PROJECT PROFILE

Product	:	CEMENT CONCRETE DENSE/ HOLLOW BRICKS AND BLOCKS
Category	:	GLASS & CERAMIC
Quality Standard	:	1. SPEICFICATION AS PER THE CONSUMERS 2. HOLLOW CEMENT CONCRETE BLOCKS IS: 2185 (PT.I) 1967 IS: 2185 (PT.II) 1983 IS: 2185 1967
Month & Year	:	May 2010
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CEMENT CONCRETE DENSE / HOLLOW BRICKS AND BLOCKS

A. INTRODUCTION :

Cement concrete dense/ hollow bricks and blocks are very popular and are extensively used in building construction throughout the country because of the many advantages such as durability, strength and structural stability, fire resistance, insulation and sound absorption it possess. The cement concrete blocks have an attractive appearance and are readily adaptable to any style of architecture. It lends itself to a wide variety of surface finishes for both exterior and interior walls.

The blocks are used for both load bearing and non load bearing walls. The hilly states of India have high humidity, dampness and rainfall, so the blocks are much useful for the N.E. Region, Himachal Pradesh, J&K, U.P. etc.

The blocks are made out of these blocks in masonary there is stone chips. With the use of these blocks in masonary there is saving in cement, stell, time and labor as compared with burnt bricks masonary. This saving, therefore, brings down the cost of construction considerably.

B. MARKET :

The cement concrete dense/ hollow bricks and blocks are replacing conventional building bricks gradually due to the inherent properties like strength, size accuracy and insulation. These are used both for laying load bearing and non- load bearing walls. The cost of blocks is very much compared to the cost of red bricks and quite low, specially, in hilly regions where building bricks can not be made whereas red bricks have to be procured from distant places thus incurring extra heavy transportation costs. Only in a few regions the good quality clay is available and red brick industry has come up there. But the cement building blocks can be made anywhere. The main raw material for production such as stone metals, sand grit etc. is abundantly available in any state.

The blocks have some advantageous properties over the red building bricks. It is easy to construct wall that requires less mortar for inside and outside plaster and joining. It provides good insulation against heat and cold and resists vibration and absorbs sound. So considering all the above mentioned factors, one can foresee to set up a unit.

C. BASIC AND PRESUMPTION:

(i) Production based on single shift basis and 300 working days (ii) To reach full plant capacity it requires 1 year after trial production (iii) Labour & wages mentioned as per the prescribed minimum wages.

(iv) Interest rate at 16.5 % consideration in the project profile both for recurring and non-recurring investment.
(v) Margin money will vary from (10%-25%) depending upon the location and scheme adopted by the entrepreneur i.e. self employment or commercial scheme.
(vi) 10 years considering technology obsolescence rate an period of repayment of loan.
(vii) Land const @ 200 sq. metre, Construction @ Rs. 3000 sq. metre for office building & @ Rs. 1500 sq. metre for sheds.

D. IMPLEMENTATION SCHEME :

i. 3 months for detailed market study of raw materials, machinery and demand and registration.
ii. 6 months for making application to the financiers, process of loan application and sanction of the 10 an.
iii. 6 months for construction of the factory sheds and placing orders of machinery erection and installation.
iv. 1 months for trail production and standardization of the products.

E. PROCESS OF MANUFACTURE :

Process in brief

(1) The process of manufacture is quite suitable to start. All the three raw materials i.e., cement, sand and stone chips sf mixed in concrete mixture in the ratio of 1:3:6 and 1:5:6 or 1:2:4 depending upon the type of the construction and strength required. For higher strength and good finish a mix ratio of cement: sand: stone chips = 1:2:4 can be used. The first two ratios products are used for all normal load bearing construction, however, the exact mix half to be tried and decided at site depending on strength requirements and raw materials quality. The water and cement ratio is approximately 0.44:1. The size of the stone chips generally should be 12 mm and below but well graded (i.e. different size of stone chips should get minimum porosity).
The mixture is collected in tipping barrows and fed into the mould of the hydraulic or mechanical tempting machine and vibrated to ensure complete compactness. Now the blocks area placed on the floor for 24 hrs. For initial setting. Soon after the initial setting the blocks are stacked in layers. It should be cared that stacking must be in 6 or 8 layers and then subjected to curing with sprinkling water over stacked blocks for 21 days. The blocks should preferably be allowed to dry before use to avert drying shrinkage if any. A compressive strength of 30 to 50 kg/sq. cm is generally obtained.
The blocks are produced in different shapes and sizes a follows:

