PROJECT PROFILE ON CERAMIC CAPACITORS

1. Product:-	**Ceramic Capacitors**
2. NIC Code (1998):-	**-**
3. Product Code (ASICC-2000):-	**94389**
4. Production capacity:-	**Qty. 2400 Nos** **(Value Rs 54,00,000)**
5. Month & year of Preparation:-	**MARCH, 2010**
6. Prepared by:-	**Glass & Ceramics Division** **MSME-Development Institute** **Govt . of India, Ministry of MSME** **Patliputra Industrial Estate,** **Patna – 800 013** **Telephone: (0612) 2262719, 2262208, 2263211** **Fax: (0612) 2262186** **E-mail :** **dcdi-patna@dcmsme.gov.in** **Website :** **http://msmedipatna.gov.in**

1. INTRODUCTION :

Ceramic cores for resistors are specialized ceramic material made out of steatite porcelain. These cores are in the form of rods and tubes of various diameters and length. It is manufactured by using highly pure raw materials like calcined alumina with addition of small quantity of pure clay. These are used in consumer electronic products such as radios, televisions and sophisticated electronic instruments.

2. MARKET :

The demand of the product is increasing day-by-day as development of electronic industry is showing upward trend. Our country has a very big concentration of electronic industries. In view of the fast development in the industrial activity in the field of electronics, the demand for the technical ceramics is ever increasing and creating wide scope for setting up new units.

3. BASIS AND PRESUMPTION

i. The basis for calculation of production capacity is on single shift basis, working of 25 days per month on 75% efficiency. The time required for achieving envisaged capacity utilization is assumed as one year.

ii. The estimated life of project will vary form product to product. However, the general life of project is taken of building if constructed 20 years, machinery and equipment 10 years, calciner 4 to 5 years. Accordingly, the depreciation on different items are taken as on building 5%, machinery and

equipment 10%, furnace/kiln/calciner 25%, moulds and fixtures 25% and office equipment @ 20%.

iii. BEP for the scheme has been calculated on full capacity utilization.

iv. Rate of interest has been taken as 16% on an average. This however, is likely to vary depending upon the financial outlay and location of the unit.

v. The cost of machinery & equipment as indicated in the scheme are approximate to those ruling at the time of preparation of the scheme. The entrepreneur may check up the exact price for specific make and model of the machine selected.

vi. Non-refundable deposits, cost of preparation of projec profile, etc. may be considered under pre operative expenses.

vii. The provisions may in other respects vice-versa raw materials, labour wages, utilities, overheads, etc. are drawn on the basis of standard variation and output. The cost indicated against each are approximate based on local market conditions and observation. The entrepreneur may find out the exact cost from the concerned sources.

4. IMPLEMENTATION SCHEDULE

Project implementation Schedule

The major activities in the implementation of the project have been listed and the estimated average time for implementation of the project is indicated for 12 months.

Sl. No.	Activity	Period in months
1	Preparation of Project Report	01
2	Registration and other formalities	02 - 03
3	Arrangement of land & approval of Plan by Local Authority	03 - 04
4	Sanction of loan by financial institution	04 - 06
5	Approval from other Govt. Agencies including health, labour, pollution control etc.	06 - 07
6	Plant and machinery	08 - 10
a)	Placement of order	08
b)	Procurement	09
c)	Power connections, electrification	09
d)	Installation, errection of machinery test equipment	10
5	Procurement of raw materials	09 - 10
6	Recruitment of technical personnel	10
7	Trial production	11
8	Commercial production	12

5. TECHNICAL ASPECTS

I. PRODUCTION DETAILS & PROCESS OF MANUFACTURE

China clay, talc and barium carbonate are the main raw materials required for the manufacture. All the raw materials in powdered form (150 to 200 mesh) are taken in proportion and charged into the ball mill. Wet grinding is carried out by adding sufficient quantity of water. The main objective of ball mill is to get a homogenous mixture. The ground material is discharged into an agitator through an electromagnet and sieve. The slurry is then sent to the filter press where filter cakes with 18-20% water content are obtained. Filter cakes are charged into de-airing pugmill and cores are extruded by fixing the desired die. The shaped cores are dried and fired in an electric or muffle furnace at a temperature of 1300ºC to 1400ºC after which the cores are trimmed and packed for dispatch.

II. POLLUTION CONTROL

The project does not create any noise or water pollution. The latest shuttle is more fuel efficient. The smoke emission will have to be continuously monitored as per rule.

III. ENERGY CONSERVATION

The project does not create any noise or water pollution. The latest shuttle is more fuel efficient. The smoke emission will have to be continuously monitored as per rule.Measures to be also taken to prevent the wastage and leakage of light diesel oil during firing. This saves considerable quantity of fuel.

