PROJECT REPORT

Of

CERAMIC TILES

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Ceramic Tiles Manufacturing Unit.

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

CERAMIC TILES

1. INTRODUCTION



Ceramic tile is the form of flooring that can be used in any room in the building. Kitchens and toilets, as well as foyers, mudrooms, and other high-traffic locations, are the most popular places to find it. However, many homes, especially in warm climates, use tile in living rooms and bedrooms to get great effect. To put it another way, you can't go wrong with tile. If this long-lasting, luxurious flooring has some flaws, it's because it can be rough and cold to walk on, and it's a little difficult to mount for DIYers. The smooth, solid surface of ceramic tiles does not absorb or retain soil, dust, pollen, or other allergens. If tiny objects fall on a ceramic tile, they stick out against the wall, making them easy to clean away with a mop or sponge. This helps to keep the air safe and free of irritants that can affect asthma and allergy sufferers.

Ceramic manufacturers can now create products that can be printed or embossed in a variety of forms, thanks to modern processing techniques. Solid tiles may be used in patterns or embellished with personalised designs or motifs. They can also be printed to look like a variety of hardwoods and natural stones. However, the tiles can be made into triangles, rectangles, and planks by cutting and shaping them. Ceramic tile flooring is ideal for any home style, but it is a must-have in any Mediterranean or Southwest-style house. Since ceramic is incredibly rough, it is simple to clean and preserve. Hard ceramics, unlike durable floors, cannot be softened with padding underlayment. If the floor is well-maintained, a good installation will last for hundreds of years. If a single tile fractures as a result of a significant effect, repairing it is a relatively easy operation. There are actually hundreds of different ceramic tile brands to choose from, but just a few suppliers. This is due to the fact that particular manufacturers often sell several brands; they can establish exclusive brands for specific retail chains while still selling their own general brands.

2. MARKET POTENTIAL

During the forecast period, the ceramic tiles market is expected to rise at a CAGR of 6.5 percent, from USD 207.7 billion in 2020 to USD 285.1 billion in 2025. Population development, the disposable income, increased construction and remodelling operations, and increased investments in the residential and commercial sectors have both contributed to the growth of the ceramic tile industry. Demand from emerging markets is on the rise. The business will benefit from rising demand from developing markets and the expansion of the integrated retail industry. However, the market's growth is hampered by volatile raw material costs and rising restrictions and tariffs. The penetration of integrated retailers extends the supply of numerous types of ceramic tiles, thus improving the market's growth potential. A vast number of discount outlets, including hypermarkets, malls, and specialty stores, are joining the increasingly growing global retail industry. Convenience and comfort are becoming more important to shoppers as a result of busy lives and work schedules; as a result, broad consolidated retail stores rely on stocking more types and labels of ceramic tiles under one roof to provide buyers with more choices. Ceramic tiles are now available for purchase in dedicated retail stores for home décor pieces. The value of integrated retailers selling branded ceramic products and other home furnishing products has increased as customer brand awareness has grown. Customers will collect information on different brands and compare the price, cost, and design of multiple goods using coordinated retailing, and then make a purchase decision. As a result, in the coming years, the development of the integrated retailing industry is projected to have a positive effect on the ceramic tile industry.

3. INDUSTRIAL SCENARIO

Ceramic tile is one of the most cost-effective flooring options, with budget tile and DIY installation. Tile flooring, on the other hand, will easily cost as much as or more than premium hardwood flooring as you progress to better-looking tile and competent installation. While the majority of ceramic floor tile is glazed, some unglazed ceramic tiles, such as traditional Saltillo tile, are available. To shield the surface from liquids and stains,

they must be sealed. The grout in between the tiles, which is vulnerable to moisture and stains in all forms of tile, should be sealed on a regular basis for protection.

In terms of type, the porcelain segment led the growth of the ceramic tile market in 2019. Porcelain tiles have become increasingly popular in recent years as a result of their superior properties, such as low water absorption, slip resistance, and antibacterial properties. Porcelain tiles are very common in kitchens, bathrooms, and hospitals because of their properties. From 2020 to 2025, the ceramic tiles market is expected to rise at the fastest CAGR in the flooring sector. Because of their power, water resistance, low maintenance, longevity, and high durability, ceramic tiles are an excellent and long-lasting flooring choice. They're useful in areas like hospitals, government departments, and sporting institutes, as well as residential buildings, where foot traffic is likely to be heavy.

4. PRODUCT DESCRIPTION

4.1 PRODUCT USES

Ceramics tiles have significant uses in almost all commercial and residential building as:

- A cover roofs
- A floors cover
- A cover walls
- As tabletops etc.

4.2 RAW MATERIAL REQUIREMENT

The raw materials used to form tile consist of clay minerals obtain from mining, silica sand, Talc.

