## PROJECT REPORT

## Of

## INTERLOCKING BRICKS

## PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Interlocking Brciks.

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.
[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

## PROJECT AT A GLANCE

1 Name of the Entreprenuer
2 Constitution (legal Status)
3 Father / Spouse Name
4 Unit Address

5 Product and By Product

6 Name of the project / business activity proposed:

7 Cost of Project
8 Means of Finance
Term Loan
Own Capital
Working capital
9 Debt Service Coverage Ratio
10 Pay Back Period
11 Project Implementation Period
12 Break Even Point
13 Employment
14 Power Requirement
15 Major Raw materials
16 Estimated Annual Sales Turnover (Max Capacity)
17 Detailed Cost of Project \& Means of Finance

COST OF PROJECT

| (Rs. In Lakhs) |  |
| :--- | ---: |
| Particulars | Amount |
| Band | Own/Rented |
| Plant \& Machinery | 5.00 |
| Furniture \& Fixtures | 10.80 |
| Working Capital | 1.50 |
| Total | 2.78 |

MEANS OF FINANCE
xxyxxyxyxx
xyxyxyxyxx
xyxuxyzxyxyx


| District: | $x x x x x x x$ <br> $x x x x x x x$ <br> Pin: <br> Mobile | $x x x x x x$ |
| :--- | ---: | ---: |

INTERLOCKING BRICKS

INTERLOCKING BRICKS MAKING UNIT
: Rs.20.08 Lakhs

Rs.15.57 Lakhs
Rs.2.01 Lakhs
Rs.2.5 Lakhs
2.03

5 Years
5-6 Months
29\%
8 Persons
30.00 HP

Portland cement, Sand, Dust, Jelly and other materials
Portland cement, Sand, Dust, Jelly and other material
446.74 Lakhs
年

| Particulars | Amount |
| :--- | ---: |
| Own Contribution | 2.01 |
| Working Capital(Finance) | 2.50 |
| Term Loan | 15.57 |
| Total | $\mathbf{2 0 . 0 8}$ |

## INTERLOCKING BRICKS

Introduction: The block's sizes are modular and rectangular ( 250 mm length, 210 mm wide and 125 mm high) in shape. Corner or junction block is required to maintain right angle corner or a proper T-junction. The interlocking block is different from conventional blocks or bricks since they do not require mortar for its laying work. Because of this characteristic, the process of building walls and other structures are faster as the blocks are laid dry and lock into place. Almost any type of building can be constructed with interlocking blocks, which has projection and depression to key each other. They are pre-cast solid products made out of cement concrete. The product is made in various sizes and shapes viz. rectangular, square and round blocks of different dimensions with designs for interlocking of adjacent tiles blocks.


Shapes \& sizes: A variety of interlocking blocks have been developed during the past years, differing in shapes and sizes, depending on the required strengths and uses. The system developed has the following shapes and forms:
(i) Full blocks ( $300 \times 125-150 \times 100 \mathrm{~mm}$ ) for all standard walls (single or double block thick).
(ii) Half blocks ( $150 \times 125-150 \times 100 \mathrm{~mm}$ ), which can be molded to size, or made by cutting freshly molded full blocks in half.
(iii) Channel blocks, same sizes as full and half blocks, but with a channel along the long axis, into which reinforcing steel and concrete can be placed to form lintels or ring beams.
(iv) The vertical sides of the blocks can be flat or have recesses, and the vertical grout holes can be square or round.
(v) Inserts for electrical switch housing and conduits as well as water piping outlets can be incorporated.
(vi) Special blocks for window sills.

## Advantages of Interlocking Block:

The advantages of interlocking Block are:
(i) Construction with interlocking block saves time and ample amount of mortar concrete compared to conventional masonry block laid with mortar
(ii)Areas prone to earthquake uses hollow interlocking block with the strength improved with grout and reinforcement throughout the height of the wall to resist the effect of earthquake, thus, providing adequate structural stability against collapse
(iii) Having formed the base course, other course can be assembled by unskilled labour
(iv) Dismantling of the blocks in case of temporary structure does not incur much damages as in blocks laid with mortar
(v) Cost of construction is relatively less.

Market Potential: Interlocking cement tiles and paving blocks find applications in pavements, footpaths, gardens, passenger waiting sheds, bus-stops, industry and other public places. The product is commonly used in urban areas for the above applications. Hence, the unit may be set up in urban and semi-urban areas, near the market. A lot of face-lift is being given to roads, footpaths along the roadside. These bricks are ideal materials on the footpaths for easy laying, better look and finish. Whereas the tiles find extensive use outside the large building and houses, lots of these materials are also used in flooring in the open areas of public offices and commercial buildings and residential apartments.

