

# Electro Cardiogram Paper (E.C.G. Paper)

PRODUCT CODE	: N.A.
QUALITY AND STANDARDS	: As per customer's Specification
PRODUCTION CAPACITY	: 108000 Rolls E.C.G. Paper (Size 50 mm x 20 Meter Roll per annum).
MONTH AND YEAR OF PREPARATION	: January, 2003
PREPARED BY	: Small Industries Service Institute, 22, Godam, Industrial Estate, Jaipur-302 066 (Rajasthan) Phone Nos. : (0141) 2372098, 2372090 Fax No. : (0141) 036502354

## INTRODUCTION

E.C.G. Paper is a specialized paper used for recording of signals in the Electro Cardio Graphic machine, which is used for cardiac investigations. Manufacture of this paper does not involve high investment on plant and machinery and therefore, can be manufactured in the small scale sector economically.

## MARKET POTENTIAL

With the increase in population and increased stress, people undergo in modern times, the incidence of heart disease is on the increase. Most commonly used method for preliminary diagnosis of heart ailments is the Electro Cardio Graphic diagram. The E.C.G. machine records the signals received from the body on the E.C.G. paper. The demand for E.C.G. paper is consistently

increasing and there is a scope for undertaking manufacture of this item by new units.

## BASIS AND PRESUMPTIONS

- 1) The scheme is based on single shift (8 hours) basis and 300 working days per annum.
- 2) The cost of machine and equipment, raw-materials and the selling price of the finished product are those generally obtained at the time of preparation of the project profile and may vary depending upon various factors.
- 3) The time period for achieving full envisaged capacity utilization is three years.
- 4) The interest rates considered are as presently charged by State financial Institution approx. @ 14% per annum.

- 5) The labour wages are considered as per the prevailing rates of State Government. This may vary from place to place.
- 6) The margin money is 25% for fixed and working capital separately.
- 7) The pays back period for the project is 3 years.
- 8) The rent of land and factory shed is taken on prevailing rates. The rent may vary from place to place.

## IMPLEMENTATION SCHEDULE

1. Time required for preparation of project report, selection of site, and SISI registration is 6 months.
2. Time required for availability of finance, loan, construction of Factory Shed, Machinery procurement, erection and commissioning, trial runs and recruitment of staff and labour will take 9 to 12 months.

## TECHNICAL ASPECTS

### Process of Manufacture

The basic raw material used for E.C.G. paper is white paper. This paper is coated black with the help of Black processing machine by coating chemicals. Again this paper is coated white-by-white coating chemicals. The graphing is done on this paper by Graphing machine. This paper is slit to reported size and finally wound up by winding machine and packed.

- (i) The E.C.G. Paper is manufactured as per customer's specifications.
- (ii) The manufacturing of E.C.G. paper does not attract pollution

control measures hence no equipments are needed for pollution control.

## FINANCIAL ASPECTS

### A. Fixed Capital

#### (i) Land and Building

Built up area 200 sq. meters. Rent Rs. 3,000 per month.

#### (ii) Machinery and Equipments

Sl. No.	Description	Ind./ Imp.	Qty.	Amount (Rs.)
1.	Graphing machine	Ind.	2	3,00,000
2.	Coating machine	Do	2	50,000
3.	Mixer	Do	1	60,000
4.	Slitting machine	Do	1	40,000
5.	Winding Machine	Do	4	50,000
6.	Installation and Electrification Charge @ 10% of the cost machinery			50,000
7.	Office furniture			50,000
		Total		6,00,000
8.	Testing equipments			50,000
	<i>Pre-operative expenses</i>			25,000
		Total		6,75,000

### B. Working Capital (per month)

#### (i) Personnel

Staff and Labour (per month)		(Rs.)
a)	Supervisor	1 5,000
b)	Accountant-cum-Storekeeper	1 2,500
c)	Skilled workers	2 4,000
d)	Unskilled worker	1 1,500
e)	Chowkidar	1 1,500
	Total	14,500
	<i>Prequisites @ 15% salaries</i>	2,500
	Total	17,000

