



# **PROJECT REPORT ON GROUND MINERALS**

## **Detailed project Report on GROUND MINERALS**

1.Product :- Ground Minerals

2.Production Capacity :-      Quantity: 5700 MT/Yr.,  
   Value: Rs. 93,48,000.

3.Month& Year of Preparation :- Nov. - Dec. '2010

4.Prepared by :                              Br.MSME-DI  
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**I. INTRODUCTION :** The various Ceramic minerals as quarried from mines are naturally available in the form of hard rocks or lumps. These minerals cannot be used directly in the various user industries like Refractories, Sanitary wares, Tiles and Glass industries and are mainly required in the form of dry ground powders or various grades and most sizes. The minerals like quart, feldspar, China clay, Ball day, Calcite, Limestone, Dolomite, Marble etc. are available. Mostly in West Bengal, Bihar, Rajasthan, Gujarat, Tamilnadu as also in other states in lesser quantity. The ground minerals as envisaged as a product in the present report are used as raw materials in the various other major glass and ceramic industries. Thus, mineral grinding unit plays an important role in the industrial sector.

**II. MARKET :** Since ground minerals are the major raw –materials used in various items like ceramic industries, Chemical, Metallurgical industries etc. The industrial demand of these products is ever increasing all over the country. Despite the fact that there are many registered and non-registered units operating in the country, there is enough scope to later the need of industrial sector. Reportedly, these are so many suppliers' traders and agents who supply the ground minerals to the existing industries from outside the state. Hence a stiff market competition in this sector is never ruled out. But maintenance of customer's specification to their satisfaction uniform quality, supply schedules and payment terms are the key to open vast marketing opportunities for new unit in this field.

### **III. BASIS & PRESUMPTION :**

- a) Working hours/shift : 8 Hrs (Single shift basis)
- b) No. of working days/annum : 300 days
- c) Efficiency for full capacity utilisation : 80%
- d) Time period for achieving minimum capacity utilization : 3 years
- e) Interest rate : 13%
- f) The project is estimated for at last 15 years and no major technological obsolescence is presumed during this life period
- g) 5% Handling loss is considered while grinding.



#### **IV. IMPLEMENTATION SCHEDULE :**

##### **Nature of activities (Estimated)**

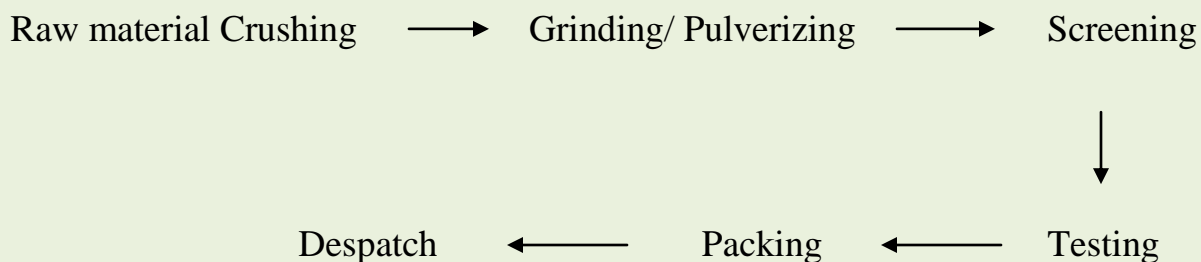
##### **Time period**

a) Scheme preparation and approval	0 – 1 month
b) EM preparation	1 – 2 months
c) Sanction of loan	2 – 5 months
d) Clearance from pollution control board	3 – 4 months
e) Placement of order for delivery of M/C	4 – 5 months
f) Installation of Machine	6 – 7 months
g) Power connection	6 – 7 months
h) Trial production	7 – 8 months
i) Commencement of production	9 month onwards

