

CARD BOARD BOX



1.0 INTRODUCTION

Card Board Boxes of various shapes and sizes are used in packaging of consumer goods like Cosmetics, electrical equipment electrical appliances, auto parts etc. These boxes are also used in packing readymade garments, shirts, trousers, sarees etc. The demand for clothing materials have increased multifold. Over 50% of the paper produced in the country is used for packaging purposes. With the industrial development in the country, the economic conditions of the people have increased substantially and likewise demand for consumer items also increased. For packing these material multi coloured card board boxes are required in large quantities. The entrepreneur can easily set up a card board manufacturing unit.

This project profile is for production of Card Board Boxes with production capacity of 1,20,000 Boxes Per annum, based on 300 working days per annum and 8 working hours per day.

2.0 MARKET POTENTIAL

There is good demand for card board boxes in the country. Each and every town in India requires lakhs of card board boxes for packing of different materials like glass ware, garments, toys, furniture etc. These boxes are generally made of duplex board, mill board, grey board, etc. All most at every town /district level there is requirement for such boxes. There would be no problem in marketing these card board boxes.

3.0 PROCESS DETAILS

The first step in making Cardboard boxes is the cutting of cardboard as per the required shape & size and then they are creased as per the design with the help of creasing machine. Then the creased sides/edges are pasted or stapled. After that, paper or printed label is glued as per requirement and then are laminated after which they are supplied to market.

4.0. COST OF THE PROJECT

The estimated project cost is given below:

		(Rs. in lacs)
Particulars	Amount (Rs)	
Land & Site Development	Rented	
Building & Civil works	Rented	
Plant & Machinery	1.45	
Misc. Fixed assets	0.66	
Preliminary & pre-operative expenses	0.31	
Contingencies & escalation @ 3%	0.06	
Working capital	0.39	
TOTAL	2.87	

4.1 Land & Site Development: Nil. Covered Area: 1,200 Sq. Ft.

4.2 Building & Civil Works: Nil.

4.3 Plant & Machinery: Details of plant & machinery are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Paper Creasing Machine with Motor	1	22000	22000
Paper Cutting Machine with Motor	1	55000	55000
Wire Stitching Machine	1	25000	25000
Dies	1	10000	10000
Miscellaneous Tools and Equipment	LS	--	20000
Sub total			132000
Add: Installation, transportation, etc @ 10%			13200
TOTAL			145200
Say (Rs. in lacs)			1.45

4.4 Misc. Fixed assets: Details of miscellaneous fixed assets are given below.

Particulars	Qty	Rate (Rs)	Amount (Rs)
Electrification	LS	--	15000
Furniture & fixtures	LS	--	25000
Miscellaneous items	LS	--	20000
Sub total			60000
Add: Installation, transportation, etc @ 10%			6000
TOTAL			66000
Say (Rs. in lacs)			0.66

4.5 Contingencies & escalation: Contingencies & escalation has been assumed at 3% of the cost of land & site development, building & civil works, plant & machinery and miscellaneous fixed assets.

4.6 Preliminary & pre-operative expenses: Details of preliminary & pre-operative expenses are given below.

(Rs. In lacs)

Particulars	Amount (Rs)
Travelling expenses	10000
Professional & other fees	12000
Interest during implementation	4224
Miscellaneous expenses	5000
TOTAL	31224
Say (Rs. in lacs)	0.31

4.7 Working capital: Details of working capital are given below.

(Rs. in lacs)

	Period (Days)	Total Current Assets		
		Year 1	Year 2	Year 3
Raw materials	15	0.14	0.17	0.19
Power & Utility	30	0.03	0.03	0.03
Salary	30	0.23	0.23	0.23
Finished Goods	15	0.28	0.31	0.33
Receivables	15	0.30	0.35	0.39
Total		0.97	1.08	1.18
Working capital margin in Year 1 (40%)	0.39			

5.0 MEANS OF FINANCE

The means of finance for the project is estimated as below.

