremely durable and low-maintenance surface option for homeowners, gyms, hospitals, labs, shops, play areas and other places. Rubber flooring tiles are easy to apply and remove due to interlocking mechanism.

This particular pre-feasibility study is based on a fully automatic rubber tile vulcanizing machine equipped with four dies and rubber mixing machine. The installed machine can produce a batch of 4 tiles in 10 minutes. Proposed machine can produce different

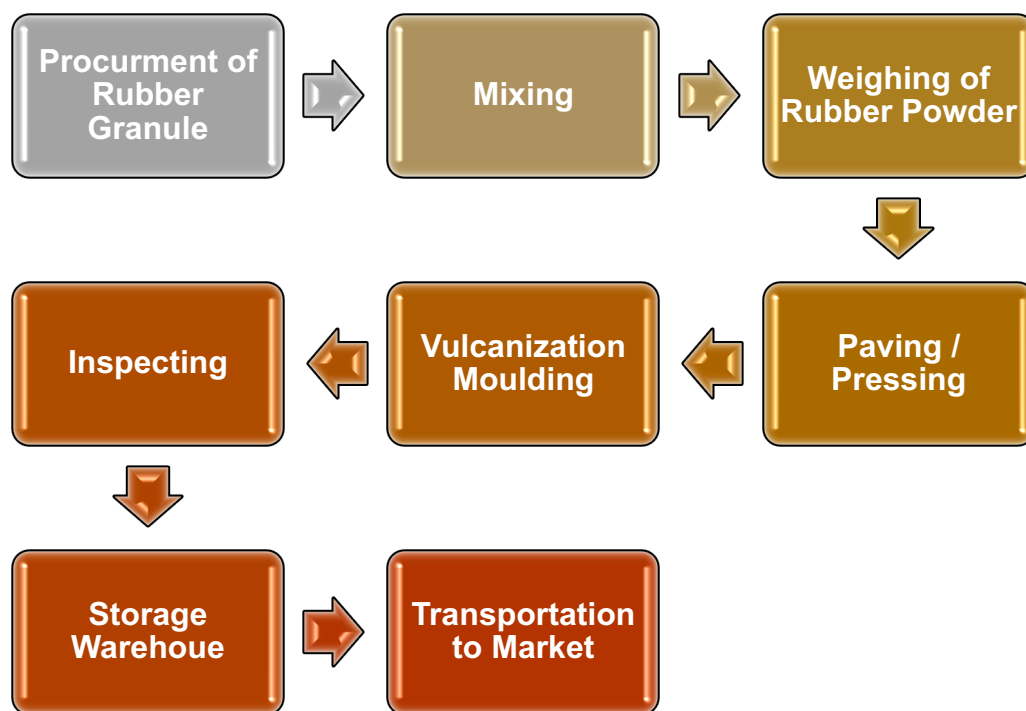
sizes of rubber tiles based on availability of dies and moulds. However, the proposed unit will mainly produce 2X2 ft size tiles. Accordingly, around 96 tiles of 2X2 ft size per hour can be produced by the installed machine. The proposed unit will purchase raw material i.e. rubber granules, easily available in the market to produce the tiles. Different colors of rubber granules will be used to produce different color of tiles. Financial analysis shows the unit shall be profitable from the very first year of operation. According to the proposed business model unit will mainly target to general household consumers through wholesalers and business buyers on order manufacturing basis.

The ideal location for the proposed project is any major industrial city across Pakistan, however, it can also be established in other areas with availability of required infrastructural support, skilled labour and easy access to markets. The legal business status of this project is assumed to be 'Sole Proprietorship'.

### 5.1 Production Process Flow

The production process flow of rubber tiles manufacturing starts with the purchase of 'Rubber Granules' from the market. The key steps involved in the manufacturing process are mixing, paving and pressing, vulcanization moulding and inspection of the final product. The process flow diagram of the rubber tile manufacturing is as follows.