## (ii) Raw Material (per month)

Name of the raw-material	Indigenous/Imported	Qty.	Rate (Rs.)	Value (Rs.)
White paper	Indigenous	300 Rolls. (Size 100 meter × 0.3 meter)	@ 600 per rolls L.S.	1,80,000
Coating chemicals	-do-	-do-	L.S.	20,000
Total				2,00,000

(iii) Utilities	(Rs.)
Power	3,000
Water	500
Total	3,500

(iv) Other Contingent Expenses (per month)	(Rs.)
Postage and Stationery	1,000
Repair and Maintenance	1,000
Rent	3,000
Advertisement and Publicity	2,000
Telephone charges	2,000
Conveyance and Transport	2,500
Sale Expenses	2,300
Insurance	700
Total	14,500

(v) Total Recurring Expenditure (per month)	(Rs.)
Staff and Labour	17,000
Raw materials	2,00,000
Utilities	3,500
Other contingent expenses	14,500
Total	2,35,000

(vi) Total Working Capital for 3 Months Rs. 7,05,000

**C. Total Capital Investment**

(i) Fixed capital	Rs. 6,75,000
(ii) Working capital for 3 months	Rs. 7,05,000
Total	Rs. 13,80,000

**Machinery Utilization**

The bottleneck equipment in the manufacturing of E.C.G. paper is

Graphing Machines (2 Nos.), which produce 360 rolls. (Size 50 mm × 20 meter per day on single shift basis.

**FINANCIAL ANALYSIS**

(1) Cost of Production (per year)	(Rs.)
Total recurring cost	28,20,000
Depreciation on machinery and equipment @ 10%	67,500
Interest on total capital investment @ 14%	1,93,200
Total	30,80,700
Or say	30,81,000

## (2) Turnover (per year)

Item	Qty.	Rate (Rs.)	Value (Rs.)
E.C.G.	108000 50 mm × 20 mm	per roll @ 35	35,64,000

## (3) Net Profit (per year)

$$= \text{Turnover} - \text{cost of production Before income tax}$$

$$= 35,64,000 - 30,81,000$$

$$= 4,83,000$$

## (4) Net Profit Ratio

$$= \frac{\text{Net profit per year} \times 100}{\text{Turnover per year}}$$

$$= \frac{4,83,000 \times 100}{35,64,000}$$

$$= 13.55\%$$

## (5) Rate of Return

$$= \frac{\text{Net profit per year} \times 100}{\text{Total investment}}$$

$$= \frac{4,83,000 \times 100}{13,80,000}$$

$$= 35\%$$

## (6) Break-even Point (% of Total Production)

(i) Fixed Cost	(Rs.)
a. Rent	36,000
b. Depreciation on machine and equipment @ 10%	67,500
c. Interest on capital investment 14%	1,93,200

Fixed Cost	(Rs.)
d. 40% Salary and Wages	81,600
e. 40% Utilities	16,800
f. 40% other contingent expenses	51,840
g. Insurance	700
Total	4,47,640

$$\begin{aligned}
 \text{B.E.P.} &= \frac{\text{Fixed cost} \times 100}{\text{Fixed cost} + \text{Profit}} \\
 &= \frac{4,47,640 \times 100}{4,47,640 + 4,83,000} \\
 &= 48.10\%
 \end{aligned}$$

#### Addresses of Machinery and Equipment Suppliers

1. M/s. T.S. Enterprises  
E-416, Road No. 14, VKI Area,  
Jaipur-302013.

2. M/s. Micro Mechanical Works  
Lal Bahadur Shastri Marg,  
Vikhroli,  
Mumbai.
3. M/s. Baldev Mechanical Works  
WZ-2A/3, Vishnu Garden,  
Punjabi Market,  
New Delhi.

#### Addresses of Raw Material Suppliers

1. M/s. Print Land  
Near Shalimar Cinema,  
Ajmer Road,  
Jaipur.
2. M/s. Ballarpur Paper Mill.  
Jagadhari,  
Haryana.