

A
PROJECT PROFILE
ON

**MANUFACTURING OF NON
WOVEN THREE LAYER
SURGICAL (MEDICAL) FACE
MASK (DISPOSABLE)**

2020 - 2021



Prepared By:

MSME- DEVELOPMENT INSTITUTE

Ministry of MSME, Govt. of India

Shaheed Capt. Gaur Marg ,

Okhla, New Delhi-110020

Ph. 26838118, Fax 011-26838016

E-Mail:- dcdi-ndelhi@dcmsme.gov.in

PROJECT PROFILE

PRODUCT : NON WOVEN THREE LAYER SURGICAL (MEDICAL)
. FACE MASK (DISPOSABLE)

PRODUCT CODE :

QUALITY : IS : 1067 -1968

PRODUCTION : Qty. (Annual) 55 Lakh
CAPACITY Value : Rs. 203.5 Lakhs

MONTH & YEAR : 2020-2021

A. INTRODUCTION

The Non Woven Three layer Surgical (Medical) disposable Face Mask is a form of personal protective equipment / device that generally fits loosely over the nose and mouth. The masks shields against large cough or sneeze droplets, splashes or sprays. But they cannot protect against smaller droplets.

Surgical face masks are worn by health care professionals during surgery or while tending to patients in order to avoid contact with bacteria shed in the form of liquid droplets and aerosols from the mouth and nose or infections blood and body fluids. They are made mostly from non woven fabric and are available in the two layers, three layers & four layer form.

A surgical face masks also known as a procedure mask. They are not designed to protect the wears from inhaling airborne bacteria or virus particle and are less effective than respirators; the three layer surgical mask is effective in preventing respiratory disease like viral infections, influenza.

B. MARKET

Now a days during the deadly global corona virus(covid-19) outbreak, you never know if the people you encountered are infected or not. As an infected person might not show symptoms for 14 days after exposure to this dangerous virus. Therefore surgical mask are must requirements for all human beings to protect themselves from the splashes, droplets of anyone who may be infected .

As we know the corona virus is super macro about 100nm. But the virus cannot exist independently. It is transmitted mainly from close contact, secretions and droplets when sneezing. Since the size of droplets is about 5 microns and the melt blown layer is essentially a filter .The droplets containing viruses will be electro statically adsorbed on the surface. And cannot infiltrate the mask if your mask is properly fitted, the surgical mask will create a basic barrier between your mouth and nose and the viruses.

As a whole wearing a surgical mask is vital in protecting yourself against influenza, deadly corona virus (covid-19) etc and airborne viruses. Bear in mind that wears a face mask to avoid infecting others or being infected in public settings. These are being weared in, bus, Taxi, Marriage party, Hotels, Hospitals, Industries, etc. Due to the threat to the life and health consciousness of the human, hence the huge market is available.

C. BASIS AND PRESUMPTION

- (1) The efficiency of machinery is considered at 80%.the unit will work on single shift basis i.e. 8 hrs. perday, 25 days in a month and 300 days in a year.
- (2) The time period to achieve the full envisaged capacity utilization is one year.
- (3) The rate of the machinery and labour wages are as per the prevailing rates in market and are indicative and may vary from time to time and place to place.
- (4) The interest rates for fixed and working capital is taken as 13%.
- (5) The margin money requirement will be 30% of this project to run the unit.
- (6) The pay back period of this project is 5 years.
- (7) The land requirement is 400 sq. mtrs. And the built up area is 300 sq. mtrs.

D. IMPLEMENTATION SCHEDULE

Time required for preparation of project report	- One month
Selection of site	-One month
Time required for registration as SSI unit	-One week
Time required for acquiring the loan	-Three months
Machinery commissioning and erection	-Two months
Recruitment of labourers etc.	-One month
Trial runs	-One month

E. FINANCIAL ASPECTS

(1) Process outline:

The proper surgical (medical) face mask is a usually made of three layers as (pp non woven+ Filter+ pp non woven), material used polypropylene 20-25 grams /sq. meters gsm in density including an outer hydrophobic non woven layer , a middle melts blown layer , and an inner soft absorbent non woven layer , the three layers have their specific functions . These are -

- (i) The outer layer is intended to repel the water , blood and body fluids .
- (ii) The middle melt blown layer is th critical highlight of surgical mask it is designed as the filter to stop germs from entering or existing the mask and
- (iii) The viewer layer is intended to absorb water, sweat and spit.