Machinery \& equipment requirement: Basic machines \& equipments are:

| Name | Qty | Price |
| :--- | :--- | :--- |
| Hydraulically operated Concrete block making <br> machine | 3 | 800000 |
| Concrete mixer capacity | 1 | 90000 |
| Water pump | 1 | 40000 |
| Colour mixer | 1 | 100000 |
| Other machines \& equipments |  | 50000 |

Raw materials: Basic raw material requirements are as follows:

1. Portland cement
2. Sand
3. Jelly
4. Dust
5. Other material \& consumables

Manufacturing Process: The process of Manufacture of interlocking bricks involves the following steps:
a) Proportioning
b) Mixing
c) Compacting
d) Curing
e) Drying

## Area:

The industrial setup requires space for Inventory, workshop or manufacturing area space for power supply utilities and auxiliary like Generator setup. Also some of the area of building is required for office staff facilities, documentation, office furniture, etc. Thus, the approximate total area required for complete industrial setup is 1000 to 1400 Sqft . Civil work will cost around 5 Lac (approx.)

Power Requirement -The power consumption required to run all the machinery could be approximated as 30 hp .

Manpower Requirement- There are requirement of skilled machine operators to run the machine set. Experience quality engineers are required for desired quality control. Some helpers are also required to transfer the material from one work station to other. Office staffs are required to maintain the documentation. The approximate manpower required is 8 including 1 Supervisor, 1 Plant operator, 1 unskilled worker, 1 Helper and 1 security Guard. 3 Skilled worker including Accountant, Manager and sales personal each.

## Approvals \& Registration Requirement:

Basic registration required in this project:

- GST Registration
- Udyog Aadhar Registration (Optional)
- Choice of a Brand Name of the product and secure the name with Trademark if require

Bank Term Loan: Rate of Interest is assumed to be at 11\%

Depreciation: Depreciation has been calculated as per the Provisions of Income Tax Act, 1961

## Implementation Schedule:

| S No. | Activity | Time required |
| :--- | :--- | :--- |
| 1. | Acquisition of premises | $1-2$ Months |
| 2. | Procurement \& installation of Plant \& Machinery | $1-2$ Months |
| 3. | Arrangement of Finance | $1.5-2$ Months |
| 4. | Requirement of required Manpower | 1 Month |
| 5. | Commercial Trial Runs | 1 Month |
|  | Total time Required (some activities shall run <br> concurrently) | $5-6$ Months |

## FINANCIALS

| PROJECTED CASH FLOW STATEMENT |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| PARTICULARS | I | II | III | IV | V |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| SOURCES OF FUND |  |  |  |  |  |
|  |  |  |  |  |  |
| Own Contribution | 2.01 | - |  |  |  |
| Reserve \& Surplus | 3.68 | 5.20 | 6.70 | 8.35 | 10.33 |
| Depriciation \& Exp. W/off | 2.27 | 1.96 | 1.70 | 1.47 | 1.27 |
| Increase In Cash Credit | 2.50 |  |  |  |  |
| Increase In Term Loan | 15.57 | - | - | - | - |
| Increase in Creditors | 0.18 | 0.03 | 0.02 | 0.02 | 0.02 |
|  |  |  |  |  |  |
| TOTAL: | 26.21 | 7.19 | 8.42 | 9.84 | 11.62 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| APPLICATION OF FUND |  |  |  |  |  |
|  |  |  |  |  |  |
| Increase in Fixed Assets | 17.30 | - | - | - | - |
| Increase in Stock | 0.51 | 0.08 | 0.08 | 0.09 | 0.09 |
| Increase in Debtors | 2.66 | 0.49 | 0.48 | 0.51 | 0.54 |
| Repayment of Term Loan | 1.73 | 3.46 | 3.46 | 3.46 | 3.46 |
| Taxation | - | - | 1.67 | 2.09 | 2.58 |
| Drawings | 2.00 | 2.50 | 2.50 | 3.00 | 4.00 |
| TOTAL: | 24.19 | 6.53 | 8.20 | 9.14 | 10.67 |
|  |  |  |  |  |  |
| Opening Cash \& Bank Balance | - | 2.01 | 2.67 | 2.89 | 3.58 |
|  |  |  |  |  |  |
| Add: Surplus | 2.01 | 0.65 | 0.22 | 0.70 | 0.95 |
|  |  |  |  |  |  |
| Closing Cash \& Bank Balance | 2.01 | 2.67 | 2.89 | 3.58 | 4.53 |