**Figure 1: Production Process Flow**



## 5.2 Installed and Operational Capacities

The installed and operational capacity of the artificial rubber tiles manufacturing unit mainly depends upon the installed machinery.

The pre-feasibility study is based on 01 fully automatic rubber tile vulcanizing machine with four dies and rubber mixing machine that can produce 230,400 tiles of 2x2 ft size (96 tiles / hour) per annum on 08 hours single shift basis. The unit is assumed to operate 300 days per annum.

However, during 1<sup>st</sup> year operation unit will operate at 70% capacity (i.e. 161,280 tiles), while maximum capacity utilization of the unit is assumed at 90%. i.e. 207,360 tiles in 5<sup>th</sup> year of operation.

## 6 CRITICAL FACTORS

Following are the factors critical for the success of this business venture;

- ⇒ Background knowledge and related experience of the entrepreneur in rubber tiles.
- ⇒ Selection of quality rubber granules on the basis of best analysis of cost and revenues; cost efficiency through better management.
- ⇒ Exceed customer expectations by offering high quality products at reasonable prices with quick turnaround times.
- ⇒ Stringent supervision of the production process at every level.
- ⇒ Induction of trained human resource for the handling of business operations especially in production and sales.
- ⇒ Business location is the key to success for the rubber tiles unit, in order to have greater reach to its customers to meet its revenue targets.
- ⇒ Effective marketing and distribution of the product.
- ⇒ Employ careful financial and accounting analysis to ensure efficiency and proper controls.

## 7 GEOGRAPHICAL POTENTIAL FOR INVESTMENT

As the major customers of rubber tiles are gyms, sports areas, hospitals and homes, so the unit can be established in any major metropolitan city in Pakistan. Subsequently, availability of skilled labor, raw material and easy accessibility to market is extremely important for the success of this business.

Therefore, major cities such as, Islamabad, Karachi, Lahore, Peshawar, Quetta, Faisalabad, Sialkot, Multan, Rawalpindi and Hyderabad can be the suitable locations for setting up the proposed unit.

## 8 POTENTIAL TARGET CUSTOMERS / MARKETS

Potential target customers for the produced rubber tiles will mainly comprises of the two main segments, i.e. General Household Consumers and Business Buyers (Gyms, Hospitals, Laboratories, Shops, Sports Centers, Play Areas, Super Markets etc.).

Since, majority of the target customer belongs to the business segments, therefore, above identified metropolitan cities will be the potential markets for the produced rubber tiles. The general household consumers will be targeted through wholesalers, while business buyers will be targeted on order manufacturing basis.

## 9 PROJECT COST SUMMARY

A detailed financial model has been developed to analyze the commercial viability of Artificial Rubber Tiles Unit. Various cost and revenue related assumptions along with results of the analysis are outlined in this section.

The projected Income Statement, Cash Flow Statement and Balance Sheet are attached as annexures.

### 9.1 Project Economics

All the figures in this financial model have been calculated for estimated sales of Rs. 38.640 million in the year one. The capacity utilization during year one is worked out at 70% with 5% increase in subsequent years up to the maximum capacity utilization of 90%.

To financially appraise the project, a 100% Equity-Based Business Model has been assumed. The following table shows Internal Rate of Return, Payback Period and Net Present Value of the proposed venture:

**Table 1: Project Economics**

Description	Details
Internal Rate of Return (IRR)	35%
Payback Period (Yrs.)	3.42
Net Present Value (Rs.)	12,959,432

Calculation of break-even analysis is as follows:



**Table 2: Breakeven (100% Equity Based)**

BREAKEVEN ANALYSIS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Break-Even Revenue	30,236,148	28,992,615	31,066,881	33,474,227	36,118,908	39,200,046	42,693,327	46,477,004	50,667,871	55,370,655
Break-Even units	120,945	105,428	102,700	100,599	98,679	97,361	96,397	95,400	94,548	93,930
Margin of Safety	22%	37%	42%	45%	48%	47%	47%	46%	45%	44%

However, for the purposes of further explanation the Project Economics based on Debt: Equity (i.e. 50:50) Model has also been computed. Based on Debt: Equity model the Internal Rate of Return, Payback Period and Net Present Value of the proposed project are provide in the table below.