#### **V. TECHNICAL ASPECTS :**

1. Process outline – Large sized rocks are manually hammered to suitable large lumps and fed into the Jaw crusher to achieve small piece of  $\frac{1}{2}$  “ – 1” sizes. This mineral pieces are passed through a series of crushing & grinding machine like attrition type pulverize, edge runner mills, roll crusher etc. and then through a rotary screen and vibrating screen to get desired fineness of minerals. Finally the ground minerals are passed through magnetic separator to remove the iron particles. Then this ground minerals are packed as per the grade and sizes written in gunnery bags for despatch.
2. The quality is maintained as per the customer’s requirement in respect of fineness, grit content, Iron content etc. or as per the unit own specifications for general supply. Required physical testing is essential for such plant. Chemical testing as and when required should be done to maintain suitable uniformity of standard for the various raw materials.

#### **VI. PROCESS FLOW CHART:**





## **VII. PRODUCTION CAPACITY (P.A.):**

Quantity: 5700 MT, Value: Rs. 93,48,000.

## **VIII. MOTIVE POWER** : Approx. 60 HP.

## **IX. POLLUTION CONTROL:**

Due to restriction of air – pollution based industries; suitable control/preventive measures need to be under-taken in the production stage. The dust and fines emanated from the crushing, grinding, screening and subsequent stages should be arrested from polluting the air. Generally in such plant chutes from all existing points are centrally connected through ducting arrangements to an ex-house blower, the outlet of which is fitted to dust collectors and filter bags used to prevent air pollution.

## **X. ENERGY CONSERVATION:**

Any amount of reduction in energy bills through efficient utilisation of machines and maintenance of mechanical and electrical fittings and such other measures is likely to minimise the cost of production.

## **XI. FINANCIAL ASPECTS:**

### **1. Fixed Capital**

#### **Land & Building: (On Rent)**

(a) Total covered area (Including Workshed, Office & Store etc.) =  
3000 sq.ft.

(b) Total open area (storage of raw materials & Finished product etc.) = 17,000  
sq. ft.

Total: 20,000 sq. ft on rental basis =

**Rs.**  
**10,000/-**

## 2. Machinery & Equipment

<i>Sl No:</i>	<i>Description</i>	<i>Qty.</i>	<i>Rate (Rs.)</i>	<i>Value(Rs.)</i>
1	Primary Jaw Crusher 400 x 225 mm. Capacity 9 MT per Hr. with 25 HP motor. (Indigenous)	1	2,25,000	2,25,000
2	Secondary Jaw Crusher 350 x 150 mm with 15 HP motor. Capacity 6 MT/Hr. (Indigenous)	1	1,00,000	1,00,000
3	Attrition Type pulverizer, belt driven with 5 HP motor (Indigenous)	1	80,000	80,000
4	Edge-Runner Mill (1200 mm dia) with 4 HP motor, complete with Electricals	1	1,50,000	1,50,000
5	Rotary Screen, heavy Duty comprising of meshes 10 mm to 50 mm complete with 5 HP motor & accessories (Indigenous)	1	50,000	50,000
6	Vibrating Screen, self driven comprising of meshes 1/8" to 100 meshes with motor & accessories.	1	50,000	50,000
7	Magnetic Separator, with rectifier 200 AC with 2.5 HP motor (Indigenous)	1	35,000	35,000
8	Wheel Barrows, Spare Jaws, shovels, Jigs, Fixtures & tools.		L.S.	35,000
9	Belt Conveyors with 15 HP motors.	1	50,000	50,000
10	Testing Equipments		L.S.	40,000
11	Pollution control equipments (Dust Collector) with exhaust fans & outlets (Indignous)		L.S.	75,000
12	Erection & Commissioning		L.S.	50,000
13	Office Equipment.		L.S.	30,000
14	Freight & Insurance		L.S.	10,000
				<b>9,80,000/-</b>

