

MINERAL GRINDING

Product Code(ASICC) : N.A.

Quality & Standards : As per Customers' requirements

Production Capacity : 3600 MT per year

Month & Year of : March, 2012

Preparation

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1. Introduction:

Mineral grinding industry plays a vital role in the development of glass, ceramics, refractories, chemical, pharmaceuticals, pigments, pesticides, agro chemical, paints, poultry feed, beneficiation etc. Pulverisers of latest design grinds anything grindable, incorporating 3 actions in one unit grinding, sieving and collection. Pulverisers grinds various materials, ranging from 40 mesh to 325 mesh powder forms with dustless operation and are available in various capacities from 50 kgs. to 2000 kgs. per hour.

2. Market Potential:

In the context of rapid industrialization, ever swelling population worldwide and consequent increase in the demand for household, domestic as well as industrial products in the area of glass, ceramics, refractories, chemical, pharmaceuticals, pigments, pesticides, agro chemical, paints, poultry feed where grinded & processed minerals are required in huge quantities with the added advantage of availability of raw material in abundance in this Vidarbha region gives an ample scope for setting up of unit of Mineral Processing.

3. Basis & Presumptions:

Working hours per shift	8 Hours.
No. of shift per day	1 shift
Working days	300 days
Total number of working hours	2400
Working efficiency	75%
Time period for achieving maximum capacity utilization.	3 rd year from the date on which production is started
Labour charges	As per minimum Wages Act of State Govt.
Rate of bank interest	12.0%
Operative period of the project	10 years.

4. Implementation Schedule:

Project implementation will take a period of 8 months from the date of approval of the project. Break-up of activities with time-period for each activity is shown below.

<u>Sl.No.</u>	<u>Nature of activities</u>	<u>Time period in months (estimated)</u>
1.	Scheme preparation and approval	0-1
2.	SSI provisional registration	1-2 day
3.	Sanction of loan	2-5
4.	Clearance from Pollution control Board	3-4
5.	Placement of order for delivery of machinery	4-5
6.	Installation of machines	6-7
7.	Power connection	6-7
8.	Trial run	7-8
9.	Commencement of production	9 months onwards

5. TECHNICAL ASPECTS:

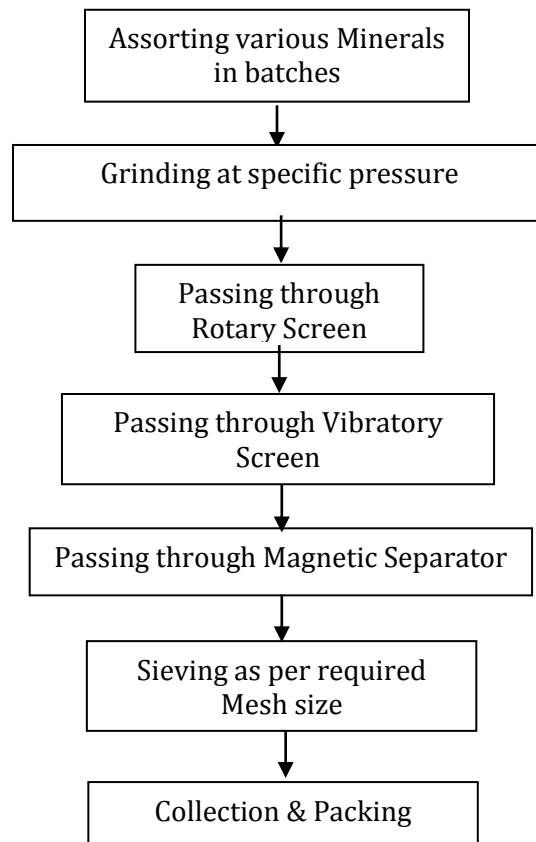
a. PRODUCTION DETAILS & PROCESS OF MANUFACTURE:

The various operations in a Mineral Processing are Assorting various minerals, Grinding at specific pressure, passing through rotary, vibratory screens followed by pass through magnetic separator to take out any heavy metals mainly iron particles etc., sieving for obtaining required mesh size and finally packing into various lot size for dispatch.

b. QUALITY CONTROL & STANDARDS:

Mineral processing product quality standards in general refers to the concentrator which produce the final concentrate quality standards. Concentrate quality mainly depends upon the ore properties, the processing method, end user and the next step in processing of products of the technical conditions & so on. Concentrate quality includes two aspects; one is the main metal (minerals or elements) content & two to the impurity content requirements. If the ore dressing plant produced concentrate in long distance transport, freight rate high in the case of delivery, so in the mineral processing ,concentrate impurities (including water) content should be minimized, as far as possible, to improve the contents of the main components, so that it is economically reasonable.