(Rs. in lacs)		
Particulars	Percent	Amount
EQUITY		
A. Equity from Promoters	40%	1.15
B. Subsidy from Central/State Govt.	-	
DEBT		
Term Loan from Banks/Financial Institutions	60%	1.72
TOTAL	100%	2.87

6.0 PROFITABILITY STATEMENT

(Rs. in lacs)					
Particulars	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5
A. INCOME					
Production Capacity (Nos./annum)	120000	120000	120000	120000	120000
Capacity utilisation	60%	70%	80%	80%	80%
Production/annum at capacity utilisation	72000	84000	96000	96000	96000
Total income/annum	7.20	8.40	9.60	9.60	9.60
B. OPERATING EXPENSES					
Raw Materials	3.51	4.10	4.68	4.68	4.68
Power & Utility	0.31	0.36	0.41	0.41	0.41
Salary	2.76	2.77	2.79	2.80	2.82
Repair & Maintenance	0.04	0.04	0.04	0.04	0.04
Other Expenses	0.14	0.17	0.19	0.19	0.19
Total Operating Expenses	6.76	7.44	8.11	8.13	8.14
Operating profit	0.44	0.96	1.49	1.47	1.46
C. FINANCIAL EXPENSES					
Depreciation	0.12	0.12	0.12	0.12	0.12
Interest on Term Loan	0.13	0.11	0.08	0.05	0.02
Interest on Working Capital Loan	0.05	0.05	0.06	0.06	0.06
Net Profit	0.18	0.73	1.29	1.31	1.32
Net cash accruals	0.30	0.85	1.41	1.42	1.44
Principal Repayment	0.19	0.38	0.38	0.38	0.38

6.1 Production capacity and Sales Realisation: Total production of Cardboard Boxes at 100% capacity utilization is estimated as below.

Card Board Boxes	120000 Nos.
Total production per annum at 100% capacity	120000 Nos.

Products	Qty	Average Rate Per Unit (Rs.)	Amount (Rs)
Card Board Boxes	120000 Nos.	10	1200000
Total Sales Turnover per annum at 100% capacity			1200000

6.2 Raw materials: Total expenses on raw materials at 100% capacity utilization are estimated as below.

Products	Qty (In Nos.)	Average Rate Per Unit (Rs.)	Amount (Rs)
Paper Board Sheet	30000	12.5	375000
Colour Paper for Labelling	LS	--	150000
Consumables like Adhesive, Wire etc.	LS	--	60000
Expenses on raw material at 100% capacity (Rs)			585000

6.3 Power & Utility: Total expenses on power & utility at 100% capacity utilization is estimated as below.

Particulars	Quantity	Power (Kw)	Total (Kw)
Plant & Machinery (Total HP of 5)	--	3.73	3.73
General Lighting	10	0.10	1.00
Total power requirement/day (Kw)			4.73
No. of hrs/day	8		
No. of days/annum	300		
Annual power requirement (kwh)	11352		
Rate per unit (Rs)	3.50		
Expenses on power (Rs)	39732		
Expenses on other Utility (Rs)	12000		
Expenses on power & utility at 100% capacity (Rs)		51732	

6.4 Salary: Total expenses on salary in the 1st year are estimated as given below. It is assumed that salary expenses will increase @ 0.5% every subsequent year.

Particulars of Employees	Numbers	Salary/ Month (Rs)	Cost/ annum (Rs)
Manager	1	5000	60000
Skilled Workers	3	4000	144000
Unskilled workers	2	3000	72000
Expenses on salary in the 1st year (Rs)			276000

6.5 Repair & Maintenance: Total expenses on repair & maintenance in the 1st year is estimated as given below. It is assumed that expenses on repair & maintenance will increase @ 2% every subsequent year.

(Rs. in lacs)			
Particulars	Cost (Rs)	Rate	Amount (Rs)
Building & Civil works	0.00	1.00%	0.00
Plant & Machinery	1.45	2.00%	0.03
Misc. Fixed assets	0.66	1.50%	0.01
Expenses on repair & maintenance in year 1			0.04

6.6 Other Expenses: Other expenses have been assumed at 2% of sales realisation.

6.7 Depreciation: Depreciation has been calculated by straight line method. The details of calculation are given below.

(Rs in lacs)			
Description	Cost (Rs)	Rate	Amount/ annum (Rs)
Building & Civil works	0.00	3.34%	0.00
Plant & Machinery	1.45	5.28%	0.08
Misc. Fixed assets	0.66	6.33%	0.04
TOTAL			0.12

6.8 Interest on term loan & principal repayment: Interest rate has been assumed at 8%. Duration of Loan repayment has been considered for a period of 5 years including moratorium period of 6 Months with equal monthly instalments. The details of calculation are given below.

