PROJECT PROFILE FOR COIR BRUSH MAKING/TWISTED WIRE MAT PRODUCTION UNIT

PRODUCT	**:**	**COIR BRUSHES**
PRODUCTION CAPACITY (P.A)		
(100% CAPACITY)	**:**	**480000 PIECES**
VALUE	**:**	**RS.100.80 LAKHS**
MONTH & YEAR OF PREPARATION	**:**	**JUNE 2018**
PREPARED BY	**:**	**COIR BOARD, MINISTRY OF MSME, GOVT OF INDIA**

• INTRODUCTION

The common varieties of coir brushes are Commode Brush, Bannister Brush, Floor Sweeping Brush, Table Cleaning Brush, Bottle Cleaning Brush, Scrubbing Brush, Foam Cleaning Brush, Boot Polishing Brush, Hair Brush and Basin Cleaning Brush.

• PROCESS OF MANUFACTURE

Preparation of Coir fibre for Brushes

Bristle fibre of long staple length is preferred which are available in small bundles of 2" diameter. The bristle fibre bundles are untied and the fibres are subjected to a combing process for the removal of adhering pith and short fibres. Combing also helps to parallelize the fibre.

The combing involves drawing of the fibres through a row of steel spikes (nails) usually 8 in numbers, each about 15 cm long, spaced about 2.5 cm apart and fixed vertically on a wooden table or plank.

Manufacture of Coir Brushes

Wooden logs are sawed to sizes with the help of band saw. The resultant wood sections are cut into small sizes by circular saw. The wood sections of smaller size suitable to the type of brush are taken to the thickness planer for planning or to the wood turning lathe for turning as the case may be. After planning or turning, the wood sections are fed to the jig saw for cutting them to the required shape to suit the pattern of brushes. These wood sections are drilled with holes with the help of a sensitive drilling machine. These are then taken for tufting of coir fibre.

The combed coir fibres are cut to suitable length depending on the pile height of the brush with the help of a thistle and hammer or scissors. Small bunches of cut fibres are then pinned together so as to form individual tuft of fibres to fill in the brush holes. The tuft is made by winding the GI wire of suitable gauge (18, 20& 22), cut into 2 cm length in hand lever shearer and bent into "U" shape and pressing the bunches of cut fibre at its central portion with the help of pliers.

The tufts of fibre are then pressed into the holes of the wood material by hammering at the bend portions of the GI wire with the help of a punch and hammer. Thus the entire holes in the wood will be filled with fibre tufts. Thereafter the top portions of the brush will be sheared by a top shearing machine or by hand using scissors.

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	:	800 piece
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. 21 per brush
Rate of Average cost of raw material	:	Rs.11 per brush
Interest on term Loan	:	12.50%
Interest on working capital	:	12.50%
Manpower requirement		
Unskilled worker	:	25
Total HP required	:	12 HP

- **FINANCIAL ASPECTS**

i) Cost of Project

		Amount
• Land	:	Lease/owned
• Building	:	Rs. 500000/-
• Machinery &Equipments	:	Rs.600000/-
• Working Capital		Rs.473000/-

Total	**:**	**Rs. 1573000/-**

Sl. No	Description of machines &equipment	Qty	Amount (Rs)
1	Circular Saw 2 HP		60000.00
2	Wood turning Lathe 2 HP		120000.00
3	Stand Drilling machine		25000.00
4	Top shearing machine 1 HP		40000.00
5	Bench drilling machine		40000.00
6	Wire twisting machine		37000.00
7	Band saw 2 HP		70000.00
8	Planer 2 HP (3 blade, high speed)		100000.00
9	Jig saw 1 HP		54000.00
10	Disc scanner 1 HP		29000.00
11	Sander machine		25000.00
Total			600000.00

ii) Means of Finance

- Promoters Capital 5% : Rs .79000/-
- Bank Term loan 95% : Rs.1045000/-
- WC Loan from Bank 95% : Rs. 449000/-

Total : Rs.1573000/-

DETAILS OF THE PROFITABILITY OF THE PROJECT

Rs.in Lakhs

Years		**1**	**2**	**3**	**4**	**5**
Installed Production capacity per shift per day	*pieces*	800.00	800.00	800.00	800.00	800.00
Number of shift/day		2	2	2	2	2
Working days per annum		300	300	300	300	300
Installed production capacity per annum		480000	480000	480000	480000	480000
Capacity utilization		70%	80%	90%	90%	100%
Annual production quantity		336000	384000	432000	432000	480000

Annual Sales Realization	*Rs. 21*	70.56	80.64	90.72	90.72	100.80
Cost of Production						
Cost of raw material	Rs. 11	36.96	42.24	47.52	47.52	52.80
Power cost		0.80	0.91	1.03	1.03	1.14
Insurance		0.10	0.10	0.10	0.10	0.10
Wages & salary		21.00	24.00	27.00	27.00	30.00
Cost of Production		**58.86**	**67.25**	**75.65**	**75.65**	**84.04**
Gross Profit		**11.7**	**13.39**	**15.07**	**15.07**	**16.76**
Administrative & selling expenses	2.00%	1.41	1.61	1.81	1.81	2.02
Interest on Term Loan		1.06	1.17	0.99	0.32	0.14
Interest on Working capital		0.56	0.56	0.56	0.56	0.56
Depreciation of machinery		0.60	0.60	0.60	0.60	0.60
Depreciation of Building		0.25	0.25	0.25	0.25	0.25
Total		**3.88**	**4.19**	**4.21**	**3.54**	**3.57**
Net Profit		**7.82**	**9.19**	**10.86**	**11.53**	**13.20**

ESTIMATION OF BREAK EVEN POINT

Rs in Lakhs

Particulars	**1**	**2**	**3**	**4**	**5**
Capacity utilization	70%	80%	90%	90%	100%
Break-even point	55%	53%	47%	38%	34%
Break even Production	185632	202571	202846	164296	164630

- **DEBT SERVICE COVERAGE RATIO**

Rs in Lakhs

Particulars	1	2	3	4	5
Capacity utilization	70%	80%	90%	90%	100%
DSCR	5.31	4.19	5.11	7.05	8.79
Average DSCR	6.09				
DSCR weighted average	5.81				

- **WORKING CAPITAL REQUIREMENTS**

Rs in Lakhs

Particulars	1	2	3	4	5
Capacity utilization	70%	80%	90%	90%	100%
Variable Cost	58.86	67.25	75.65	75.65	84.04
Fixed Cost	3.88	4.19	4.21	3.54	3.57
Working capital Gap	4.73	5.41	6.09	6.13	6.83