**PROJECT PROFILE FOR COIR DIVERSIFIED PRODUCT PRODUCTION UNIT**

**PRODUCT : COIR MOULDED TRAY ROUNDED/**

 **RECTANGLE 12” DIA OR 10”x13”**

**PRODUCTION CAPACITY (P.A)**

**(100% CAPACITY) : 48000 PIECES**

**VALUE : RS.52.80 LAKHS**

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

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

 **GOVT OF INDIA**

* **INTRODUCTION**

Coir wood made from coir fibre and resin has diversified new uses that will save the tropical forests, increases rural employment opportunities and also promotes agriculture leading to sustainable development. The coir composite material has different properties from their constituents alone. Coir wood composites can be made using coir as reinforcing material with or without plantation timber (Veneers like rubber veneer, bamboo, jute, glass) in between as a secondary reinforcement and then impregnated with polymeric matrix material like phenolic, polyester, epoxy etc. and processed under controlled temperature and pressure. The primary advantage of the coir wood composites is due to the coir, which is natural, eco-friendly and abundantly available material. The coir reinforcement fibre could be of coir felt, coir rope or coir sliver etc.

* **PROCESS OF MANUFACTURE**

Coir needled felt is the raw material and it is a non-woven fabric made from decorticated coir fibre. In the manufacturing process, well cleaned coir fibre of good staple length passes through the cleaning machines by pneumatic suction and is needled by the needle loom on one side to evolve felts of different density, punching intensity, needle penetration and thickness. The fibreis mechanically bonded (interlocked) to form a continuous length of sheet. No bonding material is used in the manufacture of Coir needled felt.

## The Coir needled felt is converted into coir polymer composite boards using the phenol formaldehyde resin with which it is padded, dried and cured in the hydraulic press. The incorporation of controlled amount of resin to coir needled felt is achieved by polymer impregnation process in which a resin carrier fabric is pressed against the needled felt so that a part of the resin is transferred to the needled felt from the resin carrier fabric instantaneously. The resin up take by the needled felt is controlled mainly by the resin carrying capacity of the fabric, pressure applied on the needled felt over the fabric, speed and the properties of the resin such as viscosity and solid content. Composite products from prepreg sheets are prepared by hot press moulding. The prepregsheets are cut into the required size and stacked one over the other. The number of layers is dependent on the requirement of thickness of the component and the pressure applied for moulding varies depending on the density and surface finish of the product. The overall mechanical strength of the fibre reinforced plastic depends on the combined effect of the amount and kind of reinforcement and on its arrangement in the finished article.

**BASIS AND PRESUMTIONS**

* The Project Profile is based on 8 working hours for2shifts in a day and 25 days in a month and the Break Even efficiency has been calculated on 70%, 80%, 90%, 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 : 80 pieces

Number of Shift per day : 2

Working days p.a : 300 days

Capacity Utilization

-First year : 70%

-Second year : 80%

-Third year : 90%

-Fourth year : 90%

-Fifth year : 100%

Rate of Average Sales Realization : Rs. 110/-per piece

Rate of Average cost of raw material : Rs.45/- per piece

Interest on term Loan : 12.50%

Interest on working capital : 12.50%

**Manpower requirement**

Skilled worker : 1

 Unskilled worker : 8

 Total HP required : 12 HP

* **FINANCIAL ASPECTS**

**i) Cost of Project**

 **Amount**

* Land : Lease/owned
* Building : Rs. 500000/-
* Machinery &Equipments : Rs.1661000/-
* Working Capital Rs.339000/-

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

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|  |  |  |  |
| --- | --- | --- | --- |
| **Sl.****No** | **Description of machines &equipments** | **Qty** | **Amount (Rs)** |
| 1 | Coir mat impregnating machine | 1 |  150000.00 |
| 2 | Hot compression moulding machine | 1 |  700000.00 |
| 3 | Humidity oven | 1 |  225000.00 |
| 4 | Edge trimming machine | 1 |  200000.00 |
| 5 | Dies | 5 |  200000.00 |
| 6 | Testing equipments | 1 |  5000.00 |
| 7 | Weighing balance | 1 |  7500.00 |
| 8 | Electrical fittings & accessories |  |  173500.00 |
| **Total** |  | 1661000.00 |