i. Solid blocks – 100 x 200 x 400 – fou 200 x 200 x 4000.
ii. Closed cavity blocks – 75 x 200 x 400 – partition – Tube well with over headed tanks, pipe line, pipe fittings, etc. 10000 100 x 200 x 400 walls.
150 x 200 x 400 External walls.
200 x 200 x 400 Load bearing walls.
iii. Corner column blocks 200 x 200 x 400 corn
iv. Roofing blocks – 410 x 250 x 140 roofs + 10% sanitation electrification.
530 x 250 x 140
v. Bend (U) blocks 100 x 200 x 200 R.C.C Bend
200 x 200 x 200 Total aa + b = 426000.

F. INSPECTION AND QUALITY CONTROL.

The following specifications have been formulated and published by the BIS for guidance and maintenance of quality of the products :
IS: 2185 – (Pt. I)1979 Hollow and solid concrete blocks
IS: 2185 – (Pt. II) 1983 Hollow and solid bright weight concrete blocks.
IS: 2185 – 1967 Hollow cement concrete.
IS: 383 – 1970 Specification for coarse and fine aggregate from natural resources for concrete.
IS: 269 – 1967 of manufacture
IS: 1489 – 1967
IS: 2572 – 1963 Code of practice for construction whole concrete blocks Masonry.
IS: 2250 – 1981 code of practice for construction whole concrete block masonry mortans.
IS: 456 – 1965 Water.

G. PRODUCTION CAPACITY PER ANNUM :

Cement Concrete Dense/ Hollow bricks & Clocks of assorted sizes (after allowing 2% forwards rejection etc.) 370000 @ Rs. 10.50 P. Per block (at an average rate) Rs. 3885000.

H. FINANCIAL ASPECTS:

1. FIXED CAPITAL:

(a) Land & Building : **Rs.**

S.No.	DESCRIPTION	AMOUNT
01.	Building	90,000
02.	Building	2,500
03.	Carting Yard	128,000
04.	Godown (Finished goods)	45,000
05.	Godown (Raw Materials)	45,000
06.	Open Plateform	24,000
07.	Value	50,000
		=========
	Total	384,500
		=========

(b) Machinery and Equipment:

S.No.	DESCRIPTION	Qty	Rate	AMOUNT
01.	Almirah	1	3,000	3000
02.	Concrete block making machine with motor & other accessories - Indigenous	1	105,600	105,600
03.	Concrete mixer 10 CFT cap. Fitted with 2 Nos. of Sol id rubber tyres with motor & other accessories – Indigenous	1	60,500	60,500
04.	CST @ 10 %			30737
05.	Curing Beds		LS	10,000
06.	Cyvlinic dust collector			35,000
07.	Excise duty @ 16.5%			50,716
08.	Fan	2	850	1700
09.	Office Furniture & Equipments	10	150	1500
10.	Office Furniture & Equipments		LS	4000
11.	Packing & Freight charge @ 15 %			46256
12.	Ram & Moulds for different sizes – Indigenous.			90230
13.	Tipping Baro 7 cft. Cap. Indigenous			
14.	Transport Insurance @ 10 %			3073
15.	Tools, dies & Equipments			3000
16.	Office Furniture & Equipments			9000
17.	Installation & electrification			43671
				========
	Total			500,883
				========

2. WORKING CAPITAL PER MONTH :

(a) Raw Material per Month:

S.No.	DESCRIPTION	Qty	Rate	AMOUNT
01.	Cement Indigenous	42	2,800	120,400
02.	Sand Indigenous	3780	5	18,900
03.	Stone chips Indigenous	7560	10	75,600
				=======
			Total	214,900
				=======

(b) Salaries & Wages Per month:

S.No.	DESIGNATION	Qty	Rate	AMOUNT
01.	Cashier	1	2500	2500
02.	Machinery Operator	2	1800	3600
03.	Manager – cum – Production In charge	1	1500	3500
04.	Peon	1	1000	1000
05.	Semi Skilled Workers	2	1500	3000
06.	Superrvisor	1	2500	2500
07.	Typist	1	2200	2200
08.	Unskilled Workers	6	1200	7200
09.	Watchman	1	1000	1000
				=========
				26,500
			Perquisites 15 %	3,975
				=========
			Total	30,475
				=========