**Table 3: Project Economics Based on Debt (50%) : Equity (50%)**

Description	Details
Internal Rate of Return (IRR)	33%
Payback Period (Yrs.)	3.60
Net Present Value (Rs.)	15,566,454

The financial assumptions for Debt: Equity are as follows:

**Table 4: Financial Assumptions for Debt:Equity Model**

Description	Details
Debt	50%
Equity	50%
Interest Rate on Debt	12%
Debt Tenure	5
Debt Payment / Year	2

The projected Income Statement, Cash Flow Statement and Balance Sheet enclosed as annexures are based on 100% Equity Based Business Model.

## 9.2 Project Cost

Following fixed and working capital requirements have been identified for operations of the proposed business.

**Table 5: Project Cost**

Description	Amount Rs.
<b>Capital Cost</b>	
Plant and Machinery	8,845,119
Motor Vehicles	1,040,000
Pre-operating Cost	445,000
Furniture & Fixture	404,000
Building Security	240,000
Computer / Office Equipment	231,000
<b>Total Capital Cost</b>	<b>11,205,119</b>
Raw Material Inventory	1,066,800
Cash	772,118
Up-front Building Rent	80,000
Equipment Spare Part Inventory	17,414
<b>Total Working Capital</b>	<b>1,936,332</b>
<b>Total Project Cost</b>	<b>13,141,451</b>

### 9.3 Space Requirement

In order to reduce the initial capital expenditure, the proposed Artificial Rubber Tiles Manufacturing Unit will be established on a rental premises. For that purposes, space may be acquired in the industrial state or in the outskirts of big cities near to industrial units. The rent of the building will depend on the area and geographical location of the unit. An estimated area of 9,000 sq. ft. will be required for the proposed venture.

The area requirement has been calculated on the basis of space requirement for production, management, storage and open space. However, the unit's operating in the industry do not follow any set pattern. Following table provide the details of required space requirement.

**Table 6: Space Requirement**

Description	Area Sq. ft.
Production Hall	6,400
Store Raw Material	144

Store Finished Goods	144
Management Office	192
Spares Parts Rooms	80
Staff Rest Rooms	144
Wash Rooms	72
Security Guard Room	100
Open Space and Parking	1,724
<b>Total</b>	<b>9,000</b>

For this particular pre-feasibility the rent amount has been determined at Rs. 80,000 per month. In addition to that 3 months' rent i.e. Rs. 240,000 will also be required as security deposit.

#### 9.4 Machinery & Equipment Requirement

Plant, machinery and equipment for the proposed project are stated below.

**Table 7: Machinery & Equipment**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Rubber Tile Making Machine (Huicai XLB-D Includes Mixer and Vulcanizing)	1	4,924,280	4,929,204
Machinery Clearance and Freight Expenses	Lump sum		2,015,235
Machinery Installation and Commissioning	Lump sum		671,680
Generator	1	980,000	980,000
Moulds	80	2,800	224,000
Security Equipment	1	25,000	25,000
<b>Total</b>			<b>8,845,119</b>

#### 9.5 Furniture & Fixtures Requirement

Details of the furniture and fixture required for the project are given below.

**Table 8: Furniture & Fixture**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Bracket Fans	19	3,800	72,200
Air Conditioner (1-ton Split)	1	60,000	60,000
Miscellaneous Furniture	1	50,000	50,000
Chairs (Production Hall)	6	6,500	39,000
Table & Chairs (Owner Manager)	1	35,000	35,000
Table & Chairs (Accountant)	1	30,000	30,000
Sofas (Owner Manager)	2	12,000	24,000
Exhaust Fans	9	2,200	19,800
Visitor Chairs (Accountant)	2	8,000	16,000
Cupboard (Accountant)	1	15,000	15,000
LED Bulbs (18 Watts)	15	1,000	15,000
Cupboard/Racks	1	12,000	12,000
Visitor Chairs (Owner Manager)	2	8,000	16,000
<b>Total</b>	<b>61</b>		<b>404,000</b>

### 9.6 Office / Computer Equipment Requirement

Following office / computer equipment will be required for the project are given below.