**ii) Means of Finance**

* Promoters Capital 5% : Rs. 125000/-
* Bank Term loan 95% : Rs.2053000/-
* WC Loan from Bank 95% : Rs. 322000/- ---------------------

**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 per shift per day | *pieces* | 80.00  | 80.00  | 80.00  | 80.00  | 80.00  |
| Number of shift/day |  | 2 | 2 | 2 | 2 | 2 |
| Working days per annum |  | 300  | 300  | 300  | 300  | 300  |
| Installed production capacity per annum |  | 48000  | 48000  | 48000  | 48000  | 48000  |
| Capacity utilization |  | 70% | 80% | 90% | 90% | 100% |
| Annual production quantity |  | 33600  | 38400 | 43200  | 43200  | 48000  |
| **Annual Sales Realization** | *Rs. 110* | 36.96  | 42.24  | 47.52  | 47.52  | 52.80  |
| Cost of Production  |
| Cost of raw material | Rs. 45  | 15.12  | 17.28  | 19.44  | 19.44  | 21.60  |
| Power cost |  | 1.15  | 1.32  | 1.48  | 1.48  | 1.65  |
| Wages & salary |  | 7.31  | 8.35  | 9.40  | 9.40  | 10.44  |
| **Cost of Production** |  | **23.58**  | **26.95**  | **30.32**  | **30.32**  | **33.69**  |
| **Gross Profit** |  | **13.38** | **15.29** | **17.2** | **17.2** | **19.11** |
| Administrative & selling expenses | 2.00% | 0.74  | 0.84  | 0.95  | 0.95  | 1.06  |
| Interest on Term Loan |  | 2.19  | 2.28  | 1.88  | 0.70  | 0.30  |
| Interest on Working capital |  | 0.39  | 0.39  | 0.39  | 0.39  | 0.39  |
| Depreciation of machinery |  | 1.67  | 1.67  | 1.67  | 1.67  | 1.67  |
| Depreciation of Building |  | 0.25  | 0.25  | 0.25  | 0.25  | 0.25  |
| **Total** |  | **5.24** | **5.43** | **5.14** | **3.96** | **3.67** |
| **Net Profit** |  | **8.14** | **9.85** | **12.06** | **13.24** | **15.44** |

**ESTIMATION OF BREAK EVEN POINT**

Rs in Lakhs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Particulars** | **1** | **2** | **3** | **4** | **5** |
| Capacity Utilization | 70% | 80% | 90% | 90% | 100% |
| Break-even point | 69% | 62% | 51% | 37% | 29% |
| Break even Production  | 23172  | 23827  | 21976  | 15909  | 14095  |

* **DEBT SERVICE COVERAGE RATIO**

Rs in Lakhs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Particulars** | **1** | **2** | **3** | **4** | **5** |
| Capacity Utilization | 70% | 80% | 90% | 90% | 100% |
| DSCR | 3.17 | 2.52 | 3.08 | 4.01 | 4.98 |
| Average DSCR | 3.55 |  |  |  |  |
| DSCR weighted average | 3.43 |  |  |  |  |

* **WORKING CAPITAL REQUIREMENTS**

Rs in Lakhs

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Particulars** | **1** | **2** | **3** | **4** | **5** |
| Capacity Utilization | 70% | 80% | 90% | 90% | 100% |
| Variable Cost | 23.58 | 26.95 | 30.32 | 30.32 | 33.69 |
| Fixed Cost | 5.24 | 5.43 | 5.14 | 3.96 | 3.67 |
| Working capital Gap | 3.29 | 3.76 | 4.24 | 4.28 | 4.77 |