**PROJECT PROFILE FOR COIR PITH BLOCK MAKING UNIT**

**PRODUCT : COIR PITH BLOCK**

**PRODUCTION CAPACITY (P.A)**

**(100% CAPACITY) : 1050 TONS**

**VALUE : RS.131.25 LAKHS**

**MONTH & YEAR OF PREPARATION : JUNE 2018**

**PREPARED BY : COIR BOARD, MINISTRY OF MSME,**

 **GOVT OF INDIA**

* **INTRODUCTION**

Coir pith or dust is a biomass residue generated during the extraction of coir fibre from coconut husk and is a byproduct of the coir industry. The coir pith is a very light and compressible material. It is highly hygroscopic and holds water of 7 to 8 fold by weight. Coir pith has an ability to be compressed into a wide range of added value products such as seed cells, propagation modules all the way.

The major properties of coir pith are:

* High water holding capacity, i.e., 6-8 times than its weight.
* Excellent moisture retention even after drying.
* Slow degradation due to high lignocellulose bonding.
* High porosity, stores and releases nutrients over extended periods of time.
* Greater physical resiliency that with stands compression better.
* Excellent aeration / oxygenation providing enhanced root penetration.
* Acceptable Electrical Conductivity (EC), pH and Cation Exchange Capacity CEC).
* 100% degradable, organic and a renewable resource.

It is more suitable for growing media (in agriculture). Most of the Green houses are using this media for various cultivation like flowers, fruits, vegetables, ornamental plants & medicinal plants etc. throughout the world.

* **PROCESS OF MANUFACTURE**

Coir pith block is specially designed for commercial nurseries and greenhouses. This soil conditioner is suitable for all types of garden plants, lawns, flowers, orchids and vegetables in pots or on the ground. The coir pith is compressed into very small packs of 650 gm, shrink wrapped which is most suitable to the hobby market and home garden owners.

**Coir pith Block Specifications**

Available Sizes- 5 kg and 650 gm

|  |  |  |
| --- | --- | --- |
| **Parameters** | **5 Kg Block** |  **650 gm Block** |
| Weight | 5 Kg +/- 0.3 Kg | 650gm +/- 30gm |
| Size | 30 x 30 x 13 cm | 20 x 10 x 5 cm |
| Compression ratio | 5:1 | 8:1 |
| Moisture content | < 20% | < 20% |
| Electrical Conductivity | < 0.5 millimhos/cm | < 0.5 millimhos/cm |
| Expanded Volume | 13 to 14 L/Kg | 8 to 9 L/Kg |

* **BASIS AND PRESUMTIONS**
* The Project Profile is based on 8 working hours in a day and 175 days in a year and the Break Even efficiency has been calculated at 70%, 75%, 80%, 90% and 100% capacity utilization.
* The rate of interest both for fixed asset and working capital have been taken as 12.5% p.a.
* **TECHNICAL ASPECTS**

Installed Production capacity per shift/machine : 6.0 per shift

Number of machine : 1

Number of Shift per day : 1

Working days p.a : 175 days

Yield wastage : 40%

Capacity Utilization

-First year : 70%

-Second year : 75%

-Third year : 80%

-Fourth year : 90%

-Fifth year : 100%

Rate of Average Sales Realization : Rs. 12500 /-per ton

Rate of Average cost of raw material : Rs.5000 /-per ton

Interest on term Loan : 12.50%

Interest on working capital : 12.50%

**Manpower requirement**

 Supervisor : 1

 Semi/unskilled worker : 22

Total HP required : 20 HP

***All the machineries and equipments mentioned in the Project profile are of indigenous make and are of medium price.***

**FINANCIAL ASPECTS**

**i) Cost of Project**

 **Amount**

* Land : Lease/owned
* Work shed : Rs. 450000/-
* Machinery &Equipments : Rs.1607000/-
* Working Capital Rs .443000/-

 **--------------------- Total : Rs. 2500000/-**

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|  |  |  |  |
| --- | --- | --- | --- |
| **Sl.****No** | **Description of machines &equipments** | **Qty** | **Amount (Rs)** |
| 1 | Coir pith Compacting machine with electrical ( 5kg Block) 20 HP | 1 | 1320000.00 |
| 2 | Screener – 2 HP (8 feet length) | 1 |  120000.00 |
| 3 | Other accessories | 1 |  167000.00 |
| **Total** |  |  1607000.00 |

