# Electric Toaster

| | |
|---|---|
| PRODUCT CODE (ASICC) | 77707 |
| QUALITY AND STANDARDS | IS 1287 : 1986 |
| | IS 302 : 1979 |
| Production Capacity | Quantity: 12000 Nos. (per annum) |
| | Value : Rs. 24,00,000 |
| YEAR OF PREPARATION | 2002 _ 2003 |
| PREPARED BY | Small Industries Service Institute |
| | Takyelpat Industrial Estate |
| | Imphal - 795 001 |
| | and |
| | Office of the Development Commissioner |
| | Small Scale Industries |
| | Electrical and Electronics Division |
| | 7th Floor, |
| | Nirman Bhavan, |
| | New Delhi - 110 011. |

**Introduction**

Electric toaster as the name suggest is essentially a portable domestic appliance intended for toasting bread and is operated electrically. The bread is inserted in the toaster, heated at desired temperature till brown in colour and a reasonable texture. That is the duration of the toasting period is predetermined by setting of built in control device. It is useful to domestic household as well as restaurants and hotels etc. The advantages are, it saves labour and time, easy maintenance, keeps kitchen clean and tidy.

The electric toaster is operated at 220 volts A.C., single phase and available in four different rated capacity such as 600 W, 750 W, 1000 W and 1250 W.

**Market Potential**

As a result of rapid expansion envisaged in the generation of electrical energy in the country, electricity is now available in remote villages also, thus more and more people are switching to use of domestic electrical appliances due to case of used, convenience, time-saving and also increase in standard of living. This by itself is bound to increase demand for electrical toasters, in future.

**Basis and Presumptions**

i) The basis for calculation of production capacity has been taken on single shift basis on 75% efficiency.

ii) The maximum capacity utilization

on single shift basis for 300 days a year. During first year and second year of operations the capacity utilization is 60% and 80% respectively. The unit is expected to achieve full capacity utilization from the third year onwards.

iii) The salaries and wages, cost of raw materials, utilities, rents, etc. are based on the prevailing rates in and around Imphal. These cost factors are likely to vary with time and location.

iv) Interest on term loan and working capital loan has been taken at the rate of 16% on an average. This rate may vary depending upon the policy of the financial institutions/agencies from time to time.

v) The cost of machinery and equipments refer to a particular make/model and prices are approximate.

vi) The break-even point percentage indicated is of full capacity utilization.

vii) The project preparation cost etc. whenever required could be considered under pre-operative expenses.

viii) The essential production machinery and test equipment required for the project have been indicated. The unit may also utilize common test facilities available at Electronics Test and Development Centres (ETDCs) and Electronic Regional Test

Laboratories (ERTLs) and Regional Testing Centres (RTCs).

**Implementation Schedule**

The major activities in the implementation of the project has been listed and the average time for implementation of the project is estimated at 12 months:

| ***Sl.No.*** | ***Activity*** | ***Period (In Months)*** |
|---|---|---|
| 1. | Preparation of project report | 1 |
| 2. | Registration and other formalities | 1 |
| 3. | Sanction of loan by financial institutions | 3 |
| 4. | Plant and Machinery: | |
| | a) Placement of orders | 1 |
| | b)Procurement | 2 |
| | c) Power connection/Electrification | 2 |
| | d) Installation/Erection of machinery/Test Equipment | 2 |
| 5. | Procurement of raw materials | 2 |
| 6. | Recruitment of Technical Personnel etc. | 2 |
| 7. | Trial production | 11 |

8. Commercial production 12

*Notes*

1. Many of the above activities shall be initiated concurrently.

2. Procurement of raw materials commences from the 8th month onwards.

3. When imported plant and machinery are required, the implementation period of project may vary from 12 months to 15 months.

**Technical Aspects**

**Process of Manufacture**

As per the required specification and design, the CRCA sheets are marked out as per types of toaster and cut in proper size by shearing machine. These cut pieces are shaped in presses. Further the cut CRCA sheet is get electroplated from outside. Heating elements are wound separately on Mica sheets and fitted with body of toaster with the help of ceramic terminals. The handle, leads, pressure control devices are fitted at proper places and necessary wiring done. After complete manufacturing of various parts and components the toaster is assembled, tested and packed.

**Quality Control and Standards**

As per IS 1287:86

IS 302 : 1979

**Production Capacity (per annum)**

Quantity: 12,000 Nos. electric toaster, automatic type.

Value: Rs. 2400,000

**Motive Power** 10 kW.

**Pollution Control**

The Government accords utmost importance to control environmental pollution. The small-scale entrepreneurs should have an environmental friendly attitude and adopt pollution control measures by process modification and technology substitution.