4.3 MANUFACTURING PROCESS

Ceramics are typically produced by the application of heat upon processed clays and other natural raw materials to form a rigid product. To control purity, particle size, particle size distribution, and heterogeneity, ceramic products that use naturally occurring rocks and minerals as a starting material must go through special processing. These characteristics have a significant impact on the finished ceramic's properties. Chemically prepared powders also

are used as starting materials for some ceramic products. The chemical composition and particle size of powders made from these synthetic materials can be precisely controlled. The ceramic particles are then shaped into the desired shape. The addition of water and/or additives such as binders, followed by a shape-forming process, accomplishes this. Extrusion, slip casting, pressing, tape casting, and injection moulding are some of the most common ceramic forming methods. The most common processes for ceramic tile are given below

- **Raw material procurement and storage**

Once raw material is procured and stored properly, a number of steps take place to obtain the finished product. These steps include batching, mixing and grinding, spray-drying, compacting, drying, glazing, and sintering. Many of these steps are accomplished using automated equipment.

- **Batch mixing**

The amount and type of raw materials determine the body composition of many ceramic products, including tile. The colour of the tile body is also determined by the raw materials, which can be red or white depending on the amount of iron-containing raw materials used. As a result, it's critical to combine the right ingredients in the right proportions to achieve the desired results. Batch calculations are thus required, which must take into account both the raw materials' physical properties and chemical compositions. The raw materials must be mixed together after the appropriate weight of each raw material has been determined. Once the ingredients are weighed, they are added together into a ribbon mixer to mix ingredients properly prior to grinding.

- **Grinding and slurry formation**

This step further grinds the ingredients, resulting in a finer particle size that improves the subsequent forming process

It is sometimes necessary to add water to a multiple-ingredient batch to improve mixing and achieve fine grinding. Wet milling is the term for this procedure, which is commonly carried out in a Bead mill. A slurry or slip is the resultant water-filled mixture. Filter pressing (which removes 40-50 percent of the moisture) and dry milling is used to remove the water from the slurry.

- **Spray drying**

The excess water is usually removed via spray drying if wet milling is used first. The slurry is pumped to an atomizer, which consists of a rapidly rotating disc or nozzle. The slip is dried as

it is heated by a rising hot air column, resulting in small, free-flowing granules and a powder suitable for forming.

Dry grinding and granulation can also be used to create tile bodies. Granulation is a process in which a mixture of previously dry-ground material is combined with water to form granules, which are then ground into a powder ready for forming.

- **Compacting**

Most tiles are formed by dry pressing. In this method, the free-flowing powder, this contains a binder or a low percentage of moisture, flows from a hopper into the forming die. Steel plungers compress the material in a steel cavity, which is then ejected by the bottom plunger with operating pressures of up to 2,500 tonnes. Several other methods are also used where the tile body is in a wetter, more mouldable form. Extrusion plus punching is used to produce irregularly shaped tile and thinner tile faster and more economically. This involves compacting a plastic mass in a high-pressure cylinder and forcing the material to flow out of the cylinder into short slugs. These slugs are then punched into one or more tiles using hydraulic or pneumatic punching presses.

- **Drying**

After forming, ceramic tile must usually be dried (at a high relative humidity), especially if a wet method is used. Drying removes the water at a slow enough rate to prevent shrinkage cracks, which can take several days. Continuous or tunnel driers, heated by gas or oil, infrared lamps, or microwave energy, are used.

- **Glazing**

To prepare the glaze, similar methods are used as for the tile body. The glaze is fed through a rotating disc that flings or throws the glaze onto the tile in glazing machine. A stream of glaze falls onto the tile as it passes on a conveyor underneath in the bell/waterfall method. The glaze is sometimes simply sprayed on. Screen printing on, under, or between wet glazed tiles is used for multiple glaze applications.

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- **Sintering**

The tile must be intensely heated after glazing to strengthen it and give it the desired porosity. For firing tile generally, kilns are used. With temperatures around 1,300 degrees Celsius, tunnel kiln firing can take two to three days. The tile is ready to be packaged and shipped after it has been fired and tested.

4.4 YIELD OF PRODUCT/PRODUCTION RATIO

The basis for calculation of production capacity is on single shift basis, with 80-90% efficiency. If 50 to 58 labours will be working for single shift basis then the total production capacity will be approx. 12 tons per day. Ceramic tiles come in an almost infinite variety of sizes, colours, and shapes. They're a less costly and much more durable alternative to natural stone, and they're more resistant to wear than other flooring choices like wood or carpet. Under usual application, ceramic tiles do not break, and when they do, it's almost always due to bad subfloor conditions or incorrect construction. Knowing what causes cracking will aid in the repair of broken tiles and contribute to a more attractive tile floor. Larger ceramic floor tiles, in particular, require an equal distribution of mortar under them. The tile flexes and cracks due to voids in the mortar under it. To ensure good coverage, tiles greater than 12x12 inches should have mortar added to the back of the tile as well as the surface.

