

PROJECT PROFILE ON
Emergency Lamp

Product Code

- (i) NIC 2004 : 31509
- (ii) ASICC Code : 77489

Quality standards: As per Indian Standard/Customer's Requirements

Production Capacity: 15000 Nos. per annum

Year of Preparation: 2020-2021

Prepared By

**MICRO, SMALL & MEDIUM ENTERPRISES DEVELOPMENT
INSTITUTE
GUWAHATI**

1. **INTRODUCTION-** LED is semiconductor Technology that emits light at the junction of oppositely charged materials when voltage forces electron movement. LEDbased emergency light is a device consisting of many LEDs chips embedded on the LED fixtures base and fitted with charger circuit that charges the battery.
The whole PCB circuit board is fitted inside a plastic enclosure along with the metallic cap, Smokey reflector and a battery.

2. **MARKET POTENTIAL-** Conventional lighting systems represent mainly incandescent light bulbs and compact fluorescent lights (CFLs).LED based emergency light provides advantages over conventional lighting systems in terms of better energy efficiency, longer lifetime, less temp. sensitivity, higher light output with less battery. This leads them to be better Lighting substitute and good market prospect. Therefore the market prospect for LED based Emergency Light is good and booming in rural India.

3. **Basis andpresumptions**
 - (i) The basis for calculation of production capacity has been takenon 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 yearonward.
 - (iii) The salaries and wages, cost of raw materials, utilities, rent etc are based on the prevailing rates in and around Guwahati. These cost factors are likely to vary with time andlocation.
 - (iv) Interest on term loan and working capital loan must be preferably current rate. Otherwise the rate of interest on an average may be taken as 13%. This rate may vary depending upon the policy of the financial institution/agencies from time totime.
 - (v) The cost of machinery and equipment refer to a particular make/model and prices areapproximate.
 - (vi) The breakeven point percentage indicated is of full capacity utilization.
 - (vii) The project preparation cost etc whenever required could be considered under preoperativeexpenses.
 - (viii) The essential production machinery and test equipments required for the projects have been indicated. The unit may utilize common test facilitates available at ETDC and ERTLs and Regional Testing Centre(RTC). Kolkata/Delhi.

Implementation Schedule

The major activities in the implementation of the project have been listed and the average time for implementation of the project is estimated at 6 months:

Name ofactivity	Period in months (suggestive)
1.Preparation ofProject Report	1
2.Registration andotherformalities	1

3.Sanction of loan by financial institution		3
4. Plant and machinery		
(a) Placement of order		1
(b) Procurement		2
(c) Installation /erection of machinery/test equipments		2
5.Procurement of raw material		2
6.Recruitment of technical person etc		2
7. Trialproduction		6 th month
8.commercialproduction		6 th month

Note

1. Many of the above activities shall be initiatedconcurrently.
2. Procurement of raw materials commences from 5th month onwards.
3. When imported plant and machinery are required the implementation period of projects may vary from 12 months to 15months.

Technical aspect

Process of Manufacturing; This project profile is made for the assembling of LED based Emergency Light up to 10 W. The assembling of LED based Emergency Light consists of the following steps:

1. Procurement/import of LED chips of milli Watt rating, Procurement of Circuit and other mountingdevices.
2. Embedding of LED Chips of milli watt rating on the PCB board with the charger circuit, filter circuitetc.
3. Fitting of PCB Board with the holder cap and plastic modules fitted with the Smokey reflector to form a compactunit.
4. Procurement of plastic cabinet and LiFePO4 Batteries.
5. Testing of the assembled LED Based Emergency light andpacking

Quality controls & Standards

As Per INDIAN STANDARD

Production Capacity (Per annum)

Qty;15000Nos.

Value: 15000 X 850.00 = Rs.1,27,50,000.00

4. Motivepower

1kw

5. Pollutioncontrol

The govt. Accords utmost importance to control environmental pollution. The Small- Scale entrepreneur should have an environmental friendly attitude and adopt pollution control measures by process modification and technology substitutions.

