PROJECT PROFILE ON N-95 MASK

Sl No	*Description*	
1	*Product*	*Manufacture of N 95 Medical Mask*
2	*Quality Standards*	*IS:9473* *IS:16289*
3	*Production Capacity / Value per annum*	6,15,800 Nos Value Rs. 3,07,90,000
4	*Month & Year*	*June 2020*
5	*Prepared by*	**MSME DEVELOPMENT INSTITUTE** **GOVT. OF INDIA, MINISTRY OF MSME,** **65/1, G S T ROAD, GUINDY** **CHENNAI -600032, TAMILNADU** **Website: www.msmedi-chennai.gov.in** **Email: dcdi-chennai@dcmsme.gov.in**

1.Introduction to N95 Mask

N 95 is one of 9 types of particulate protection masks certified by NIOSH.(National Institute for Occupational Safety and Health (**NIOSH**) "N" means not resistant to oil. "95" means that when exposed to a specified number of special test particles, the particle concentration in the mask is more than 95% lower than the particle concentration outside the mask. The 95% value is not the average value, but the minimum value. N95 is not a specific product name, as long as it meets the N95 standard, and products that pass the NIOSH review can be called "N95 masks." The protection grade of N95 means that under the test conditions specified by the NIOSH standard, the filtering efficiency of the mask filter material to non-oily particulate matter (such as dust, acid mist, paint mist, microorganisms, etc.) reaches 95%.

The filtration efficiency of the N95 mask for particles with an aerodynamic diameter of 0.075μm ± 0.02μm reaches more than 95%. The aerodynamic diameter of airborne bacteria and fungal spores mainly varies between 0.7-10μm, which is also within the protection range of N95 masks. Therefore, the N95 mask can be used for the respiratory protection of certain particulate matter, such as the dust generated by the processes of grinding, cleaning and processing minerals, flour and certain other materials. It is also suitable for the liquid or non-oily generated by spraying. Particulate matter of harmful volatile gas. Can effectively filter and purify the inhaled abnormal odors (except toxic gases), help reduce the exposure level of certain inhalable microbial particulates (such as mold, anthrax, tuberculosis, etc.), but it cannot eliminate contact infection, illness or death risks of.

The US Department of Labor has recommended that medical personnel use N95 masks to prevent microbial airborne diseases such as influenza and tuberculosis.
NIOSH certified other anti-particulate mask levels also include: N95, N99, N100, R95, R99, R100, P95, P99, P100, a total of 9 kinds. These protection levels can cover the protection range of N95.
"N" means not resistant to oil, suitable for non-oily particulate matter.
"R" means resistant to oil, suitable for oily or non-oily particulate matter. If used for the protection of oily particulate matter, the use time should not exceed 8 hours.
"P" stands for oil proof, suitable for oily or non-oily particulate matter. If used for oily particulate matter, the usage time should follow the manufacturer's recommendations.
"95", "99" and "100" refer to the filtration efficiency level when tested with 0.3 micron particles. "95" means that the filtration efficiency is above 95%, "99" means that the filtration efficiency is above 99%, and "100" means that the filtration efficiency is above 99.7%.

In addition to the filtration efficiency of the mask, the tightness of the mask and face is one of the important factors that determine the effectiveness of the mask. Different types of masks have a big difference with the human face. Therefore, before using the mask, the suitability of the mask should be checked first. After the wearer's face tightness test, ensure that the air can enter and exit through the mask when it is close to the edge of the face.

Sources: Anhui Med Purest Medical Technology CO, Ltd, Anqing City, China

2. Market demand

Due to Corona crisis across the world the demand of mask and other health care product requirements are increasing every day. And at present situation India needs at least 5 crores of N 95 Mask per day but manufacture in the line of activities are very limited. And in Tamildadu only few suppliers are manufacture of this kind of products and in order to meet the present market situation there is great scope in the proposed activities

3 Manufacturing Methods

The full respirators are made through converting machinery, which combines the layers through ultrasonic welding and adds straps and metal strips to adjust the mask over the user's nose. The respirators are then sterilized as a last step before being shipped

4. Electrical HP Details:

Sl No	**Name of the Machine**	No: of m/s	**H.P Connected**
1	N 95 Mask making machine	Full set	15
Total H.P Connected			**15**

5. Production capacity and value per annum

Sl No	**Description**	**No of PCS**	**Value**	**Total Value**
1	3-Play Mask	6,15,800	Rs.50.00 Per pc	3,07,90,000
Total				**3,07,90,000**

6. Energy Conservation:

General precautions for saving electricity are followed by the unit by providing energy meter. These products are low energy consumption. Thus considerable energy could be saved during manufacturing activities

7 .Basis and presumption of the project:

I. The process of manufacture is on the basis of single shift eight hours per shift with three hundred working days in a year.

II. To achieve full plant capacity it requires one month trial producti

III. .Labor and wages mentioned in profile are as per prevailing local rates.

IV. Interest rate at 12.00% considered in the project, however the rate of interest may be varying while implement of the project

V. The Promoter contribution will be 10% of the total project cost in the PMGEP Schemes. (5 % for Special Category)

VI.