5. PROJECT COMPONENTS

6.1 Land /Civil Work

The land require for this manufacturing unit will be approx. around 15000 Square feet.

- Production Area- This area includes the setup and foundation space for all machine & equipment's, Total production facility area is approx. 7000Sqft.
- Inventory Area- This area includes the storage space for all the raw materials, tooling and die storage space and finished goods. Total inventory area is approx. 1500Sqft.
- Office Area – This space includes staff working region, their accommodation space. Total workshop area is approx. 300Sqft. This may be considered above the ground floor.
- Parking Space, Electricity Utensils Mounting Space, and Others. This could be approx. 200Sqft.

Land and building requirement may vary depending on the size of project.

6.2. Main Machine

- **Weighing and measuring tank:** Weighing machine are widely used in industry for various measurements.



- **Bead mill:** Bead mills are grinding and dispersing machines that grind and/or disperse particles at micro and Nano scales.



- **Spray dryer:** Spray drying is a unit continuous operation that involves spraying a liquid, slurry, an emulsion, a suspension, or a low viscosity paste into a hot gaseous drying medium, usually air, to reduce the moisture content.



- **Compacting press:** Compacting presses are used to create ceramic tiles. Depending on the material being pressed, the presses can also be operated in a hot or cold environment.



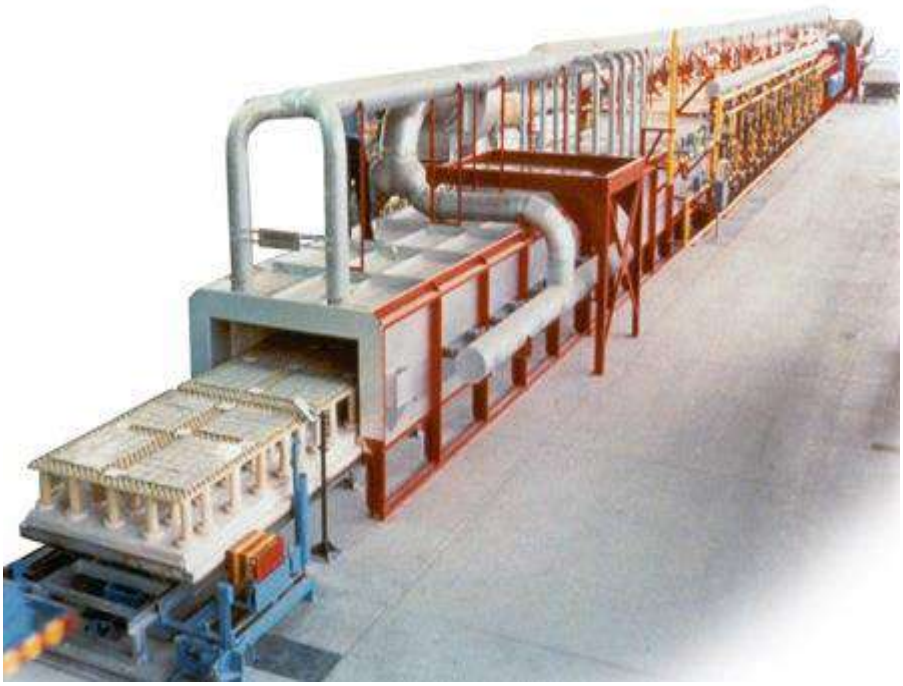
- **Hot air dryer** A hot air dryer works very simply. It consists of a heater blower unit Ambient air is drawn through a filter into a heater/blower unit and heated. The temperature can be adjusted up to 150^0C.



- **Glazing machine:** A glazing machine is a type of machine used for polishing tiles.



- **Kiln:** A kiln is a type of oven with a thermally insulated chamber that produces temperatures high enough to complete a process such as hardening, drying, or chemical changes.



- **Buffing machine:** The Polishing Machine is used to polish tiles to provide better finishing.



Tools-

- **Bucket Elevator and Silo:** A bucket elevator is a simple machine that transports bulk materials or powders vertically, and bulk storage is commonly done in silos.



- **Conveyors:** The use of this conveyor system is to move objects from one location to another. The design allows for the movement of objects that are too heavy or too bulky for humans to carry by hand.