## COMPUTATION OF SALE

| Particulars | I | II | III | IV | V |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Op Stock | - | 4,500.00 | 5,000.00 | 5,500.00 | 6,000.00 |
|  |  |  |  |  |  |
| Production | 2,70,000.00 | 3,00,000.00 | 3,30,000.00 | 3,60,000.00 | 3,90,000.00 |
|  |  |  |  |  |  |
|  | 2,70,000.00 | 3,04,500.00 | 3,35,000.00 | 3,65,500.00 | 3,96,000.00 |
| Less : Closing Stock(5 Days) | 4,500.00 | 5,000.00 | 5,500.00 | 6,000.00 | 6,500.00 |
|  |  |  |  |  |  |
| Net Sale | 2,65,500.00 | 2,99,500.00 | 3,29,500.00 | 3,59,500.00 | 3,89,500.00 |
|  |  |  |  |  |  |
| Sale Price per brick | 10.00 | 10.50 | 11.00 | 11.50 | 12.00 |
|  |  |  |  |  |  |
| Sale (in Lacs) | 26.55 | 31.45 | 36.25 | 41.34 | 46.74 |


COMPUTATION OF RAW MATERIAL

| Item Name | Quantity of Raw <br> Material | Unit | Unit Rate of | Total CostPer <br> Annum $(100 \%)$ |  |
| :--- | :--- | :--- | :--- | ---: | ---: |
| Portland cement |  | 170.00 | Ton | $6,500.00$ | $11,05,000.00$ |
| Sand |  | 95.00 | Ton | $4,000.00$ | $3,80,000.00$ |
| Jelly |  | 60.00 | Ton | $1,200.00$ | $72,000.00$ |
| Dust |  | 45.00 | Ton | $1,000.00$ | $45,000.00$ |
| Other material \& consumables |  |  |  | 8 |  |
| Total |  |  | $80,000.00$ |  |  |
|  |  |  |  |  |  |
| Total Raw material in Rs lacs |  |  | $\mathbf{1 6 , 8 2 , 0 0 0 . 0 0 ~}$ |  |  |


| COMPUTATION OF CLOSING STOCK \& WORKING CAPITAL |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |
| PARTICULARS | I | II | III | IV | V |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Finished Goods |  |  |  |  |  |
| (5 Days requirement) | 0.38 | 0.45 | 0.51 | 0.59 | 0.66 |
| Raw Material |  |  |  |  |  |
| (5 Days requirement) | 0.13 | 0.15 | 0.16 | 0.18 | 0.19 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
| Closing Stock | 0.51 | 0.59 | 0.68 | 0.76 | 0.85 |


| COMPUTATION OF WORKING CAPITAL REQUIREMENT |  |  |  |
| :--- | ---: | ---: | ---: |
| Particulars |  |  |  |
|  | Amount | Margin(10\%) | Net |
|  |  |  | Amount |
| Stock in Hand | 0.51 |  |  |
| Less: |  |  |  |
| Sundry Creditors | 0.18 |  |  |
| Paid Stock | $\mathbf{0 . 3 3}$ | $\mathbf{0 . 0 3}$ | $\mathbf{0 . 3 0}$ |
|  |  |  |  |
| Sundry Debtors | 2.66 | 0.27 | 2.39 |
| Working Capital Requirement |  |  | $\mathbf{2 . 6 9}$ |
|  |  |  | 0.30 |
| Margin |  |  |  |
|  |  |  | $\mathbf{2 . 6 9}$ |
| MPBF |  |  | $\mathbf{2 . 5 0}$ |
| Working Capital Demand |  |  |  |


| BREAK UP OF LABOUR |  |  |  |  |
| :--- | :--- | :--- | :--- | ---: |
|  |  |  |  |  |
| Particulars |  | Wages | No of | Total |
|  |  | Per Month | Employees | Salary |
| Supervisor |  | $12,000.00$ | 1 | $12,000.00$ |
| Plant Operator |  | $10,000.00$ | 1 | $10,000.00$ |
| Unskilled Worker |  | $6,000.00$ | 1 | $6,000.00$ |
| Helper |  | $4,000.00$ | 1 | $4,000.00$ |
| Security Guard |  | $6,000.00$ |  | 1 |
|  |  |  |  | $6,000.00$ |
|  |  |  |  | $38,000.00$ |
| Add: $5 \%$ Fringe Benefit |  |  |  | $1,900.00$ |
| Total Labour Cost Per Month |  |  |  | $39,900.00$ |
| Total Labour Cost for the year ( In Rs. Lakhs) |  |  | 5 | 4.79 |