**Table 9: Office / Computer Equipment**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Computers	5	35,000	175,000
Computer Printer	1	23,000	23,000
Scanner	1	9,500	9,500
Telephone Sets	3	1,500	4,500
Water Dispenser	1	19,000	19,000
<b>Total</b>	<b>7</b>		<b>231,000</b>

## 9.7 Office vehicles Requirement

Details of the office vehicles required for the project are given below.

**Table 10: Office Vehicles**

Description	Quantity	Unit Cost (Rs.)	Total Cost (Rs.)
Pick Up	1	1,040,000	1,040,000
<b>Total</b>	<b>1</b>		<b>1,040,000</b>

## 9.8 Raw Material Requirement

Main raw material required for manufacturing of rubber tiles is rubber granules. Following are the details of raw material required for the proposed project.

**Table 11: Raw Material Requirement**

Description	Cost per Tile (Rs.)
Rubber Granules	141.25
Binder Glue	15
Miscellaneous Cost	2.5
<b>Total</b>	<b>158.75</b>

Around 1 kg of Rubber Granules and 1 kg of Binder Glue will be required to produce 4 rubber tiles. The price for Rubber Granules is estimated as Rs. 565 per kg and for Binder Glue as Rs. 60 per kg.

## 9.9 Human Resource Requirement

In order to run operations of Artificial Rubber Tiles smoothly, details of human resources required along with number of employees and monthly salary are recommended as under.

**Table 12: Human Resource Requirement**

Description	No. of Employees	Monthly Salary per person (Rs.)
Owner / Manager	1	70,000
Supervisor / Accountant	1	40,000
Machine Operators	4	35,000

Store In charge	3	25,000
Driver	1	20,000
Helpers	3	20,000
Security Guard	2	20,000
<b>Total</b>	<b>15</b>	

### 9.10 Utilities and Other Costs

An essential cost to be borne by the project is the cost of electricity and gas. The electricity expenses are estimated to be around Rs. 67,108 per month in year1. Furthermore, promotional expense being essential for marketing of rubber tiles unit is estimated as 1.5% of revenue.

### 9.11 Revenue Generation

Based on the capacity utilization of 70%, sales revenue during the first year of operations is provided in the table below.

**Table 13: Revenue Generation – Year 1**

Description	No. of Units Produced (No.)	Finished Goods Inventory (No.)	Units available for Sale (No.)	Sale Price / unit (Rs.)	Sales Revenue (Rs.)
Artificial Rubber Tiles	161,280	6,720	154,560	250	38,640,000

## 10 CONTACT DETAILS

In order to facilitate potential investors, contact details of private sector Service Providers relevant to the proposed project be given.

**Table 14: Machinery Suppliers**

Name of Supplier	Address	Phone	E-mail
Qingdao Shuangzhu Machinery Technology Co. Ltd.	Xiagou Village Binhai Street Office Huangdao District Qingdao	+86 866 971 8510	<a href="mailto:stephanie_wu716@163.com">stephanie_wu716@163.com</a>