India having acceded to the Montreal Protocol in September 1992, the production and use of Ozone Depleting Substances (ODS) like Chlorofluore Carbon (CFCs), Carbon Tetrachloride, Halons and methyl Chloroform etc. need

to be phased out immediately with alternative chemicals/solvents. A notification for detailed rules to regulate ODS phase out under the Environment Protection Act, 1986 have been put in place with effect from 19th July 2000.

**Energy Conservation**

With the growing energy needs and shortage coupled with rising energy cost, a greater thrust in energy efficiency in industrial sector has been given by the Government of India since 1980s. The Energy Conservation Act, 2001 has been enacted on 18th August 2001, which provides for efficient use of energy, its conservation and capacity building of Bureau of Energy Efficiency created under the Act.

The following steps may help for conservation of electrical energy:

i) Adoption of energy conserving technologies, production aids and testing facilities.

ii) Efficient management of process/manufacturing machineries and systems, QC and testing equipments for yielding maximum Energy Conservation.

iii) Optimum use of electrical energy for heating during soldering process can be obtained by using efficient temperature controlled soldering and de-soldering stations.

iv) Periodical maintenance of motors, compressors etc.

v) Use of power factor correction capacitors. Proper selection and layout of lighting system; timely switching on-off of the lights; use of compact fluorescent lamps wherever possible etc.

**Financial Aspects**

**A. Fixed Capital**

**(i) Land and Building (Rented) (per month) (Rs.)**

Total covered area 3,000 (including office, workshed, store and others) 150 sq.m (apprx.)

**(ii) Machinery and Equipments**

| Sl. No. | Description | Qty. | Amounts(Rs.) |
|---|---|---|---|
| 1. | Power Press 20 tonnes | 1 no. | 30,000 |
| 2. | Gurillotine shearing Machine (36" X 48") | 1 no. | 24,000 |
| 3. | Drilling Machine ½" cap. | 1 no. | 9,000 |
| 4. | H.V. tester | 1 no. | 3,500 |
| 5. | Ammeter and Voltmeter | 2 nos. | 1,200 |
| 6. | Megger | 1 no. | 2,500 |
| 7. | Pyrometer | 1 no. | 3,500 |

| | | | |
|---|---|---|---|
| 8. | Multimeter (Digital) | 1 no. | 1,500 |
| 9. | Watt meter | 1 no. | 2,000 |
| 10. | Variable transformer (8 Amp) | 1 no. | 1,800 |
| | **Total** | | **89,000** |
| | Add 10% for electrification charge | | 9,000 |
| | Lost of tools, Dies, Punches, moulds and fixture etc L.S. | | 20,000 |
| | Fire fighting equipments | | 5,000 |
| | Office furniture and Equipments | | 20,000 |
| | **Total Fixed Capital** | | **1,43,000** |

**B. Working Capital (per month)**

**(i) Raw Materials (per month)**

| Sl.No. | Particulars | Qty. | Rate (Rs.) | Amount (Rs.) |
|---|---|---|---|---|
| 1. | CRCA Sheet | 5000 Kg | 15 | 75,000 |
| 2. | Nichrome Tape | 1000 sets | 7 | 7,000 |
| 3. | Mica sheet | 1000 sets | 9 | 9,000 |
| 4. | Bakelite | 1000 sets | 8 | 8,000 |
| 5. | Heating element wire | 1000 sets | 7 | 7,000 |
| **Sl.No.** | **Particulars** | **Qty.** | **Rate(Rs.)** | **Amount(Rs.)** |
| 6. | Screw nuts, washers steel spring rod etc. | 250 kg | 15 | 3,750 |
| 7. | Electroplating charge | 1000 sets | 12 | 12,000 |
| 8. | Cable 3 - core | 2000 mtrs. | 5 | 10,000 |
| 9. | Packages | 1000 Box | 5 | 5,000 |
| 10. | Misc. | _ | _ | 5,000 |
| | **Total** | | | **1,41,750** |
| | **Say** | | | **1,42,000** |

**(ii) Salary and Wages (per month)**

| Sl.No. | Designation | Nos. | Rate | Amount(Rs.) |
|---|---|---|---|---|
| 1. | Factory Manager Cum engineer | 1 | 3,500 | 3,500 |
| 2. | Skilled Worker | 2 | 2,000 | 4,000 |
| 3. | Semi Skill Worker | 4 | 1,500 | 6,000 |
| 4. | Clerk cum-typist | 1 | 2,000 | 2,000 |

| | | | | |
|---|---|---|---|---|
| 5. | Accountant | 1 | 1,800 | 1,800 |
| 6. | Peon Cum Watchman | 1 | 1,200 | 1,200 |
| | **Total** | | | **18,500** |
| | *Perquisites @ 15%* | | | 2,775 |
| | **Total** | | | **21,275** |
| | **Say** | | | **21,000** |