| BREAK UP OF SALARY |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- |
|  |  |  |  |  |
| Particulars |  | Salary | No of | Total |
|  |  | Per Month | Employees | Salary |
| Manager |  | $10,000.00$ | 1 | $12,000.00$ |
| Accountant cum store keeper |  | $8,000.00$ | 1 | $8,000.00$ |
| Sales |  | $6,000.00$ |  | 1 |
| Total Salary Per Month |  |  |  | $26,000.00$ |
|  |  |  |  |  |
| Add: 5\% Fringe Benefit |  |  |  | $1,300.00$ |
| Total Salary for the month |  |  |  | $27,300.00$ |
|  |  |  |  |  |
| Total Salary for the year ( In Rs. Lakhs) |  |  |  | 3 |



| REPAYMENT SCHEDULE OF TERM LOAN |  |  |  |  |  | 11.0\% |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Year | Particulars | Amount | Addition | Total | Interest | Repayment | Cl Balance |
| I | Opening Balance |  |  |  |  |  |  |
|  | Ist Quarter | 15.57 | - | 15.57 | 0.43 | - | 15.57 |
|  | Iind Quarter | 15.57 | - | 15.57 | 0.43 | - | 15.57 |
|  | IIIrd Quarter | 15.57 | - | 15.57 | 0.43 | 0.87 | 14.71 |
|  | Ivth Quarter | 14.71 | - | 14.71 | 0.40 | 0.87 | 13.84 |
|  |  |  |  |  | 1.69 | 1.73 |  |
| II | Opening Balance |  |  |  |  |  |  |
|  | Ist Quarter | 13.84 | - | 13.84 | 0.38 | 0.87 | 12.98 |
|  | Iind Quarter | 12.98 | - | 12.98 | 0.36 | 0.87 | 12.11 |
|  | IIIrd Quarter | 12.11 | - | 12.11 | 0.33 | 0.87 | 11.25 |
|  | Ivth Quarter | 11.25 |  | 11.25 | 0.31 | 0.87 | 10.38 |
|  |  |  |  |  | 1.38 | 3.46 |  |
| III | Opening Balance |  |  |  |  |  |  |
|  | Ist Quarter | 10.38 | - | 10.38 | 0.29 | 0.87 | 9.52 |
|  | Iind Quarter | 9.52 | - | 9.52 | 0.26 | 0.87 | 8.65 |
|  | IIIrd Quarter | 8.65 | - | 8.65 | 0.24 | 0.87 | 7.79 |
|  | Ivth Quarter | 7.79 |  | 7.79 | 0.21 | 0.87 | 6.92 |
|  |  |  |  |  | 1.00 | 3.46 |  |
| IV | Opening Balance |  |  |  |  |  |  |
|  | Ist Quarter | 6.92 | - | 6.92 | 0.19 | 0.87 | 6.06 |
|  | Iind Quarter | 6.06 | - | 6.06 | 0.17 | 0.87 | 5.19 |
|  | IIIrd Quarter | 5.19 | - | 5.19 | 0.14 | 0.87 | 4.33 |
|  | Ivth Quarter | 4.33 |  | 4.33 | 0.12 | 0.87 | 3.46 |
|  |  |  |  |  | 0.62 | 3.46 |  |
| V | Opening Balance |  |  |  |  |  |  |
|  | Ist Quarter | 3.46 | - | 3.46 | 0.10 | 0.87 | 2.60 |
|  | Iind Quarter | 2.60 | - | 2.60 | 0.07 | 0.87 | 1.73 |
|  | IIIrd Quarter | 1.73 | - | 1.73 | 0.05 | 0.87 | 0.86 |
|  | Ivth Quarter | 0.86 |  | 0.86 | 0.02 | 0.87 | 0.00 |
|  |  |  |  |  | 0.24 | 3.46 |  |


| Door to Door Period | 60 | Months |
| :--- | ---: | :--- |
| Moratorium Period | 6 | Months |
| Repayment Period | 54 | Months |




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