8.1 Land &Building

	Description	**Rs**
A	Land and Building	Own / Lease
B	Building 3,000 Sq.ftt	29,00,000
	Total	**29,00,000**

8.2. Machinery and equipments

S.No	***Description***	***Nos***	***Value (Rs)***
1	Fully automatic N 95 mask Making Machine including air nose welding capacity to produce 50 -60 pcs per min	1	30,00,000
2	Automatic packing machine	1	4,75,000
3	Air compressor	1	95,000
	Total		35,70,000
	GST IN 18%		6,42,600
	Total (Forty two lakhs towel thousands and six hundred only)		**42,12,600**

8.2 .Total plant & machineries : Rs. 42,12,600/-

***9. Recurring Expenditure per Month*:**

9.1 Raw Material **Rs**

S.No	**Description**	**Qty (MT)**	**Rate Per MT**	**Amount**
1	Medical Grade Non woven melt blown fabric (15-30 GSM)	10 MT	1,90,000	19,00,000
2	Air loop elastic roll	100 kg	300	30,000
	Total including 18% GST IN			**19,30,000**

9.2 Salaries & Wages **Rs.**

S.No	Designation	No	Salary	Amount
1	Production Manager	1	25,000	25,000
2	Skilled operator	2	15,000	30,000
3	Un Skilled Workers	3	10,000	30,000
4	Marketing assistant	1	20,000	20,000
5	Office assistant	1	10,000	10,000
	Total	**11**		**1,15,000**

Note: Contract workers may be engaged when ever required

9.3 Utilities per month: **Rs.**

S.N	Description	Amount
1	Electrical power 15 HP, 1679 Units @ Rs. 7.00/- (60 % utilization]	11,753
2	Water etc	1,000
	Total	**12,753**

9.4 .Other Expenses per Month: **Rs.**

S.N	Description	Amount
1	Insurance	1,000
2	Marketing and advertisement	2,000
3	Transportation Charges.	20,000
4	Telephone charges	1,500
5	Miscellaneous expenses	1,500
6	Repairs and maintenance	1,000
7	Packing materials	20,000
	Total	**47,000**

9.5 Recurring Expenditure per Month

a + b + c + d = **Rs: 21,04,753 /-**

9.6. Recurring expenditure per annum: Rs. 2,52,57,036/-

10. Working capital:

One and half month recurring expenditure Rs.31,57,130/

11.1 Total Project cost

	Description	**Rs**
A	Land and Building	Own / Lease
B	Building 3,000 Sq.ftt	29,00,000
C	Plant & Machinery	42,12,600
D	Working capital Requirements	31,57,130
	Total	**1,02,69,730**

11.2. Means of Finance

	Description	**Rs**
A	Total Project Cost	1,02,69,730
B	Promoter contribution 10 % (-)	10,26,973
	Total	92,42,757

11.3. Cost of Production Per annum: Rs.

S.No	**Description**	**Amount**
1	Total recurring cost per annum	2,52,57,036
2	Interest on investment @12.00 %	12,32,367
3	Total Depreciation on Machinery @ 5%	2,10,630
4	Total Depreciation on Building @ 3%	87,000
	Total	**2,67,87,033**

11.4. Turnover per Annum:

Sl No	Description	No of PCS	Value	Total Value
1	3-Play Mask	6,15,800	Rs.50 / Per pc	3,07,90,000
Total				**3,07,90,000**

11.5. Profit Per annum: Rs

Turnover - Cost of Production

3,07,90,000 - 2,67,87,033 : 40,02,967

Profit per annum **= 40,02,967/**

11.6. % of profit on sales = $\frac{\text{Profit per annum X 100}}{\text{Turnover}}$

= $\frac{40,02,967 \text{ X } 100}{3,07,90,000}$

= 13.00 %

11.7. Rate of Return = $\frac{\text{Profit Per annum X 100}}{\text{Total investment}}$

= $\frac{40,02,967 \text{ X } 100}{1,02,69,730}$

= 38.97 %

11.8. Break Even Analysis

A. Fixed Expenditure per annum : Rs

a	Total Deprecation	2,97,630
b	Interest on Investment	12,32,367
c	Insurance	12,000
d	40%of Salary	5,52,000
e	40% of other Expenditure and Utilities excluding Insurance	2,82,014
	Total	23,76,011

B. Profit per annum = Rs. 40,02,967

C. Breakeven Point:

$$\frac{\text{Fixed Exp /annum X 100}}{\text{Fixed Exp /annum + Profit /per annum}}$$

$$= \frac{23,57,011 \text{ X}100}{63,78,978}$$

= 36.94 .%

12. Raw materials Suppliers

Sl No	Name and Address
1	M/s. Adimangala Fabric 8C/6,New Ramnad Road,,Madurai, Navarathinapuram, Madurai-625009, Tamil Nadu, India
2	M/s. Texbond Nonwovens T2 & T4, K.G Plaza, 41-44 General Patters Road, Chennai – 600002, Tamilnadu,
3	M/s. Sinecera No:111A,2 nd Floor, Mount View Building, Mound Road, Guindy, Chennai-600032
4	M/s. Jayashree Spun bond NO 42 Old Kuyavar Palayam Road, Munichalai Road, Madurai - 625009, Near Indian Oil Petrol Bunk (Map)

13 .Plant and Machinery Suppliers

Sl No	Name and Address
1	M/s. KP Tech Machine (India) Private Limited K-209, 2nd Floor, Vishala Land Mark, S. P. Ring Road, Nikol, Ahmedabad - 382350 , Gujarat
2	M/s. Upliftoo Green Caaar Products No: 212/3, Tharaipakkam Road, Next to Murugan tample , Gerugambakkam, Chennai 600122
3	M/s. Sheetal Enterprises, LL 2, Avani Plaza, Nr. Satellite tower, Satellite, OPP H P Petrol Pump , Premchandnagar Road,, Ahmedabad, Gujarat 380015