IV. INSPECTION AND QUALITY CONTROL

IS 5798 (Part I) General requirements and methods of test.

V. PRODUCTION CAPACITY PER ANNUM :

This scheme envisages manufacture of 600 MT of ceramic cores per annum of various diameters.

6. FINANCIAL ASPECTS

A. FIXED CAPITAL

(a) Land & Building:

S. NO.	DESCRIPTION	AMOUNT (Rs.)
01	Land 1000 sq. meter@Rs.600 sq. meter	7,00,000
02	Building : Built-up area workshed 400 sq. meters. @ Rs.2500 sq. mtrs.	12,00,000
03	Storage shed 100 sq. mtrs. @ Rs. 1500 sq. mtrs.	1,75,000
04	Office, Laboratory and chowkidar's cabin 200 sq. mtrs. @ Rs. 2000 sq. mtrs.	5,00,000
	Compound Wall	75,000
TOTAL		**26,50,000**

(b) Machinery and Equipment :

SL. NO.	DESCRIPTION	QTY	RATE (Rs.)	AMOUNT (Rs.)
01.	Ball mill size 1350 x1200 mm with porcelain lining, pabbles 10 HP motor, starter and accessories	3	1,00,000	3,00,000
02.	Vibrating screen 10"×18"with 0.5	2	25,000	50,000
03.	HP motor, starter and accessories Electromagnet /permanent magnetic separator	3	6,500	19,500
04.	Agitator capacity 1000 ltrs. With 3 HP electric motor and accessories	2	45,000	90,000
05.	Diaphram pump with 5 HP motor and accessories	1	70,000	70,000
06.	Filter press, Plates500	2	90,000	1,80,000
07.	De-airing extruder, suitable for drawing rods/tubes of sizes 1mm to 25mm dia cap.50 kgs./hr.	2	1,25,000	2,50,000
08.	Drying oven size 1800x1200x900mm with exhaust fan temp, controlling etc.	1	80,000	80,000
09.	Centreless grinder, capable of trimming rods of 1 mm to 25mm with motor, starter and accessories	3	60,000	1,80,000
10.	Weighing scale, platform type cap. 500 kg	2	15,000	30,000
11.	Laboratory equipment for testing of water absorption, shrinkage and other tests	L.S.	-	1,00,000
TOTAL				**13,20,000**
12.	Dies for various rods, tubes hand tools and other misc. equipments	L.S.		60,000
13.	Office equipment and furniture	L.S.		70,000
14.	Electrification and Installation @10%	L.S.		1,34,950
15	Shuttle kiln with Furnace Oil as fuel blower, burner and other accessories etc.	L.S.		15,00,000
16.	Pre-Operative Expenses			1,00,000
TOTAL				**32,19,450**

B. WORKING CAPITAL PER MONTH

(a) Raw Material Per Month :

Description	Qty.	Rate (Rs.)	Amount (Rs.)
High Alumina calcined	10MT	6,000	60,000
China clay	29MT	2,200	63,800
Ball clay	3MT	1,400	4,200
Calcite	3MT	1,600	4,800
Steatite	9MT	1,800	16,200
Binders, packing materials	L.S.		3,000
	Total		**1,52,000**

(b) Salaries & Wages Per Month :

S. NO.	DESIGNATION	NO.	SALARY (Rs.)	TOTAL (Rs.)
01.	Works Manager	01	8,000/-	8,000/-
02.	Supervisor	01	5,000/-	5,000/-
03.	Clerk-cum-Typist	01	3,000/-	3,000/-
04.	Storekeeper-cum-Accountant	01	4,000/-	4,000/-
05.	Skilled Workers	03	3,500/-	10,500/-
06.	Unskilled worker	04	2,500/-	10,000/-
07.	Peon	01	2,500/-	2,500/-
08.	Watchman	01	2,500/-	2,500/-
Total				**48,000/-**
Perquisites @ 15%				**7,200/-**
Total				**55,200/-**

(c) Utilities Per Month :

S. NO.	DESCRIPTION	QTY.	RATE (Rs.)	AMOUNT (Rs.)
01.	Power	10,800 Unit	3.50/-	37,800/-
02.	Water	LS	--	2.200/-
TOTAL				**40,000/-**

(d) Other Expenses Per Month :

S. NO.	DESCRIPTION	QTY.	RATE	AMOUNT (Rs.)
01.	Advertisement & publicity	-	-	7,500/-
02.	Consumable stores	-	-	4.000/-
03.	Insurance	-	-	4,000/-
04.	Misc.expenses	-	-	2,000/-
05.	Postage & stationery	-	-	3,000/-
06.	Repair & maintenance	-	-	3,000/-
07.	Sales expenses	-	-	4,000/-
08.	Taxes			2,000/-
09.	Telephone			3,000/-
10.	Transport charges	-	-	4,000/-
TOTAL				**36,500/-**