(Rs in lacs)						
Month	Year	1	2	3	4	5
Month 1	Opening balance	1.72	1.53	1.15	0.77	0.38
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest (8%)	0.01	0.01	0.01	0.01	0.00
	Closing balance	1.72	1.50	1.12	0.73	0.35
Month 2	Opening balance	1.72	1.50	1.12	0.73	0.35
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	1.72	1.47	1.09	0.70	0.32
Month 3	Opening balance	1.72	1.47	1.09	0.70	0.32
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	1.72	1.44	1.05	0.67	0.29
Month 4	Opening balance	1.72	1.44	1.05	0.67	0.29
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	1.72	1.40	1.02	0.64	0.26
Month 5	Opening balance	1.72	1.40	1.02	0.64	0.26
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	1.72	1.37	0.99	0.61	0.22
Month 6	Opening balance	1.72	1.37	0.99	0.61	0.22
	Repayment	0.00	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	1.72	1.34	0.96	0.57	0.19
Month 7	Opening balance	1.72	1.34	0.96	0.57	0.19
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	1.69	1.31	0.93	0.54	0.16
Month 8	Opening balance	1.69	1.31	0.93	0.54	0.16
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	1.66	1.28	0.89	0.51	0.13
Month 9	Opening balance	1.66	1.28	0.89	0.51	0.13
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	1.63	1.25	0.86	0.48	0.10

Month 10	Opening balance	1.63	1.25	0.86	0.48	0.10
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	1.60	1.21	0.83	0.45	0.06
Month 11	Opening balance	1.60	1.21	0.83	0.45	0.06
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	1.56	1.18	0.80	0.42	0.03
Month 12	Opening balance	1.56	1.18	0.80	0.42	0.03
	Repayment	0.03	0.03	0.03	0.03	0.03
	Interest	0.01	0.01	0.01	0.00	0.00
	Closing balance	1.53	1.15	0.77	0.38	0.00
Principal Repayment		0.19	0.38	0.38	0.38	0.38
Interest		0.13	0.11	0.08	0.05	0.02

7.0 DEBT SERVICE COVERAGE RATIO (DSCR)

(Rs. in lacs)

Year	1	2	3	4	5
Profit After Tax (Net Profit)	0.18	0.73	1.29	1.31	1.32
Depreciation	0.12	0.12	0.12	0.12	0.12
Interest	0.13	0.11	0.08	0.05	0.02
Total	0.44	0.96	1.49	1.47	1.46
Interest	0.13	0.11	0.08	0.05	0.02
Loan repayment	0.19	0.38	0.38	0.38	0.38
Total	0.33	0.49	0.46	0.43	0.40
DSCR	1.34	1.96	3.22	3.42	3.64

Average DSCR = 2.76

8.0 BREAK EVEN POINT (BEP)

(Rs. in lacs)

Year	1	2	3
A. Net sales	7.20	8.40	9.60
B. Variable cost			
Raw Materials	3.51	4.10	4.68
Power & Utility	0.31	0.36	0.41
Other expenses	0.14	0.17	0.19
Interest on Working Capital Loan	0.05	0.05	0.06
Total variable cost	4.01	4.68	5.34
C. Contribution (A-B)	3.19	3.72	4.26
D. Fixed & Semi-fixed Costs			
Salary	2.76	2.77	2.79
Repair & maintenance	0.04	0.04	0.04
Interest on Term Loan	0.13	0.11	0.08
Depreciation	0.12	0.12	0.12
Total fixed cost	3.05	3.04	3.02
E. BREAK EVEN POINT	95.70%	81.66%	71.04%
F. BEP at operating capacity	57.42%	57.16%	56.83%
G. Cash BEP	55.20%	54.94%	54.61%

9.0 INTERNAL RATE OF RETURN (IRR)**(Rs. in lacs)**

Year	0	1	2	3	4	5
CASH OUTFLOW						
Capital Expenditure	2.17	0.00	0.00	0.00	0.00	0.00
Working Capital	0.00	0.97	0.11	0.11	0.00	0.00
Total (A)	2.17	0.97	0.11	0.11	0.00	0.00
CASH INFLOW						
Profit After Tax		0.18	0.73	1.29	1.31	1.32
Add: Depreciation		0.12	0.12	0.12	0.12	0.12
Add: Interest		0.13	0.11	0.08	0.05	0.02
Add: Salvage Value						
Total (B)	0.00	0.44	0.96	1.49	1.47	1.46
NET FLOW (B-A)	-2.17	-0.53	0.85	1.38	1.47	1.46

IRR = 34%

Sl. No.	Name of the Machinery Suppliers	Communication Address
1.	M/s B.R.D Manufacturing Company	1, Raja Gopi Mohan Street, Near Manicktola Market, Kolkata, Pin- 700 006, West Bengal.
2.	M/s Neelkanth Machinery Company	Plot No. 44, Sector - 4, Industrial Area, Faridabad Pin- 121 004, Haryana.
3.	M/s Associated Industrial Corporation	No. 269 - C / 271-A, East Mohan Nagar, 100 Feet Road, Amritsar Pin- 143 001, Punjab.