**(iii) Utilities (per month) (Rs.)**

| | |
|---|---|
| a) Power | 1,800 |
| b) Water | 350 |
| **Total** | **2,150** |
| **Say** | **2,200** |

| **(iv) Other Contingent Expenses (per month)** | **(Rs.)** |
|---|---|
| a) Rent | 3,000 |
| b) Postage, stationery and Telephone | 1,800 |
| c) Consumable store | 400 |
| d) Repairs and Maintenance | 500 |
| **(iv) Other Contingent Expenses (per month)** | **(Rs.)** |
| e) Transport and Conveyance | 600 |
| f) Advt. and publicity | 3,000 |
| g) Insurance | 300 |
| h) Misc. | 500 |
| **Total** | **9,200** |
| **(v) Total Recurring Expenses (per month)** | **(Rs.)** |
| (i+ii+iii+iv) =1,42,000 + 21,000 +2,200 + 9,200 | **1,74,400** |
| **(vi) Working Capital (for 3 months)** 1,74,000 × 3 | **5,22,000** |

**C. Total Capital Investment**

| | |
|---|---|
| 1. Working Capital for 3 months | Rs. 5,22,000 |
| 2. Total fixed Capital | Rs. 1,53,000 |
| 3. Preliminary and pre-operative Exp. | Rs. 15,000 |
| **Total** | **6,90,000** |

**Financial Aspects**

| **(1) Cost of Production (per annum)** | **(Rs.)** |
|---|---|
| a) Total recurring cost | 1992800 |
| b) Depreciation on Machinery and Equipments @ 10% | 8900 |
| c) Depreciation on tool and fixture @ 20% | 4000 |
| d) Depreciation on office equipment @ 20% | 4000 |
| e) Interest on total investment @ 15% | 103500 |
| **Total** | **21,13,200** |
| **Say** | **21,10,000** |

| **(2) Turnover (per annum)** | **(Rs.)** |
|---|---|
| By sale of 12,000 nos. Automatic Electric Toaster @ Rs. 200 each | 24,00,000 |

**(3) Net Profit (per annum)**

= Sales - Cost of production

= Rs. 24,00,000 - 21,10,000 = **Rs. 2,90,000**

**(4) Net Profit Ratio**

$$= \frac{\text{Net Profit} \times 100}{\text{Amount Turnover}}$$

$$= \frac{2,90,000 \times 100}{26,40,000}$$

= **12.1%**

**(5) Rate of Return**

$$= \frac{\text{Net profit} \times 100}{\text{Total investment}}$$

$$= \frac{2,90,000 \times 100}{6,90,000} = \textbf{42\%}$$

**(6) Break-even Point**

| | **Fixed Cost** | **(Rs.)** |
|---|---|---|
| a) | Total Depreciation | 16,900 |
| b) | Interest | 1,03,500 |
| c) | 40% of personnel | 1,00,800 |
| d) | 40% of other contingent expenses | 44,160 |
| e) | Rent | 36,000 |
| | **Total** | **3,01,360** |

**B.E.P.**

$$= \frac{\text{Annual Fixed Cost} \times 100}{\text{Fixed cost + Net Profit}}$$

$$= \frac{3,01,360 \times 100}{2,90,000 + 3,01,360} = \mathbf{50.96 \quad Say \quad 51\%}$$

**Additional Information**

a. The Project Profile may be modified/tailored to suit the individual entrepreneurship qualities/capacity, production Programme and also to suit the locational characteristics, wherever applicable.

b. The Electrical Technology is undergoing rapid strides of change and there is need for regular monitoring of the national and international technology scenario. The unit may, therefore,

keep abreast with the new technologies in order to keep them in pace with the developments for global competition.

c. Quality today is not only confined to the product or service alone. It also extends to the process and environment in which they are generated. The ISO 9000 defines standards for Quality Management Systems and ISO 14001 defines standards for Environmental Management System for acceptability at international level. The unit may therefore adopt these standards for global competition.

d. The margin money recommended is 25% of the working capital requirement at an average. However, the percentage of margin money may vary as per bank's discretion.

*Addresses of Power Press and Shearing Machine*

1. Prem Engineering Works
Okhla Industrial Estate, New Delhi - 110020.

*Drilling Machine*
1. Accumar Limited
Bhupendra Village, P.O. Box No. 229, Rajkot.
*Electrical Equipment*
1. Toshniwal Industries (P) Ltd. Industrial Estate, Makhupura,
Ajmer - 305002.
*Raw Material Suppliers*
1. Aggarwal Steel Company
10254, Loha Mandi, Motia Khan, New Delhi - 55.
*Screw Nut and Washers*
1. Allied Metal Engg. Works Hauz Qazi, Delhi - 110006.
*Mica Sheet*
1. Bihar Mica House
10/40, East Park Road, Near Filmistan Cinema,
New Delhi - 110005.
*Heating Element Wire*
1. Western Electric Corporation
35, Ezra Street, Kolkata - 700001.