

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 fibres are 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 uptake 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 prepreg sheets 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 PRESUMPTIONS

- The Project Profile is based on 8 working hours for 2 shifts 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/-

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/-**

DETAILS OF THE PROFITABILITY OF THE PROJECT

Rs.in Lakhs

Years		1	2	3	4	5
Installed Production capacity per shift per day	<i>pieces</i>	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	<i>Rs. 110</i>	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
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