Machine	Unit	Price
Weighing and Measuring Tank (Capacity – 5000 Litre)	1	1,80,000
Bead Mill (Capacity – 500 Litre)	1	4,00,000
Spray Dryer (150 kg/hr)	1	20,00,000
Compacting Press (Capacity 200 ton)	1	8,00,000
Hot Air Dryer (Gas Fired 3 Phase 100 CFM)	1	1,00,000
Glazing Machine (500 Tiles per hour)	1	15,00,000
Klin (Loading Capacity – 1000 Kg)	1	30,00,000
Buffing Machine	1	1,60,000
Bucket Elevator & Silos (250 Ton)	1	15,00,000
Conveyors	1	7,00,000
Other equipment's	Ls	1,00,000
Sub Total		**1,04,40,000**
GST @18%		**18,79,200**
Total		**1,23,19,200**

6.3. Power Requirement

For whole manufacturing plant requires three phase AC power supply. The machineries and other electrical utilities may require up to 110-140 KW power, for above mentioned capacity.

6.4.Manpower Requirement

Manpower required for this manufacturing unit is depend on the land, type of manufacturing unit etc. For this unit around 50-58 people will be required.

6.5.Other Utilities

General electrical apparatus, Water, telephone, Fuel Depot etc.

Note: This project is prepared on the sample standard size of 12*18 mm tile size.

7. LICENSE & APPROVALS

Basic registration required in this project:

- Registration at Bureau of Indian standards.
- Trade License from the local authority.
- MSME Udyam online registration.
- GST Registration
- Factory license
- NOC from pollution board
- NOC from fire safety board

8. SWOT ANALYSIS

- Strengths-With the advent of new designs and patterns the demand of Ceramic tiles has increased. It has become a part of people's lifestyle.
- Weakness- There is a scope of increasing foreign operations in the company's distribution system which could replace the ceramic tiles with different available and better options in the market.
- Opportunities- It can easily take leverage of its Indian leadership and expand its international operational network. Government policies in India are also going to be pro manufacturing sector and with FDI coming into the sector.
- Threats- Many Regional Players can take on tiles industry and put a strong competition in terms of its ranging prices.

9. FINANCIALS

COST OF PROJECT (in Lacs)	
PARTICULARS	**AMOUNT**
Land & Building	Owned/rented
Plant & Machinery	123.19
Miscellaneous Assets	4.00
Furniture	1.50
Working capital	42.67
Total	**171.36**

MEANS OF FINANCE	
PARTICULARS	**AMOUNT**
Own Contribution @ 25%	42.84
Term Loan @ 75%	96.52
Working Capital (Bank Finance)	32.00
Total	**171.36**

PROJECTED BALANCE SHEET **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Liabilities					
Capital					
Opening Balance		42.78	53.10	68.79	86.66
Add:- Own Capital	42.84				
Add:- Retained Profit	5.94	16.83	24.69	36.87	53.14
Less:- Drawings	6.00	6.50	9.00	19.00	32.50
Closing Balance	42.78	53.10	68.79	86.66	107.30
Term Loan	85.79	64.35	42.90	21.45	-
Working Capital Limit	32.00	32.00	32.00	32.00	32.00
Sundry Creditors	15.60	17.69	19.87	22.15	24.53
Provisions & Other Liabilities	0.10	0.50	0.60	0.72	0.86
TOTAL :	**176.27**	**167.64**	**164.16**	**162.98**	**164.69**
Assets					
Fixed Assets (Gross)	128.69	128.69	128.69	128.69	128.69
Gross Depriciation	19.23	35.58	49.49	61.31	71.37
Net Fixed Assets	**109.46**	**93.11**	**79.20**	**67.38**	**57.32**
Current Assets					
Sundry Debtors	31.32	34.82	39.90	45.39	51.34
Stock in Hand	34.29	39.10	44.18	49.54	55.07
Cash and Bank	1.20	0.61	0.88	0.67	0.96
TOTAL :	**176.27**	**167.64**	**164.16**	**162.98**	**164.69**

PROJECTED CASH FLOW STATEMENT **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
SOURCES OF FUND					
Own Margin	42.84				
Net Profit	8.02	22.74	33.36	49.82	71.81
Depriciation & Exp. W/off	19.23	16.35	13.91	11.83	10.06
Increase in Cash Credit	32.00	-	-	-	-
Increase In Term Loan	96.52	-	-	-	-
Increase in Creditors	15.60	2.09	2.18	2.28	2.38
Increase in Provisions & Other liabilities	0.10	0.40	0.10	0.12	0.14
TOTAL :	**214.31**	**41.58**	**49.55**	**64.04**	**84.39**
APPLICATION OF FUND					
Increase in Fixed Assets	128.69				
Increase in Stock	34.29	4.81	5.08	5.36	5.54
Increase in Debtors	31.32	3.50	5.08	5.50	5.95
Repayment of Term Loan	10.72	21.45	21.45	21.45	21.45
Drawings	6.00	6.50	9.00	19.00	32.50
Taxation	2.09	5.91	8.67	12.95	18.67
TOTAL :	**213.11**	**42.17**	**49.28**	**64.25**	**84.10**
Opening Cash & Bank Balance	-	1.20	0.61	0.88	0.67
Add : Surplus	1.20	-0.59	0.28	-0.21	0.29
Closing Cash & Bank Balance	**1.20**	**0.61**	**0.88**	**0.67**	**0.96**