RECURRING EXPENDITURE PER MONTH (Rs.):

Sl. NO.	DESCRIPTION	AMOUNT (Rs.)
01.	Raw Materials	3,03,000/-
02.	Salaries & Wages	55,200/-
03.	Utilities Per Month	40,000/-
04.	Other Expenses	36,500/-
TOTAL		**4,34,700/-**

WORKING CAPITAL FOR 3 MONTHS

= **Rs. 4,34,700/- X 3**

= **Rs. 13,04,100/-**

C. TOTAL CAPITAL INVESTMENT :

FIXED CAPITAL **30,70,000/-**

WORKING CAPITAL FOR 3 MONTHS **13,04,100/-**

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Total **43,74,100/-**

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or Say, **Rs. 43,74,000/-**

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D. FINANCIAL ANALYSIS

(a) Cost of Production Per Annum :

S. NO.	DESCRIPTION	AMOUNT (Rs.)
01.	Recurring expenditure	52,16,400/-
02.	Depreciation on Machineries @ 10%	1,01,000/-
03.	Depreciation on Building @ 5%	37,500/-
04.	Depreciation on Office Furniture @ 20%	20,000/-
05.	Interest on capital investment @ 16 %	6,99,840/-
TOTAL		**60,74,740/-**

(b) Turn Over (Per Annum) :

S. NO.	ITEM	QUANTITY (REAMS)	RATE (Rs.)	VALUE (Rs.)
01.	Sand paper of assorted sizes	3,000	1,000/-	**30,00,000/-**
02	Emery paper of silicon carbide and fused alumina bonded on assorted sizes	3,000	1,400/-	**42,00,000/-**
TOTAL				**72,00,000/-**

(c) Profit Per Annum : Rs.

Sales Per annum **72,00,000/-**
Cost of Production per annum **60,74,740/-**
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Profit **11,25,260/-**
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(d) Profitability Analysis :

$$\text{Net Profit Ratio} = \frac{\text{Profit/annum} * 100}{\text{Sales/annum}}$$

$$= \frac{11,25,260/- * 100}{72,00,000/-}$$

$$= \mathbf{15.63\%}$$

(e) Rate of Return

$$\text{Rate of Return} = \frac{\text{Profit/annum} * 100}{\text{Total Capital investment}}$$

$$= \frac{11,25,260/- * 100}{43,74,000}$$

$$= \mathbf{25.73\ \%}$$

E. Break Even Point :

(i) Fixed cost per annum :

S. NO.	DESCRIPTION	AMOUNT (Rs.)
01.	Depreciation	1,58,500/-
02.	Interest on investment	6,99,840/-
03.	Insurance	48,000/-
04.	40% of salary and wages	2,64,960/-
05.	40% of other expenses & Utilities excluding insurance	3,48,000/-
TOTAL		**15,19,300/-**

(ii) Profit per annum = Rs. 2,86,860/-

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

$$= \frac{15,19,300 * 100}{15,19,300 + 11,25,260}$$

$$= \mathbf{57.45\ \%}$$

J. NAME & ADDRESS OF SUPPLIERS OF MACHINERIES & RAW MATERIALS

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

1. M/s Chanchala Traders, Exhibition Road, Patna – 800 001.
2. M/s. National India Engg. Co. Ltd., 7/10 Elphinston Circle, Mumbai.
3. M/s. Universal Abrasives, Prakash Talkies, Mangalhat, Hyderabad.
4. M/s. Western Manufacturing Co., Hasan Chambers, Parai Bazaar Street, Fort, Mumbai.

(b) Suppliers of Raw Material :

1. M/s. Annamalai Chettiar & Co., Anderson Street, Chennai - 1.
2. M/s. Fedco (p) Ltd., Backbay Reclamations, PB No.10078, Mumbai - 1.
3. M/s. Fida Ali & Co., TS 343/344 Rasappa Street, Chennai - 3.

4. M/s. Gulamali Abdul Hussain & Co., 28 & 29 Linghi street, Chennai - 1.

5. M/s. Indian Abrasives, Omalur, Salem District

6. M/s. Indokem (p) Ltd.
   52/54, Rattan Bazaar, Chennai - 3.

7. M/s. mettor Industries Ltd.
   3rd Floor, Bombay Mutual Building, Chennai - 1.

8. M/s. Natesa Chetti & Co,
   56-a, Andeson Street, Chennai - 1.

9. M/s. Shaw Wallace & Co.
   8/9, Thambu Street, Chennai - 1.

10. M/s. Uni Krafts
    1-E, Andeson Street, Chennai - 1.

11. M/s. V. Perumal Chetty & Sons
    3, Stringers Street, Chennai – 1.