## 11 USEFUL WEB LINKS

Small & Medium Enterprises Development Authority (SMEDA)	<a href="http://www.smeda.org.pk">www.smeda.org.pk</a>
Government of Pakistan	<a href="http://www.pakistan.gov.pk">www.pakistan.gov.pk</a>
Ministry of Industries & Production	<a href="http://www.moip.gov.pk">www.moip.gov.pk</a>
Government of Punjab	<a href="http://www.punjab.gov.pk">www.punjab.gov.pk</a>
Government of Sindh	<a href="http://www.sindh.gov.pk">www.sindh.gov.pk</a>
Government of Khyber Pakhtunkhwa	<a href="http://www.khyberpakhtunkhwa.gov.pk">www.khyberpakhtunkhwa.gov.pk</a>
Government of Baluchistan	<a href="http://www.balochistan.gov.pk">www.balochistan.gov.pk</a>
Government of Gilgit Baltistan	<a href="http://www.gilgitbaltistan.gov.pk">www.gilgitbaltistan.gov.pk</a>
Government of Azad Jammu Kashmir	<a href="http://www.ajk.gov.pk">www.ajk.gov.pk</a>
Trade Development Authority of Pakistan (TDAP)	<a href="http://www.tdap.gov.pk">www.tdap.gov.pk</a>
Security Commission of Pakistan (SECP)	<a href="http://www.secp.gov.pk">www.secp.gov.pk</a>
Federation of Pakistan Chambers of Commerce and Industry (FPCCI)	<a href="http://www.fpcci.com.pk">www.fpcci.com.pk</a>
State Bank of Pakistan (SBP)	<a href="http://www.sbp.org.pk">www.sbp.org.pk</a>
Punjab Small Industries Corporation	<a href="http://www.psic.gop.pk">www.psic.gop.pk</a>
Sindh Small Industries Corporation	<a href="http://www.ssic.gos.pk">www.ssic.gos.pk</a>
Punjab Vocational Training Council (PVTC)	<a href="http://www.pvtc.gop.pk">www.pvtc.gop.pk</a>
Technical Education and Vocational Training Authority (TEVTA)	<a href="http://www.tevta.org">www.tevta.org</a>
Pakistan Plastic Manufacturers Association (PPMA)	<a href="http://www.pakplas.com.pk">www.pakplas.com.pk</a>
Punjab Industrial Estate Management and Development Company (PIEMDC)	<a href="http://www.pie.com.pk">www.pie.com.pk</a>
Faisalabad Industrial Estate Management and Development Company (FIEMDC)	<a href="http://www.fiedmc.com.pk">www.fiedmc.com.pk</a>