PROJECTED PROFITABILITY STATEMENT **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	**50%**	**55%**	**60%**	**65%**	**70%**
SALES					
Gross Sale					
CERAMIC TILES	626.40	746.17	854.97	972.72	1,100.13
Total	**626.40**	**746.17**	**854.97**	**972.72**	**1,100.13**
COST OF SALES					
Raw Material Consumed	468.00	530.64	596.16	664.56	735.84
Electricity Expenses	25.20	30.24	36.29	43.55	52.25
Depreciation	19.23	16.35	13.91	11.83	10.06
Wages & labour	27.84	33.41	40.09	48.11	57.73
Repair & maintenance	12.53	18.65	23.51	26.75	30.25
Consumables	7.83	13.06	19.24	26.75	30.25
Cost of Production	560.63	642.35	729.19	821.54	916.39
Add: Opening Stock	-	18.69	21.41	24.31	27.38
Less: Closing Stock	18.69	21.41	24.31	27.38	30.55
Cost of Sales	541.94	639.63	726.30	818.46	913.23
GROSS PROFIT	**84.46**	**106.54**	**128.67**	**154.26**	**186.90**
Salary to Staff	42.30	46.53	51.18	56.30	61.93
Interest on Term Loan	9.49	8.36	6.00	3.64	1.28
Interest on working Capital	3.52	3.52	3.52	3.52	3.52
Rent	18.00	19.80	21.78	23.96	26.35
Selling & Administration Expenses	3.13	5.60	12.82	17.02	22.00
TOTAL	**76.44**	**83.80**	**95.30**	**104.44**	**115.09**
NET PROFIT	8.02	22.74	33.36	49.82	71.81
Taxation	2.09	5.91	8.67	12.95	18.67
PROFIT (After Tax)	5.94	16.83	24.69	36.87	53.14

CALCULATION OF D.S.C.R

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	25.17	33.18	38.60	48.69	63.20
Interest on Term Loan	9.49	8.36	6.00	3.64	1.28
Total	34.65	41.54	44.59	52.33	64.48
REPAYMENT					
Instalment of Term Loan	10.72	21.45	21.45	21.45	21.45
Interest on Term Loan	9.49	8.36	6.00	3.64	1.28
Total	20.21	29.80	27.44	25.09	22.73
DEBT SERVICE COVERAGE RATIO	**1.71**	**1.39**	**1.62**	**2.09**	**2.84**
AVERAGE D.S.C.R.					**1.93**

COMPUTATION OF PRODUCTION OF CERAMIC TILES		
Items to be Manufactured		
CERAMIC TILES		
Machine capacity Per day	12	Tonne
Operational capcity per day (taken)	8	Tonne
Total working Hours	10	hours
Tortal shifts in a Day	1	Shift
operational cpacity per day	8	Tonne
Working days in a month	25	Days
Working days per annum	300	
Machine capacity per annum	2400	Tonne
Final Output		
12*18 mm tile box contains	6	Tiles
12*18 mm tile box weight (approx.)	10	KG
Total CERAMIC TILES production per Day	4,800	tiles
final output per Annum	14,40,000	tiles

Production of CERAMIC TILES		
Production	**Capacity**	**TILES**
1st year	50%	7,20,000
2nd year	55%	7,92,000
3rd year	60%	8,64,000
4th year	65%	9,36,000
5th year	70%	10,08,000

Raw Material Cost			
Year	**Capacity Utilisation**	**Rate (per Tile)**	**Amount (Rs. in lacs)**
1st year	50%	65.00	468.00
2nd year	55%	67.00	530.64
3rd year	60%	69.00	596.16
4th year	65%	71.00	664.56
5th year	70%	73.00	735.84

COMPUTATION OF SALE

Particulars	1st year	2nd year	3rd year	4th year	5th year
Op Stock	-	24,000	26,400	28,800	31,200
Production	7,20,000	7,92,000	8,64,000	9,36,000	10,08,000
Less : Closing Stock (10 Days)	24,000	26,400	28,800	31,200	33,600
Net Sale	**6,96,000**	**7,89,600**	**8,61,600**	**9,33,600**	**10,05,600**
sale price per TILES	90.00	94.50	99.23	104.19	109.40
Sales (in Lacs)	626.40	746.17	854.97	972.72	1,100.13

BREAK UP OF LABOUR CHARGES

Particulars	Wages Rs. per Month	No of Employees	Total Salary
Skilled	14,000	8	1,12,000
Unskilled	10,000	12	1,20,000
Total salary per month			**2,32,000**
Total annual labour charges	**(in lacs)**		**27.84**

BREAK UP OF Staff Salary CHARGES

Particulars	Salary Rs. per Month	No of Employees	Total Salary
Helper	7,500	25	1,87,500
Supervisor	16,500	2	33,000
Accountant	18,000	2	36,000
Administartive staff	12,000	8	96,000
Total salary per month			**3,52,500**
Total annual Staff charges	**(in lacs)**		**42.30**

Utility Charges (per month)

Particulars	value	Description
Power connection required	120	KWH
consumption per day	1200	units
Consumption per month	30000	units
Rate per Unit	7	Rs.
power Bill per month	210000	Rs.