India having acceded to the Montreal Protocol in sept.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.

The following steps are suggested which may help to control pollution in electronics industry wherever applicable:

- i) In electronic industry fumes and gases are released during hand soldering/wave soldering/dip soldering, which are harmful to people as well as environmental and the end products. Alternative technologies may be used to phase-out the existing polluting technologies. Numerous new fluxes have been developed containing 2-10% solids as opposed to the traditional 15-35 %solids.
- ii) Electronic industry uses CFCs,carbon tetrachloride and Methyl chloroform for cleaning of printed Circuit boards after assembly to remove flux residues left after soldering and various kinds of foams forpackaging.

Many alternative solvents could replace CFC-113 and methyl chloroform in electronics cleaning. Other chlorinated convents such as trichloroethylene, per chloroethylene and methylene chloride have been used an effective cleaners in electronic industry for many years. Other organic solvents such as Ketenes and Alcohols are effective in removing both solder fluxes and many polar contaminants.

6.Energyconservation

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 Govt. of India since 1980s. The energy Conservation Act 2001 has been enacted on 18th August 2001which provides for efficient use of energy its conservation and capacity building of Bureau of Energy Efficiency created under theact.

The following steps may be help for conservation of ElectricalEnergy:

- i) Adoption of energy conserving technology, production aids and testing facilities.
- ii) Efficient management of process/manufacturing machineries and systems, QC and testing equipments for yielding maximum energyconservation.
- iii) Optimum use of electrical energy for heating during soldering process can be obtained by using efficient temperature controlled soldering and desolderingstations.
- iv) Periodical maintenance of motors compressorsetc
- v) Use of power factor correction capacitors, proper selection and layout of lighting systems timely switching on/off of the lights, use of Compact Fluorescent Lamps whereverpossible.

FINANCIAL ASPECT

(I) Land and building

Built up Area	3000 SqFt
Office, Store	1000 Sq Ft
Assembly and Testing	2000 Sq Ft
Rent payable Per Annum	1,08,000.00

(ii) Machinery and equipment

Sn	Description	Ind/im p	Qty	Value (RS.)
1	Component forming machine	Indian	02	1,00,000.00
2	Soldering Machine	Indian	10	5,000.00
3	Digital Multimeter	Indian	02	8,000.00
4	Continuity Tester	Indian	10	1,000.00
5	Sealing Machine	Indian	01	10,000.00
6	Packaging Machine	Indian	01	15,000.00
7	Small Drilling M/C Set	Indian	01	10,000.00
8	Lux Meter	Indian	01	40,000.00
9	Oscilloscope	Indian	01	60,000.00
10	Personnel Computer with UPS and Printer	Indian	01	80,000.00
11	Miscellaneous items	Indian		10,000.00
			TOTAL	3,59,000.00

Other Fixed Assets in (RS.)

Electrification charges@10%of cost of machinery and equipment	35,900.00
Office equipment, furniture and working table etc	20,000.00
Tools, jigs and fixtures	20,000.00
Pre operative expenses	5,000.00
Misc.	5,000.00
Total	85,900.00

Total Fixed Capital = 4,44,900.00

Working Capital Per Month

i) Staff & Labour

SN	Description	No of Persons	Salary/month (RS.)	Total Salary per month(RS.)
1	Supervisor Cum Manager	01	15,000.00	15,000.00
2	Skilled Worker	05	7,500.00	37,500.00
3	Accountant	01	12,000.00	12,000.00
	Total			64,500.00