## 12 ANNEXURES

### 12.1 Income Statement

Calculations										SMEDA
Income Statement										
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Revenue	38,640,000	46,311,000	53,112,525	60,673,779	69,070,464	74,423,024	80,004,751	86,005,107	92,455,490	99,389,652
<i>Cost of sales</i>										
Raw Material Cost	25,603,200	29,489,400	33,814,512	38,622,513	43,961,507	47,258,620	50,803,017	54,613,243	58,709,236	63,112,429
Direct labor	3,852,500	4,409,717	4,851,533	5,337,506	5,872,058	6,474,250	7,121,675	7,833,843	8,617,227	9,478,950
Machinery maintenance	417,932	438,828	460,770	483,808	507,999	533,399	560,069	588,072	617,476	648,350
Direct electricity	665,280	731,808	804,989	885,488	974,036	1,071,440	1,178,584	1,296,443	1,426,087	1,568,695
<b>Total cost of sales</b>	<b>30,538,912</b>	<b>35,069,753</b>	<b>39,931,804</b>	<b>45,329,315</b>	<b>51,315,600</b>	<b>55,337,709</b>	<b>59,663,345</b>	<b>64,331,601</b>	<b>69,370,026</b>	<b>74,808,424</b>
Gross Profit	8,101,088	11,241,247	13,180,721	15,344,465	17,754,864	19,085,315	20,341,406	21,673,507	23,085,464	24,581,228
<i>General administration &amp; selling expenses</i>										
Administration expense	1,320,000	1,452,000	1,597,200	1,756,920	1,932,612	2,125,873	2,338,461	2,572,307	2,829,537	3,112,491
Building rental expense	960,000	1,056,000	1,161,600	1,277,760	1,405,536	1,546,090	1,700,699	1,870,768	2,057,845	2,263,630
Electricity expense	140,012	154,014	169,415	186,357	204,992	225,491	248,041	272,845	300,129	330,142
Water expense	115,575	132,292	145,546	160,125	176,162	194,228	213,650	235,015	258,517	284,368
Travelling expense	198,000	217,800	239,580	263,538	289,892	318,881	350,769	385,846	424,431	466,874
Communications expense (phone, fax, mail, internet, etc.)	154,100	176,389	194,061	213,500	234,882	258,970	284,867	313,354	344,689	379,158
Office vehicles running expense	83,200	91,520	100,672	110,739	121,813	133,994	147,394	162,133	178,347	196,181
Office expenses (stationary, entertainment, janitorial services, etc.)	231,150	264,583	291,092	320,250	352,323	388,455	427,301	470,031	517,034	568,737
Promotional expense	579,600	694,665	796,688	910,107	1,036,057	1,116,345	1,200,071	1,290,077	1,386,832	1,490,845
Professional fees (legal, audit, consultants, etc.)	966,000	1,157,775	1,327,813	1,516,844	1,726,762	1,860,576	2,000,119	2,150,128	2,311,387	2,484,741
Depreciation expense	1,203,737	1,203,737	1,203,737	1,216,605	1,214,530	1,341,516	1,356,413	1,354,011	1,354,011	1,371,256
Amortization of pre-operating costs	89,000	89,000	89,000	89,000	89,000	-	-	-	-	-
Bad debt expense	193,200	231,555	265,563	303,369	345,352	372,115	400,024	430,026	462,277	496,948
Miscellaneous expense 1	105,600	116,160	127,776	140,554	154,609	170,070	187,077	205,785	226,363	248,999
<b>Subtotal</b>	<b>6,339,174</b>	<b>7,037,489</b>	<b>7,709,743</b>	<b>8,465,668</b>	<b>9,284,523</b>	<b>10,052,604</b>	<b>10,854,884</b>	<b>11,712,324</b>	<b>12,651,399</b>	<b>13,694,371</b>
Operating Income	1,761,914	4,203,758	5,470,979	6,878,796	8,470,341	9,032,710	9,486,522	9,961,183	10,434,065	10,886,858
Other income (interest on cash)	30,982	85,058	168,217	253,681	328,309	399,393	479,094	551,405	611,558	758,823
Gain / (loss) on sale of computer equipment	-	-	51,875	-	-	111,927	-	-	181,444	144,855
Gain / (loss) on sale of office vehicles	-	-	-	-	416,000	-	-	-	-	-
Earnings Before Interest & Taxes	1,792,896	4,288,816	5,691,071	7,132,477	9,214,650	9,544,030	9,965,616	10,512,588	11,227,067	11,790,536
Earnings Before Tax	1,792,896	4,288,816	5,691,071	7,132,477	9,214,650	9,544,030	9,965,616	10,512,588	11,227,067	11,790,536
Tax	158,934	706,645	1,127,321	1,616,367	2,345,127	2,460,410	2,607,965	2,799,406	3,049,473	3,246,687
<b>NET PROFIT/(LOSS) AFTER TAX</b>	<b>1,633,962</b>	<b>3,582,171</b>	<b>4,563,749</b>	<b>5,516,111</b>	<b>6,869,523</b>	<b>7,083,620</b>	<b>7,357,650</b>	<b>7,713,183</b>	<b>8,177,594</b>	<b>8,543,849</b>