6. PROCESS FLOW graphic representation:



7. PRODUCTION CAPACITY :

QUANTITY : 3600 MT/Annum.

VALUE : 52,20,000/-

8. MOTIVE POWER REQUIREMENT : 25 HP approximately

9. POLLUTION CONTROL:

The unit has to take into consideration the anti-pollution measures for disposal of waste minerals & chemicals/acid and alkaline solution so as to make them neutral. Digging pit for storage and neutralization and the shed should be well ventilated and provided with exhaust fan.

Proper treatment and handling of the raw material also reduces the emission contents, particularly dust, use of simple measures like removal of dust from the chimney, allowing proper space beyond the stack, the pollution of the neighborhood can be reduced by providing a fall out area for the dust, ash etc. within the factory premises itself.

10. ENERGY CONSERVATION:

These days energy conservation efforts are needed to be strengthened Substantially. The potential for conservation however, is must large and all efforts needed to be made the individuals to realize it to the extent possible. The energy audit is an integral part of an energy conservation project and is the key to a systematic approach for decision.

11. Financial Aspects

A. Fixed Capital

i) Land & Building, 700 Sq. Meters (rented) per month

8000

ii) Machinery & Equipments:

S.No.	Description of Machines	Quantity	Price (Rs)
1	Jaw Crusher	1	275000
2	Attrition Machine	1	25000
3	Edge Runner Mill	1	75000
4	Rotary Screen	1	40000
5	Vibrating Screen	1	50000
6	Magnetic Seperator	1	75000
7	Drilling Machine, 1" dia.	1	7000
8	Pedestal Grinder Double Ended 8" wheel	1	10000
9	Hand tool, Wheel barrows, Shovels etc.	L.S.	7000
10	Testing Equipments	L.S.	5000
		Total	569000
11	Electrification & installation @ 10% of above cost		56900
12	Office equipments like furniture, fan, Computer etc.	L.S.	75000
13	Pre-operative expenses		50000
		Total	750900

12. Working capital (Per month):**A: Staff & Labour:**

S.No.	Description	Nos.	Salary	Total
1	Works Manager	1	5500	5500
2	Supervisor	1	4500	4500
3	Accountant/Clerk	1	3000	3000
4	Skilled Worker	3	3000	9000
5	Unskilled worker	2	2200	4400
6	Peon	1	2000	2000
7	Watchman	1	2000	2000
			Total	30400
Add perquisite @15% of salary				4560
			Total	34960

B. Raw Material (Per month)

S.No.	Particulars	Qty.	Rate(Rs.)	Value
1	Various Minerals	310	900	279000
2	Consumables like Sieve mesh Labels, Packing material etc.	L.S.	n.a.	2000
			Total	281000

C. Utilities (Per month)

1	Electricity	25000
2	Water	2000
		Total
		27000

D. Other Contingent Expenses (Per month)

1	Rent	8000
2	Postage & Stationery	4000
3	Telephone	2000
4	Insurance	4000
5	Repairs & maintenance	5000
6	Consumable Stores	5000
7	Misc. Expenses	10000
8	Transport allowances	10000
		Total
		48000

13. Total Working Capital (Per month)**390960****(4)**

14. Total Capital Investment

i) Fixed Capital	750900
ii) Working Capital	390960
Total	1141860

15. Financial Analysis

a. Cost of Production (Per Year)

i) Total recurring cost	4691520
ii) Depn. on machinery & equipment @ 10%	56200
iii) Depn. On office equipments @ 20%	15000
iv) Interest on Total capital investment @12.0%	137023
Total	4899743

b. Turnover (Per Annum)

By sale of 3600MTs of Processed Minerals = **5220000**
@Rs. 1450/- per MT

c. Net Profit per year

Turnover per year - Cost of production = **320257**

d. Net Profit Ratio

(Net profit per year/ Turnover per year) X 100 = **6.14 %**

e. Rate of Return

(Net profit per year/ Total investment) X 100 = **28.05 %**

f. Break-even Point (B.E.P)

Fixed Cost

i) Rent	96000
ii) Depn. on machinery & equipment @ 10%	56200
iii) Depn. On office equipments @ 20%	15000
iv) Interest on Total capital investment @12%	137023
v) Insurance	48000
vi) 40% of salary & wages	167808
vii) 40% of other contingent expenses excluding rent & insurance	172800
Total	692831

Break- Even Point (B.E.P.)

[Fixed Cost/ (Fixed cost + Profit)] X 100 = **68.39 %**

(5)