COMPUTATION OF CLOSING STOCK & WORKING CAPITAL					(in Lacs)
PARTICULARS	**1st year**	**2nd year**	**3rd year**	**4th year**	**5th year**
Finished Goods					
(10 Days)	18.69	21.41	24.31	27.38	30.55
Raw Material					
(10 Days)	15.60	17.69	19.87	22.15	24.53
Closing Stock	**34.29**	**39.10**	**44.18**	**49.54**	**55.07**

COMPUTATION OF WORKING CAPITAL REQUIREMENT					
TRADITIONAL METHOD					(in Lacs)
Particulars	**Amount**	**Own Margin**		**Bank Finance**	
Finished Goods & Raw Material	34.29				
Less : Creditors	15.60				
Paid stock	**18.69**	**25%**	**4.67**	75%	**14.02**
Sundry Debtors	**31.32**	**25%**	**7.83**	**75%**	**23.49**
	50.01		**12.50**		**37.51**
MPBF					**37.51**
WORKING CAPITAL LIMIT DEMAND (from Bank)					**32.00**

COMPUTATION OF DEPRECIATION				(in Lacs)
Description	**Plant & Machinery**	**Miss. Assets**	**Furniture**	**TOTAL**
Rate of Depreciation	**15.00%**	**15.00%**	**10.00%**	
Opening Balance	-	-		-
Addition	123.19	4.00	1.50	128.69
Total	123.19	4.00	1.50	128.69
Less : Depreciation	18.48	0.60	0.15	19.23
WDV at end of Year	**104.71**	**3.40**	**1.35**	**109.46**
Additions During The Year	-	-	-	-
Total	104.71	3.40	1.35	109.46
Less : Depreciation	15.71	0.51	0.14	16.35
WDV at end of Year	**89.00**	**2.89**	**1.22**	**93.11**
Additions During The Year	-	-	-	-
Total	89.00	2.89	1.22	93.11
Less : Depreciation	13.35	0.43	0.12	13.91
WDV at end of Year	**75.65**	**2.46**	**1.09**	**79.20**
Additions During The Year	-	-	-	-
Total	75.65	2.46	1.09	79.20
Less : Depreciation	11.35	0.37	0.11	11.83
WDV at end of Year	**64.31**	**2.09**	**0.98**	**67.38**
Additions During The Year	-	-	-	-
Total	64.31	2.09	0.98	67.38
Less : Depreciation	9.65	0.31	0.10	10.06
WDV at end of Year	**54.66**	**1.77**	**0.89**	**57.32**

REPAYMENT SCHEDULE OF TERM LOAN							
					Interest		11.00%
Year	Particulars	Amount	Addition	Total	Interest	Repayment	Closing Balance
ist	Opening Balance	-					
	1st month		96.52	96.52	-	-	96.52
	2nd month	96.52	-	96.52	0.88	-	96.52
	3rd month	96.52	-	96.52	0.88	-	96.52
	4th month	96.52	-	96.52	0.88	-	96.52
	5th month	96.52	-	96.52	0.88	-	96.52
	6th month	96.52	-	96.52	0.88	-	96.52
	7th month	96.52	-	96.52	0.88	1.79	94.73
	8th month	94.73	-	94.73	0.87	1.79	92.94
	9th month	92.94	-	92.94	0.85	1.79	91.16
	10th month	91.16	-	91.16	0.84	1.79	89.37
	11th month	89.37	-	89.37	0.82	1.79	87.58
	12th month	87.58	-	87.58	0.80	1.79	85.79
					9.49	10.72	
2nd	Opening Balance						
	1st month	85.79	-	85.79	0.79	1.79	84.01
	2nd month	84.01	-	84.01	0.77	1.79	82.22
	3rd month	82.22	-	82.22	0.75	1.79	80.43
	4th month	80.43	-	80.43	0.74	1.79	78.64
	5th month	78.64	-	78.64	0.72	1.79	76.86
	6th month	76.86	-	76.86	0.70	1.79	75.07
	7th month	75.07	-	75.07	0.69	1.79	73.28
	8th month	73.28	-	73.28	0.67	1.79	71.49
	9th month	71.49	-	71.49	0.66	1.79	69.71
	10th month	69.71	-	69.71	0.64	1.79	67.92
	11th month	67.92	-	67.92	0.62	1.79	66.13
	12th month	66.13	-	66.13	0.61	1.79	64.35
					8.36	**21.45**	
3rd	Opening Balance						
	1st month	64.35	-	64.35	0.59	1.79	62.56
	2nd month	62.56	-	62.56	0.57	1.79	60.77
	3rd month	60.77	-	60.77	0.56	1.79	58.98
	4th month	58.98	-	58.98	0.54	1.79	57.20
	5th month	57.20	-	57.20	0.52	1.79	55.41
	6th month	55.41	-	55.41	0.51	1.79	53.62
	7th month	53.62	-	53.62	0.49	1.79	51.83
	8th month	51.83	-	51.83	0.48	1.79	50.05
	9th month	50.05	-	50.05	0.46	1.79	48.26
	10th month	48.26	-	48.26	0.44	1.79	46.47

