

PROJECT PROFILE

BOUNDARY SAND

PREPARED BY



8TH FLOOR, PARISHRAMA BHAVANAM,
BASHEERBAGH, HYDERABAD

www.apitco.org

1.1 INTRODUCTION

Foundry sand consists primarily of clean, uniformly sized, high-quality silica sand or lake sand that is bonded to form molds for ferrous (iron and steel) and nonferrous (copper, aluminum, brass) metal castings. Ferrous (iron and steel) industries account for approximately 95 percent of foundry sand used for castings. The automotive industry and its parts suppliers are the major generators of foundry sand.

The raw material for clean coal char is mostly constituted of un-burnt coal, Iron ore and other unwanted materials. In average it contributes 30% fixed carbon. Because of this it created a major pollution hazards and environmental problem for its disposal. The washed coal fines received is of high fixed carbon content and low ash grade. This coal gives good calorific value and can be utilized for metallurgical purposes.

1.2 TECHNOLOGY AND PROCESS

Foundry Sand

The grinding of natural sand and / or fragile quartz is the first step to bring the material to a desired grade and shape by a specially designed grinding machine by roll or ball in a closed area to prevent dust pollution. Thereafter, it is to be passed through magnetic separator to eliminate the free iron. Then the sand is graded through different sieve as per the requirement by means of vibrating screen.

Now, the sand grid is washed in a gyratory column Washery, where the clay and unwanted grit is separated out and collected at the slurry pond for disposal. The beneficiated sand grit is mixed with specific non-toxic chemicals to obtain the desired product. The produced foundry sand thus manufactured staked to eliminate the excess water and then sold.

1.3 INVESTMENT

The project calls for an investment of Rs. 110.00 Lakhs to set up a unit to process 1200 Tons per month of Foundry sand. The plant and machinery required for the project are indigenously available. The primary equipments required are gyratory column washery, crusher and material handling equipment. Slurry Pond which is a civil structure forms a very important part of the manufacturing process.

Table 1: Project Cost (Rs. Lakhs)

Description	Amount
1. Land & Land Development	10.00
2. Buildings & Civil works	42.00
3. Plant & Machinery	37.00
4. Electrification	2.00
5. Misc. Fixed Assets	1.00
6. Contingencies	4.10
7. Deposits	2.50
8. Preliminary & Pre-operative Expenses	8.60
9. Margin Money for Working capital	2.80
Total	110.00

Suggested means of finance is tabulated below.

Table 2: Means of finance (Rs. Lakhs)

Description	Amount
1. Equity from Promoters	40.00
2. Term Loan	70.00
Total	110.00

The debt equity is considered as 1.75:1 with 13% as interest on term loan.
The product mix and the sales prices are as follows

The unit can reach 80% of its installed capacity within 3 years of operations and can work for 300 days a year with 10-12 hours shift and needs around 12 direct manpower and 3 administrative manpower to operate.

1.4 RETURNS

The returns from the project are adequate enough to repay the term loan in 6 years time from the date of commercial operations. The key financial indicators of the project are tabulated below.

Table 3: Key Financial Indicators

Particulars	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8
Total Income	75.60	81.00	86.40	91.80	97.20	97.20	97.20	97.20
Total Variable Costs	35.83	38.54	41.33	44.19	47.13	48.21	49.39	50.68
Total Fixed Costs	5.71	6.13	6.57	7.02	7.49	7.71	7.96	8.22
Total Expenditure	41.53	44.67	47.89	51.21	54.62	55.92	57.35	58.91
PBIDT	34.07	36.33	38.51	40.59	42.58	41.28	39.85	38.29
Profit Before Tax (PBT)	20.75	24.23	27.82	31.48	35.23	35.53	34.81	33.25
Profit After Tax (PAT)	15.91	17.74	19.71	21.77	23.95	23.88	23.18	20.58
Cash Accruals	19.92	21.75	23.72	25.79	27.96	27.89	27.20	24.59
Term Loan Repayment	9.00	10.60	12.00	13.00	15.00	10.40	0.00	0.00
Closing Balance	11.34	22.71	34.64	47.64	60.80	78.69	106.28	131.27
BEP (Op Capacity)	46.77%	41.77%	37.01%	32.53%	28.19%	25.94%	25.58%	26.90%
Gross DSCR	1.65	1.65	1.68	1.77	1.77	2.61	-	-
Average Gross DSCR	1.81							
Net DSCR	2.26	2.09	2.01	2.02	1.89	2.72	-	-
Average Net DSCR	2.14							
IRR	24.10%							