ii) **Raw Material Requirement PerMonth**

Sn	Description	Qty	Rate	Value (Rs)
1	LED set	1250	25	31,250.00
2	Charger Circuit with filter	1250	25	31,250.00
3	Heat Sink Devices	1250	5	6,250.00
4	Plastic Body	1250	150	1,87,500.00
5	Reflector Plastic Glass	1250	5	6,250.00
6	Battery	1250	300	3,75,000.00
7	Mains cord	1250	25	31,250.00
8	Connecting wire	Lumsum		15,000.00
9	Soldering Flux	Lumsum		5,000.00
10	Miscellaneous	Lumsum		10,000.00
11	Packaging Material			10,000.00
			TOTAL	7,08,750.00

iii) **Utilities PerMonth**

	Value in (RS.)
Power	5,000.00
Water	900.00

Total = 5,900.00

Other Contingent Expenditure Per Month

SN	Item	Amount (RS.)
1	Rent	9,000.00
2	Postage and stationary	500.00
3	Telephone	2,000.00
4	Repair & Maintenance	2,000.00
5	Transport and Conveyance charges	5,500.00
6	Adv. And publicity	5,000.00
7	Insurance and Taxes	3,000.00
8	Miscellaneous expenditure	1,000.00
	TOTAL	28,000.00

Total Reoccurring Expenditure Per Month (I+ii+iii+iv)= Rs 8,07,150.00

Total Capital Investment (In RS.)

Fixed capital	4,44,900.00
Working capital for three month	24,21,450.00
Total= 28,66,350.00	

Financial analysis

Cost of production per annum

Total reoccurring expenditure	96,85,800.00
Depreciation on machinery and equipment@10%	35,900.00
Depreciation on tools, jigs and fixtures @25%	5,000.00
Depreciation on office equipments, furniture @ 20%	4,000.00
Interest on total Capital investment @ 13%	3,72,625.50
Total= 1,01,03,325.5	

Turn over per annum

Item	Qty (Nos)	Rate/unit	Total value (Rs.)
LED BASED EMERGENCY LIGHT	15000	850.00	1,27,50,000.00

Profit per annum (before Taxes)= Turn over per annum- Cost of Production per annum = 26,46,675.00

Net profit ratio= profit/annum*100/sales/annum = 20%

Rate of Return = Profit/annum*100/ Total Capital Investment = 46%

Break-even Point

Fixed cost per annum

Rent	1,08,000.00
Depreciation on machinery and equipment @ 10%	35,900.00

Depreciation on tools, jigs and fixtures @ 25%	5,000.00
Depreciation on office equipment, furniture @ 20%	4,000.00
Interest on total capital investment@13%	3,72,625.50
Insurance	3,000.00
40% of salaries and wages	3,09,600.00
40% of other contingents & utilities (excluding rent & insurance)	76,800.00
Total fixed cost	9,14,925.00

Break even point = fixed cost *100/ fixed cost +Profit
= 9,14,925.00X100/(9,14,925.00+26,46,675.00)=26.7%

Additional information

- ❖ The Project Profile may be modified/tailored to suit the individual entrepreneurship qualities/capacity, production programme and also suit the location characteristics, wherever applicable.
- ❖ 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

Name & address of Machinery and equipment supplier

1. Kamal Electronics, 14, Lakshmi Building, J.C.Road, Bangalore-560002
2. Static systems Pvt. Ltd., 925, II Floor, 3rd Main, 3rd Cross, D block, 2nd Stage, Rajajinagar, Bangalore-560010
3. Buljin ELMEC Pvt. Ltd., 2/10, Plot No. 65 & 78, Krishna Industrial estate, Mettukuppam, Vanagaram, Chennai-600095

Name & address of raw Material Suppliers

1. M/S Micrologix, 473/D, 13th Cross, 4th Phase, Peenya industrial Area, Bangalore 560058
2. B.M.V. Circuit Systems, C/321, sector 10, Noida-201301.
3. M/S Signal Circuits, 7, Navjeevan, RajguruNagar, Pune-410505.
4. Kura Electronics & Electricals, Shukrawar Peth, Puna.
5. Explore Synergy Synocare Pvt Ltd, East Delhi.