## 12.2 Balance Sheet

Calculations											SMEDA
Balance Sheet											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<b>Assets</b>											
<i>Current assets</i>											
Cash & Bank	772,118	1,706,459	5,098,207	8,359,152	11,935,328	14,329,382	17,622,032	20,705,453	23,406,967	25,517,640	35,188,214
Accounts receivable		52,932	58,186	68,098	77,936	88,866	98,283	105,772	113,705	122,233	131,401
Finished goods inventory		1,327,779	1,465,310	1,668,169	1,893,362	2,143,111	2,305,738	2,485,973	2,680,483	2,890,418	3,117,018
Equipment spare part inventory	17,414	19,199	21,167	23,336	25,728	28,365	31,273	34,478	38,012	41,908	-
Raw material inventory	1,066,800	1,351,598	1,704,815	2,141,940	2,681,835	3,171,270	3,750,027	4,434,407	5,243,686	6,200,659	-
Pre-paid building rent	80,000	88,000	96,800	106,480	117,128	128,841	141,725	155,897	171,487	188,636	-
<b>Total Current Assets</b>	<b>1,936,332</b>	<b>4,545,966</b>	<b>8,444,485</b>	<b>12,367,177</b>	<b>16,731,317</b>	<b>19,889,834</b>	<b>23,949,078</b>	<b>27,921,981</b>	<b>31,654,341</b>	<b>34,961,494</b>	<b>38,436,633</b>
<i>Fixed assets</i>											
Building Security	240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000	240,000
Machinery & equipment	8,845,119	7,960,608	7,076,096	6,191,584	5,307,072	4,422,560	3,538,048	2,653,536	1,769,024	884,512	-
Furniture & fixtures	404,000	363,600	323,200	282,800	242,400	202,000	161,600	121,200	80,800	40,400	-
Office vehicles	1,040,000	832,000	624,000	416,000	208,000	1,674,930	1,339,944	1,004,958	669,972	334,986	-
Computer equipment	207,500	139,025	70,550	242,282	160,939	81,670	280,472	186,307	94,544	324,681	215,673
Office equipment	23,500	21,150	18,800	16,450	14,100	11,750	9,400	7,050	4,700	2,350	-
<b>Total Fixed Assets</b>	<b>10,760,119</b>	<b>9,556,383</b>	<b>8,352,646</b>	<b>7,389,116</b>	<b>6,172,510</b>	<b>6,632,911</b>	<b>5,569,464</b>	<b>4,213,051</b>	<b>2,859,040</b>	<b>1,826,929</b>	<b>455,673</b>
<i>Intangible assets</i>											
Pre-operation costs	445,000	356,000	267,000	178,000	89,000	-	-	-	-	-	-
<b>Total Intangible Assets</b>	<b>445,000</b>	<b>356,000</b>	<b>267,000</b>	<b>178,000</b>	<b>89,000</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>
<b>TOTAL ASSETS</b>	<b>13,141,451</b>	<b>14,458,348</b>	<b>17,064,130</b>	<b>19,934,292</b>	<b>22,992,827</b>	<b>26,522,745</b>	<b>29,518,542</b>	<b>32,135,031</b>	<b>34,513,381</b>	<b>36,788,423</b>	<b>38,892,306</b>
<b>Liabilities &amp; Shareholders' Equity</b>											
<i>Current liabilities</i>											
Accounts payable		9,728	11,206	12,663	14,345	16,051	18,000	20,188	22,670	25,489	18,589
<b>Total Current Liabilities</b>	<b>-</b>	<b>9,728</b>	<b>11,206</b>	<b>12,663</b>	<b>14,345</b>	<b>16,051</b>	<b>18,000</b>	<b>20,188</b>	<b>22,670</b>	<b>25,489</b>	<b>18,589</b>
<i>Shareholders' equity</i>											
Paid-up capital	13,141,451	13,141,451	13,141,451	13,141,451	13,141,451	13,141,451	13,141,451	13,141,451	13,141,451	13,141,451	13,141,451
Retained earnings		1,307,169	3,911,473	6,780,178	9,837,031	13,365,243	16,359,090	18,973,392	21,349,260	23,621,483	25,732,266
<b>Total Equity</b>	<b>13,141,451</b>	<b>14,448,621</b>	<b>17,052,924</b>	<b>19,921,629</b>	<b>22,978,482</b>	<b>26,506,694</b>	<b>29,500,541</b>	<b>32,114,844</b>	<b>34,490,711</b>	<b>36,762,935</b>	<b>38,873,717</b>
<b>TOTAL CAPITAL AND LIABILITIES</b>	<b>13,141,451</b>	<b>14,458,348</b>	<b>17,064,130</b>	<b>19,934,292</b>	<b>22,992,827</b>	<b>26,522,745</b>	<b>29,518,542</b>	<b>32,135,031</b>	<b>34,513,381</b>	<b>36,788,423</b>	<b>38,892,306</b>