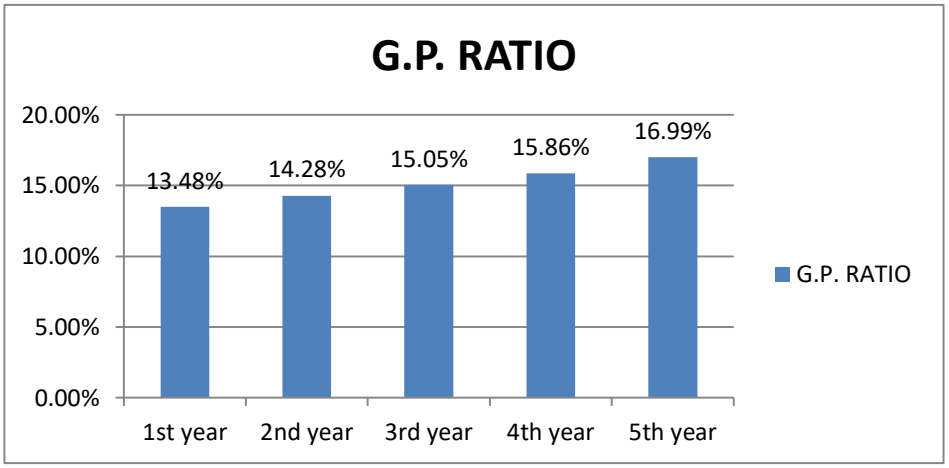
	11th month	46.47	-	46.47	0.43	1.79	44.68
	12th month	44.68	-	44.68	0.41	1.79	42.90
					6.00	**21.45**	
4th	Opening Balance						
	1st month	42.90	-	42.90	0.39	1.79	41.11
	2nd month	41.11	-	41.11	0.38	1.79	39.32
	3rd month	39.32	-	39.32	0.36	1.79	37.53
	4th month	37.53	-	37.53	0.34	1.79	35.75
	5th month	35.75	-	35.75	0.33	1.79	33.96
	6th month	33.96	-	33.96	0.31	1.79	32.17
	7th month	32.17	-	32.17	0.29	1.79	30.39
	8th month	30.39	-	30.39	0.28	1.79	28.60
	9th month	28.60	-	28.60	0.26	1.79	26.81
	10th month	26.81	-	26.81	0.25	1.79	25.02
	11th month	25.02	-	25.02	0.23	1.79	23.24
	12th month	23.24	-	23.24	0.21	1.79	21.45
					3.64	**21.45**	
5th	Opening Balance						
	1st month	21.45	-	21.45	0.20	1.79	19.66
	2nd month	19.66	-	19.66	0.18	1.79	17.87
	3rd month	17.87	-	17.87	0.16	1.79	16.09
	4th month	16.09	-	16.09	0.15	1.79	14.30
	5th month	14.30	-	14.30	0.13	1.79	12.51
	6th month	12.51	-	12.51	0.11	1.79	10.72
	7th month	10.72	-	10.72	0.10	1.79	8.94
	8th month	8.94	-	8.94	0.08	1.79	7.15
	9th month	7.15	-	7.15	0.07	1.79	5.36
	10th month	5.36	-	5.36	0.05	1.79	3.57
	11th month	3.57	-	3.57	0.03	1.79	1.79
	12th month	1.79	-	1.79	0.02	1.79	-
					1.28	**21.45**	