**Pre Operative Expenses (Rs.)**

**50,000/-**

3. TOTAL FIXED CAPITAL (Rs.) 10,30,000/-

4. Working Capital (Per month)

*i) Salary & Wages*

<i>Sl No:</i>	<i>Personnel</i>	<i>Nos.</i>	<i>Salary (Rs.)</i>	<i>Total (Rs.)</i>
1	Manager	1	8,000	8,000
2	Foreman/ Supervisor	1	6,000	6,000
3	Skilled Workers	3	4,000	12,000
4	Semi-Skilled Workers	4	3,500	14,000
5	Helpers	5	3,000	15,000
6	Office Accountant cum storekeeper	2	4,000	8,000
7	Sales Person	3	4,000	12,000
8	Peon cum Watchman	2	3,000	6,000
			Total =	<b>81,000</b>
Perquisites @15% of salaries				12,150
				<b>93,200</b>

*ii) Raw Materials (Per Month):*

<i>Sl No:</i>	<i>Raw Materials (in Lumpy Forms)</i>	<i>Qty. (MTs)</i>	<i>Rate (Rs.)</i>	<i>Amount (Rs.)</i>
1	Quratz	100	800	80,000
2	Feldspar	100	800	80,000
3	China Clay	50	1,700	85,000
4	Ball clay	50	2,000	1,00,000
5	Limestone	50	700	35,000
6	Marble	50	1,000	50,000
7	Dolomite	50	700	35,000
8	Other Minerals (Hardness below 7, Mho's scale) as per customer requirement	50	Average 1,000	50,000
9	Gunny Bags/ Packing Materials etc. (Lump sum)			5,000
				<b>5,20,000/-</b>

*iii) Utilities (Rs. per month)*

Electrical Power Charges (Average 12,000 units @ Rs. 4 per unit).	48,000
Water, Lubricating oil etc. (LS)	2,000



50,000/-

**iv) Other contingent expenses  
(per month)**

(Rs.)

Rent	10,000
Postage & Stationery	1,000
Consumable Stores	2,000
Repair & Maintenance	4,000
Transport Charges	3,000
Advertisement & Publicity	1,000
Insurance & Taxes	2,000
Sales Expenses	2,000
Misc. expenses	3,000
Telephone	2,000
	<u>30,000/-</u>

**v) Total Recurring Expenses  
(Rs. per month)**

Salary & Wages	93,200
Raw Materials (Per Month):	5,20,000
Utilities (per month)	50,000
Other contingent expenses	30,000
	<u>6,93,200/-</u>

**vi) Working Capital for 1.5 months  
(Rs.)**

10,39,800/-

**vii) Total Capital Investment (Rs.)**

i) Fixed Capital	10,30,000
ii) Working Capital	10,39,800
	<u>20,69,800/-</u>



**Machinery Utilization :** 80% of the capacity utilization has been taken into consideration.

## **XII. FINANCIAL ANALYSIS:**

### **1. Cost of Production (Rs. per year)**

Total recurring cost (per year)		83,18,400/-
Depreciation on Machinery & Equipment @ 10%	10%	89,000/-
Depreciation on office equipment @ 25%	25%	7,500/-
Total interest on capital investment @ 13%	13%	2,69,074/-
		<b><u>86,84,000/-</u></b>

### **2. Turnover per year**

<i>Sl No:</i>	<i>Description of Finished Ground Materials</i>	<i>Qty. (MTs)</i>	<i>Rate (Rs. Per MT)</i>	<i>Amount (Rs.)</i>
1	Quratz	1,140	1,300	14,82,000
2	Feldspar	1,140	1,400	15,96,000
3	China Clay	570	2,500	14,25,000
4	Ball clay	570	3,000	17,10,000
5	Limestone	570	1,300	7,41,000
6	Marble	570	1,300	7,41,000
7	Dolomite	570	1,400	7,98,000
8	Other Minerals (Hardness below 7, Mho's scale) as per customer requirement	570	1,500	8,55,000
				<b><u>93,48,000/-</u></b>

(\* 5% Handling & Grinding loss of each material is considered.)