**ii) Means of Finance**

* Promoters Capital 5% : Rs. 125000/-
* Bank Term loan 95% : Rs.1954000/-
* WC Loan from Bank 95% : Rs. 421000/- ----------------------

**Total : Rs.2500000/-**

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* **DETAILS OF THE PROFITABILITY OF THE PROJECT**

**Rs.in Lakhs**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Years** |  | **1** | **2** | **3** | **4** | **5** |
| Installed Production capacity/machine/shift | Tons | 6 | 6 | 6 | 6 | 6 |
| Number of machines |  | 1 | 1 | 1 | 1 | 1 |
| Number of shift/day |  | 1 | 1 | 1 | 1 | 1 |
| Working days per annum |  | 175 | 175 | 175 | 175 | 175 |
| Installed production capacity per annum |  | 1050 | 1050 | 1050 | 1050 | 1050 |
| Capacity utilization |  | 70% | 75% | 80% | 90% | 100% |
| Annual production quantity | Tons | 735 | 788 | 840 | 945 | 1050 |
| **Annual Sales Realization** | Rs. 12500 | **91.88** | **98.44** | **105.00** | **118.13** | **131.25** |
| Cost of Production  |
| Raw material requirement | Tons | 1029.00 | 1102.50 | 1176.00 | 1323.00 | 1470.00 |
| Cost of raw material | Rs.5000  | 51.45 | 55.13 | 58.80 | 66.15 | 73.50 |
| Power cost |  | 1.30 | 1.40 | 1.49 | 1.68 | 1.86 |
| Spares, Repairs & maintenance | 2% | 0.32 | 0.39 | 0.46 | 0.56 | 0.67 |
| Wages & salary |  | 24.54 | 25.77 | 28.34 | 31.18 | 34.30 |
| Lease rent |  | 1.20 | 1.32 | 1.45 | 1.60 | 1.76 |
| **Cost of Production** |  | **78.82** | **84.00** | **90.55** | **101.16** | **112.08** |
| **Gross Profit** |  | **13.06** | **14.44** | **14.45** | **16.97** | **19.17** |
| Administrative & Selling expenses |  | 1.84 | 1.97 | 2.10 | 2.36 | 2.63 |
| Interest on Term Loan |  | 2.05 | 2.17 | 1.80 | 0.65 | 0.28 |
| Interest on Working capital |  | 0.53 | 0.53 | 0.53 | 0.53 | 0.53 |
| Depreciation of machinery |  | 1.61 | 1.61 | 1.61 | 1.61 | 1.61 |
| Depreciation of building |  | 0.23 | 0.23 | 0.23 | 0.23 | 0.23 |
| **Total** |  | **6.26** | **6.51** | **6.27** | **5.38** | **5.28** |
| **Net Profit** |  | **6.8** | **7.93** | **8.18** | **11.59** | **13.89** |

* **ESTIMATION OF BREAK EVEN POINT**

Rs in Lakhs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Particulars** | **1** | **2** | **3** | **4** | **5** |
|  | 70% | 75% | 80% | 90% | 100% |
| Break-even point | 52% | 50% | 48% | 38% | 34% |
| Break even Production | 384 | 390 | 407 | 354 | 352 |

* **DEBT SERVICE COVERAGE RATIO**

Rs in Lakhs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Particulars** | **1** | **2** | **3** | **4** | **5** |
|  | 70% | 75% | 80% | 90% | 100% |
| DSCR | 2.97 | 2.29 | 2.44 | 3.85 | 4.89 |
| Average DSCR | 3.29 |  |  |  |  |
| DSCR weighted average | 3.14 |  |  |  |  |

* **WORKING CAPITAL REQUIREMENTS**

Rs in Lakhs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Particulars** | **1** | **2** | **3** | **4** | **5** |
|  | 70% | 75% | 80% | 90% | 100% |
| Variable Cost | 78.82 | 84.00 | 90.55 | 101.16 | 112.08 |
| Fixed Cost | 6.26 | 6.51 | 6.27 | 5.38 | 5.28 |
| Working capital Gap | 4.43 | 4.75 | 5.11 | 5.74 | 6.39 |