## 12.3 Cash Flow Statement

Calculations											SMEDA
Cash Flow Statement											
	Year 0	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
<i>Operating activities</i>											
Net profit		1,633,962	3,582,171	4,563,749	5,516,111	6,869,523	7,083,620	7,357,650	7,713,183	8,177,594	8,543,849
Add: depreciation expense		1,203,737	1,203,737	1,203,737	1,216,605	1,214,530	1,341,516	1,356,413	1,354,011	1,354,011	1,371,256
amortization of pre-operating costs		89,000	89,000	89,000	89,000	89,000	-	-	-	-	-
Accounts receivable		(52,932)	(5,254)	(9,913)	(9,838)	(10,930)	(9,417)	(7,489)	(7,933)	(8,528)	(9,167)
Finished goods inventory		(1,327,779)	(137,531)	(202,859)	(225,193)	(249,749)	(162,627)	(180,235)	(194,511)	(209,934)	(226,600)
Equipment inventory	(17,414)	(1,785)	(1,968)	(2,170)	(2,392)	(2,637)	(2,907)	(3,205)	(3,534)	(3,896)	41,908
Raw material inventory	(1,066,800)	(284,798)	(353,217)	(437,125)	(539,895)	(489,435)	(578,757)	(684,380)	(809,279)	(956,973)	6,200,659
Pre-paid building rent	(80,000)	(8,000)	(8,800)	(9,680)	(10,648)	(11,713)	(12,884)	(14,172)	(15,590)	(17,149)	188,636
Accounts payable		9,728	1,478	1,457	1,682	1,706	1,949	2,187	2,482	2,819	(6,900)
Cash provided by operations	(1,164,214)	1,261,134	4,369,616	5,196,197	6,035,433	7,410,295	7,660,493	7,826,769	8,038,829	8,337,944	16,103,640
<i>Financing activities</i>											
Issuance of shares	13,141,451	-	-	-	-	-	-	-	-	-	-
Cash provided by / (used for) financing activities	13,141,451	-	-	-	-	-	-	-	-	-	-
<i>Investing activities</i>											
Capital expenditure	(11,205,119)	-	-	(240,207)	-	(1,674,930)	(278,070)	-	-	(321,901)	-
Cash (used for) / provided by investing activities	(11,205,119)	-	-	(240,207)	-	(1,674,930)	(278,070)	-	-	(321,901)	-
NET CASH	772,118	1,261,134	4,369,616	4,955,989	6,035,433	5,735,364	7,382,423	7,826,769	8,038,829	8,016,044	16,103,640

## 13 KEY ASSUMPTIONS

### 13.1 Operating Cost Assumptions

Description	Details
Water Expense	3% Of Direct Staff Salaries
Communication Expenses	4% Of Direct Staff Salaries
Promotional Expenses	1.5% of Revenue
Depreciation Method	Accelerated Depreciation
Depreciation Rate	10% on Machinery 33% on Office Equipment 10% on Furniture & Fixture 20% on Vehicles
Inflation Growth Rate	10%
Electricity Price Growth Rate	10%
Salaries Growth Rate	10%
Water Price Growth Rate	5%
Gas Price Growth Rate	5%
Wage Growth Rate	10%

### 13.2 Production Cost Assumptions

Description	Details
Installed Capacity (No. of Tiles)	230,400
Production Capacity in First Year	70%
Percentage Increase in Production Capacity every Year	5%
Maximum Production Capacity	90%
Finish Good Inventory Stock	15 Days

### 13.3 Revenue Assumptions

Description	Details
Rubber Granules Price / Kg	Rs. 565
Binder Glue Price / Kg	Rs. 60
Rubber Tiles Output per KG of Granules	4
Estimated Raw Material Cost per Tile	Rs. 158.75
Estimated Sale Price per Tile	Rs. 250
Sale Price Growth Rate	10%
Capacity Utilization	70%
Capacity Utilization Growth Rate	5%