### 3. Net Profit per year (Before taxes):

Total Sales - Cost of Production = **Rs. 6,64,000/-**

### 4. Net Profit Ratio:

$$\frac{\text{Net Profit per Year} \times 100}{\text{Turnover per Year}} = \mathbf{7.10\%}$$

### 5. Rate of Return:

$$\frac{\text{Net Profit per Year} \times 100}{\text{Total Capital Investment}} = \mathbf{32.08\%}$$

### 6. Break-even Point

#### i) Fixed Cost

Rent	1,20,000
Total Depreciations	96,500
Total interest on capital investment	2,69,074
40% on salaries	4,47,360
40% other contingent expenses	3,36,000
	<u>12,69,000/-</u>

#### ii) Net Profit (Per Year) = Rs. 6,64,000/-



$$\text{BEP} = \frac{\text{Fixed Cost} \times 100}{(\text{Fixed Cost} + \text{Profit})} = 65.65\% \quad \text{Say, } 66\%$$



### **XIII. ADDRESSES OF MACHINERY & EQUIPMENT SUPPLIERS:**

1. M/S D.P.Pulveriser Works, 12, Nagindas Master Road Extn., Opp. Maharashtra State Coop. Bank Ltd., Behind Museum Fort, Mumbai-400 023
2. M/S Singhasine Industries, 153-8 Co-Op. Industrial Estate, Vivekanandanagar, Kanpur (UP)
3. M/S Durgapur Engg. Company Ltd. Marshall House, Room No. 448, 33/1 Netaji Subhash Road, Kolkata-700 001
4. M/S B.B.Engg. Works, 166/22, B.T.Road, Ashok Garh East. Kolkata-700 035
5. M/S Eastend Engg. Co., 173/1, Gopal Lal Thakur Road, Kolkata- 700 035
6. M/S Eastern Crusher Co (P) Ltd., 4A, Council House Street, Kolkata- 700 001
7. M/S Jainan Mfrs Pvt. Ltd., 21-Mohanlal Bhalwala Road, P.O.-Bally, Howrah (W.B)
8. M/S Lakshmi Narayan Works, 6 Babu Ram Ghosh Lane, Kolkata- 700 005
9. M/S Premur Casting & Engg. Works, 44/45 Kings Road, Howrah – 711 101
10. M/S Sreema Engg. Works Pvt. Ltd., 148/1A, Ultadanga Main Road, Kolkata – 700 017

### **XIV. ADDRESSES OF RAW MATERIALS SUPPLIERS:**

1. M/S Rajarajeswari Mineral Ltd., Pipeline Road, Vijayanagar, Bangalore-40
2. M/S Meacane Marble Co., 6 KH Road, Bangalore - 27
3. M/S Saraz & Sons, PB- 311, Mysore-8
4. M/S Hanuman Traders, 763, 5<sup>th</sup> Main Road, Vijayanagar, Bangalore-40
5. M/S Duff Aryan Mineral, (P) Ltd. Jayalakshmi Chambers, 2<sup>nd</sup> Floor, 57 Presidency Road, Bangalore-25



6. M/S Mysore Minera Ltd. M.G.Road, Bangalore.
7. M/S S.K.Lime Products, Mahassaati Ward, Bhataoara, Dist. Raipur(MP)
8. M/S Menorah Industries, Lohar Gali, Nanded-431601 (Maharashtra)
9. M/S Parasar Parasar, AT& P.O. Talpatia, Dist. Sambalputr , Orissa.

#### **XV. RESOURCE CENTER OF TECHNOLOGY:**

- i. Govt. College of Engg. & Ceramic Technology, Kolkata-10
- ii. CGCRI, Jadavpur, Kolkata -32
- iii. CMERI, Durgapur, W.B. – 16
- iv. Br. MSME-DI, Durgapur, W.B. – 12
- v. NIT, Durgapur, W.B. – 16
- vi. NIT, Rourkela, Odissa.

#### **XVI. LIST OF THE UNITS SET UP BY USING THIS PROJECT PROFILE:**

In this region, there are some units to produce such products. However, this project profile is prepared considering the present trends.