(c) Utilities per Month : Rs

S.No.	DESCRIPTION	Qty	Rate	AMOUNT
01.	Electricity & Water charges		LS	300
02.	Power: Electricity charges for 10 HP connection = 10 x 73 x 8 x 8 x 25 x 1			1,168
				========
			Total	1,1468
				========

Other Expenses per Month:

S.No.	DESCRIPTION			AMOUNT
01.	Advertisement & publicity			1000
02.	Consumable stores			250
03.	Insurance			1000
04.	Postage & Stationery			200
05.	Repair & maintenance			1500
06.	Sales expenses			1500
07.	Traveling expenses & Transport charges			2000
				=====
			Total	7,450
				=====.

WORKING CAPITAL PER MONTH : 214,900 + 30,475 + 1,468 + 7,450

= Rs. 254,293.

(e) WORKING CAPITAL FOR 3 MONTHS = 254, 293 * 3 = 762, 879

(f) TOTAL CAPITAL INVESTMENT :

	Rs
FIXED CAPITAL	885,383
WORKINIG CAPITAL	762,879
	========
Total	1,648,262
	========

(g) Cost of Production per Annum :

S.No.	DESCRIPTION			AMOUNT
01.	Depreciation on Machinery & Equipment @ 10 %			43671
02.	Depreciation on Office Furniture @ 20 %			2900
03.	Depreciation on Tools @ 25 %			750
04.	Recurring expenditure			3051516
05.	Interest on capital investment @ 18 %			296687
				========
			Total	3,395,524
				========

(h) Sales per Annum:

Cement concrete Dense/Hollow bricks & Clocks of assorted sizes (after allowing 2 % forwards rejection etc.) 370000@ Rs. 10.50 P. Perblock (at an average rate) Rs. 3885000.

(i) Profit per Annum :

	Rs.
Sales Per Annum :	3,885,000
Cost of Production per annum	3,395,524
Profit	489,476

(j) Profitability Analysis:

(a) % of profit on sales

$$= \frac{\text{Profit / Annum} * 100}{\text{Sales / Annum}}$$

$$= \frac{489,476 * 100}{3,885,000} = 12.6\ \%$$

(b) % of profit on investment

$$= \frac{\text{Profit / Annum} * 100}{\text{Total capital investment}}$$

$$= \frac{489,476 * 100}{1648262} = 29.7\ \%$$

(c) Break Even Point:

(1) Fixed cost per annum:

Depreciation	47,321
Interest on investment	296,687
40 % of salary and wages	146,280
40% of other expenses & utilities	42,806
Total	533,094

(b) Profit per Annum = Rs. 489476

$$\text{Break Even Poin} = \frac{\text{Fixed Cost / Annum} * 100}{\text{Fixed cost/annum + profit/annum}}$$

$$= \frac{533{,}094 * 100}{533{,}094 + 489{,}476} = 52.13\ \%$$

(l) List of Supplier's of Machinery & Equipments:

01. M/s Ambisha Engg. Works,
Opp. V.C. High School, Morvi Gujarat.
02. M/s Amic Industries (P) Ltd.,
10, B.T. Road, Calcutta – 700056.
03. M/s ashok Engg. & Construction Co.
14, Ganesh Chandra Avenue (kent House), Calcutta – 700013.
04. M/s Daroda Rolling Mills (P) Ltd.
Chilani Road, Baroda – 2 Gujarat).
05. M/s elson Vibro Concrete Block Machine
Kaathiwas Metal & Tin Works (P) Ltd., Ishat Plot, Sunder Nagar, Rajkot-370003
06. M/s Esvee Engineers,
B-164, Janata Colony, Jaipur – 302004.
07. M/s Minato Shirka Concrete Machines (P).
72-76, Industrial Estate, Mundhwa, Poonaa- 411036.
08. M/s Sadhana Engg. Co.,
220, G. Rajbarg Estate, Khadikar Road, Bombay – 4.
09. M/s Saayaji Iron & Engg. Co.,
Chilani Road, Baroda – 2 (Gujarat).
10. M/s Viswakarma Engg. Works,
Char Rasta, Maninagar, Ahmedabad – 9.

(k) List of Supplier's of Raw Materials :

Local Suppliers