

**PROJECT PROFILE FOR AUTOMATIC COIR YARN**  
**DYEING/BLEACHING UNIT**

<b>PRODUCT</b>	<b>:</b>	<b>DYED YARN</b>
<b>PRODUCTION CAPACITY (P.A)</b>		
<b>(100% CAPACITY)</b>	<b>:</b>	<b>450 TON</b>
<b>VALUE</b>	<b>:</b>	<b>RS.279 LAKHS</b>
<b>MONTH &amp; YEAR OF PREPARATION</b>	<b>:</b>	<b>JUNE 2018</b>
<b>PREPARED BY</b>	<b>:</b>	<b>COIR BOARD, MINISTRY OF MSME, GOVT OF INDIA</b>

• **INTRODUCTION**

Dyeing of Coir fibre / yarn is essential for diversification of markets and for enhancing the appeal and aesthetic value of the products to consumers. A wide range of dyes capable of yielding bright shades of excellent fastness are available for the dyeing of coir yarn. Dye bath assistant is used to assist the transfer of the dye from the dye bath to the fibre substance during the dyeing process without changing the original colour. Mechanized dyeing yield uniform and leveled dyeing, high production.

In the mechanized system of dyeing, coir yarn is dyed, comprising of dye vats with forced circulation of the dye liquor in two-directions on uniformly arranged coir yarn for uniform level dyeing. The temperature is controlled as per the requirement by regulating the flow of heating system. This system of dyeing helps to improve the penetration, shade consistency, uniform dyeing on coir fibre/yarn by the action of temperature, efficient and forced circulation of dye liquor and period of dyeing. This method helps to dye large quantities of material at a time avoiding shade variation compared to the other two processes.

- **PROCESS OF MANUFACTURE**

Hanks of sorted coir yarn are taken and knots are loosened and arranged in the carrier for better penetration of dyestuff. Dyes are pasted with little cold water and dissolved by the addition of boiling water over the paste with stirring. The dye bath is set with the requisite quantity of water and dye solution and dye bath assistant is poured in to the dye tub. The coir is entered at 50°C, the dyeing allowed to continue at boil for 45 minutes to 1 hour. Heating is then discontinued and the stock allowed for dyeing in the cooling bath for 30 minutes, after which the material is taken out, rinsed in cold water, two or three times. After the dyeing operation, hydro-extractors are used to drive out of the major part of the mechanically held up water and finally these materials are dried on the endless conveyor drier, for efficient drying. The drier is designed to drive away the moisture in the coir yarn uniformly with the hot air emerging from the steam-heated coils with the help of powerful blowers.

### **BASIS AND PRESUMPTIONS**

- The Project Profile is based on 8 working hours for 1 shift 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	:	1.50 per ton
Number of Shift per day	:	1
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. 62000

Rate of Average cost of raw material : Rs.45000 per ton

Interest on term Loan : 12.50%

Interest on working capital : 12.50%

**Manpower requirement**

Skilled worker : 1

Unskilled worker : 6

Total HP required : 8 HP

• **FINANCIAL ASPECTS**

**i) Cost of Project**

	<b>Amount</b>
• Land	: Lease/owned
• Building	: Rs. 500000/-
• Machinery & Equipment	: Rs.1599000/-
• Working Capital	: Rs. 401000/-
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<b>Total</b>	<b>: Rs. 2500000/-</b>
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<b>Sl. No</b>	<b>Description of machines &amp; equipment</b>	<b>Amount (Rs)</b>
1	SS Dye Tub having thermic fluid system for heating tub capacity 200 kg	
2	Hydro extractor 2 HP	
3	Drier 5 HP	

4	Weighing Balance, chemical mixing tank, Pipe line etc.	
<b>Total</b>		1599000.00

## ii) Means of Finance

• Promoters Capital	5%	:	Rs. 125000/-
• Bank Term loan	95%	:	Rs.1994000/-
• WC Loan from Bank	95%	:	Rs. 381000/-
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<b>Total</b>		<b>:</b>	<b>Rs.2500000/-</b>
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## DETAILS OF THE PROFITABILITY OF THE PROJECT

Rs.in Lakhs

<b>Years</b>		<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Installed Production capacity per shift per day		1.50	1.50	1.50	1.50	1.50
Number of shift/day		1	1	1	1	1
Working days per annum		300	300	300	300	300
Installed production capacity per annum	<i>ton</i>	450	450	450	450	450
Capacity utilization		70%	80%	90%	90%	100%
Annual production quantity	<i>ton</i>	315	360	405	405	450
<b>Annual Sales Realization</b>	<i>Rs. 62,000</i>	<b>195.30</b>	<b>223.20</b>	<b>251.10</b>	<b>251.10</b>	<b>279.00</b>
<b>Cost of Production</b>						
Cost of raw material	Rs. 45,000	141.75	162.00	182.25	182.25	202.50
Dye stuff & chemicals	Rs. 10,000	31.50	36.00	40.50	40.50	45.00

Repairs and Maintenance	1.00%	0.16	0.18	0.19	0.21	0.23
Insurance		0.10	0.10	0.10	0.10	0.10
Power cost		0.41	0.47	0.53	0.53	0.59
Wages & salary		8.57	9.79	11.02	11.02	12.24
<b>Cost of Production</b>		<b>182.49</b>	<b>208.54</b>	<b>234.59</b>	<b>234.61</b>	<b>260.66</b>
<b>Gross Profit</b>		<b>12.81</b>	<b>14.66</b>	<b>16.51</b>	<b>16.49</b>	<b>18.34</b>
Administrative & selling expenses	1.00%	1.95	2.23	2.51	2.51	2.79
Interest on Term Loan		2.10	2.21	1.83	0.67	0.29
Interest on Working capital		0.48	0.48	0.48	0.48	0.48
Depreciation of machinery		1.60	1.60	1.60	1.60	1.60
Depreciation of Building		0.25	0.25	0.25	0.25	0.25
<b>Total</b>		<b>6.38</b>	<b>6.77</b>	<b>6.67</b>	<b>5.51</b>	<b>5.41</b>
<b>Net Profit</b>		<b>6.43</b>	<b>7.90</b>	<b>9.85</b>	<b>10.99</b>	<b>12.94</b>

- ESTIMATION OF BREAK EVEN POINT

Rs in Lakhs

Particulars	1	2	3	4	5
Capacity Utilization	70%	80%	90%	90%	100%
Break-even point	48%	45%	39%	32%	28%
Break even Production	152	161	158	129	126

- **DEBT SERVICE COVERAGE RATIO**

Rs in Lakhs

<b>Particulars</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Capacity Utilization	70%	80%	90%	90%	100%
DSCR	2.80	2.23	2.73	3.58	4.45
Average DSCR	3.16				
DSCR weighted average	3.04				

- **WORKING CAPITAL REQUIREMENTS**

Rs in Lakhs

<b>Particulars</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Capacity Utilization	70%	80%	90%	90%	100%
Variable Cost	182.49	208.54	234.59	234.61	260.66
Fixed Cost	6.38	6.77	6.67	5.51	5.41
Working capital gap	4.01	4.59	5.18	5.21	5.81