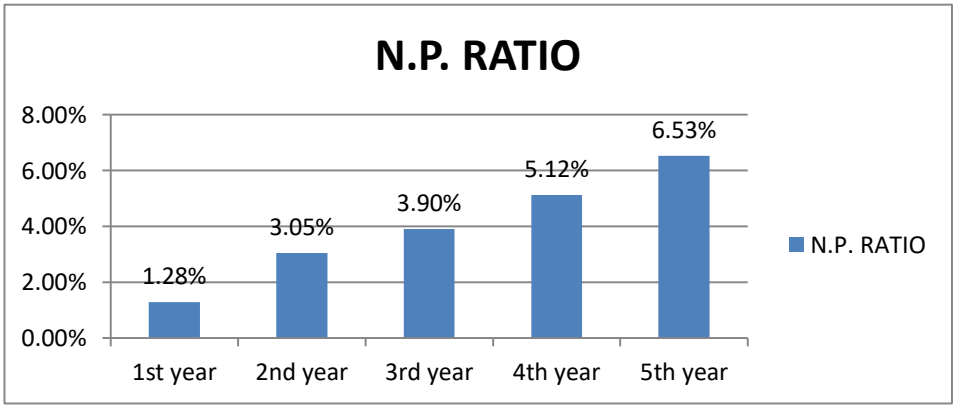
DOOR TO DOOR	60	MONTHS
MORATORIUM PERIOD	6	MONTHS
REPAYMENT PERIOD	54	MONTHS

BREAK EVEN POINT ANALYSIS					
Year	**I**	**II**	**III**	**IV**	**V**
Net Sales & Other Income	626.40	746.17	854.97	972.72	1,100.13
Less : Op. WIP Goods	-	18.69	21.41	24.31	27.38
Add : Cl. WIP Goods	18.69	21.41	24.31	27.38	30.55
Total Sales	**645.09**	**748.90**	**857.86**	**975.80**	**1,103.29**
Variable & Semi Variable Exp.					
Raw Material Consumed	468.00	530.64	596.16	664.56	735.84
Electricity Exp/Coal Consumption at 85%	21.42	25.70	30.84	37.01	44.42
Wages & Salary at 60%	42.08	47.96	54.76	62.65	71.80
Selling & adminstrative Expenses 80%	2.51	4.48	10.26	13.62	17.60
Interest on working Capital	3.52	3.52	3.52	3.52	3.52
Repair & maintenance	12.53	18.65	23.51	26.75	30.25
consumables	7.83	13.06	19.24	26.75	30.25
Total Variable & Semi Variable Exp	**557.89**	**644.02**	**738.30**	**834.86**	**933.68**
Contribution	**87.20**	**104.88**	**119.56**	**140.94**	**169.61**
Fixed & Semi Fixed Expenses					
Electricity Exp/Coal Consumption at 15%	3.78	4.54	5.44	6.53	7.84
Wages & Salary at 40%	28.06	31.98	36.51	41.76	47.86
Interest on Term Loan	9.49	8.36	6.00	3.64	1.28
Depreciation	19.23	16.35	13.91	11.83	10.06
Selling & adminstrative Expenses 20%	0.63	1.12	2.56	3.40	4.40
Rent	18.00	19.80	21.78	23.96	26.35
Total Fixed Expenses	**79.18**	**82.14**	**86.20**	**91.12**	**97.79**
Capacity Utilization	**50%**	**55%**	**60%**	**65%**	**70%**
OPERATING PROFIT	**8.02**	**22.74**	**33.36**	**49.82**	**71.81**
BREAK EVEN POINT	**45%**	**43%**	**43%**	**42%**	**40%**
BREAK EVEN SALES	**585.74**	**586.51**	**618.47**	**630.88**	**636.14**

FINANCIAL INDICATORS

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
TURNOVER	626.40	746.17	854.97	972.72	1,100.13
GROSS PROFIT	84.46	106.54	128.67	154.26	186.90
G.P. RATIO	**13.48%**	**14.28%**	**15.05%**	**15.86%**	**16.99%**
NET PROFIT	8.02	22.74	33.36	49.82	71.81
N.P. RATIO	**1.28%**	**3.05%**	**3.90%**	**5.12%**	**6.53%**
CURRENT ASSETS	66.81	74.53	84.96	95.60	107.37
CURRENT LIABILITIES	47.70	50.19	52.47	54.87	57.39
CURRENT RATIO	**1.40**	**1.48**	**1.62**	**1.74**	**1.87**





10. IMPLEMENTATION SCHEDULE

Implementation Schedule

S.N.	Activity	Time Required (in Months)
1	Acquisition Of premises	1-2
2	Procurement & installation of Plant & Machinery	2-2
3	Arrangement of Finance	2-3
4	Requirement of required Manpower	1-2
	Total time Required (some activities shall run concurrently)	5-6 Months

11. ASSUMPTIONS

Item	Remarks
Sales Volume Increase Per Annum	5%
Sales Price Increase Per Annum	5%
Increase in Staff Salaries	10% Per annum
Increase in Utilities	10% Per Annum
Loan Period	5 years
Loan Installments	Monthly
Financial Charges	11% per annum
Working Days Per annum	300 Days