On the machine the role of required size of layers (to produce the 175mm x95 mm of mask) are loaded to combine three layers . And these three layers are passes through the machine where stitch the aluminium wire fixed by the nose clip into the laminated three layers . And sealed and fixed the year loops by a machine then cut in to required sizes. Then packed and sterile and the product is ready to market.

(2) Quality Specification: As per ISO 22609:2004 Specification

(3) Production Capacity (Per Annum)

- (a) Quantity : 5500000 nos.
- (b) Value Rs : 2,03,50,000 Surgical (Medical) Face Mask

(4) Approximate motive power requirement is 15 K.W.H.

(5) Pollution control : No pollution in the unit. A uitable arrangement has been made in the project profile.

(6) Energy Conservation : Should be maintained.

F. FINANCIAL ASPECTS

(1) Fixed Capital

Land and Building (On Rent)

Land 500 sq. mtrs. Value : Rs. -

Built up area 400 sq. mtrs. Rs. -

Total Rent of land and building per month is _ Rs. **30000/-**

(2) Machinery & Equipment

<u>Sr. No.</u>	<u>Indigenous/ Imported</u>	<u>Qty.</u>	<u>Price (Rs.)</u>
1.	Blank Mask Making machine cap 100 to 120 mask/min	1	16,00,000
2.	Ear loop fixing machine cap 35to 40 masks/min	3	32,00,000
3.	Stabilizer	1	80,000
4.	Compressor	1	60,000
5.	Packing/Sealing Machine	1	10,000
6.	Sterilization Unit	1	5,00,000
7.	Electrification and installation charges @ 10% of cost of machines and equipment		5,45,000
8.	Total cost of machinery & Equipment etc.		59,95,000
9.	Cost of office equipment / Working table, Almeerah, Computer etc.		2,05,000
	Total cost of the Machines		62,00,000
10	Pre-operative expenses		1,00,000
	Total Fixed Capital		63,00,000

3. **Working Capital** (Per month)

(i) **Personal**

<u>Designation</u>	<u>No.</u>	<u>Salary</u>	<u>Total (Rs.)</u>
Manager –cum-Prod. Incharge	1	25000	25,000
Skilled Worker	2	18000	36,000
Accountant/Store Keeper	1	15000	15,000
Worker	3	15000	45,000
Peon cum Watchman	2	12000	24000

Total Salaries **1,45,000**

+ Perquisites @ 15% of Salaries 21,750

Total: 1,66,750

Say Rs 1,67,000

(ii) **Raw Material including Packaging Requirement (Per month)**

<u>Particulars</u>	<u>Indigenous/</u>	<u>Qty.</u>	<u>Rate/kg</u>	<u>Value (Rs.)</u>
Non Woven Fabric	“	1000 kgs	125/kg	1,25,000
Mett Blown Fabric	“	300 kgs	1600/kg	4,80,000
Nose Wire	“	35000 meters	2/mtrs	70,000
Ear Loop	“	120000 meters	2/mtrs	2,40,000
Packing Material		L.S.		<u>1,00,000</u>
		Total Rs		10,15,000
		Say Rs		10,15,000

(iii) **Utilities** (Per month)

Power 25000 25,000

Water L.S. 2000

27,000

(iv) <u>Other Consignation Expenses</u>	(Per month)
Factory Rent	30000
Postage and Stationery	1000
Telephone	3000
Consumable Stores	1000
Repair and Maintenance	15000
Transport Charges	5000
Advertisement and Publicity	5000
Insurance	8000
Taxes	10000
Miscellaneous Expenditure	<u>5000</u>
Total Rs	83,000

(v) Total recurring expenditure (per month) Rs

$$(I+II+III+IV) (167000+1015000+27000+83000) = 12,92,000$$

(vi) Total working Capital Rs

$$1292000 \times 3 = 38,76,000$$

5. Total Capital Investment Rs

(i) Fixed Capital	63,00,000
(ii) Working Capital	38,76,000
Total Rs	1,01,76,000

G. MACHINERY UTILISATION

The machine can manufacture the 2,3,and 4 layers mask. But in this project only three layers masks are being manufactured .The suggested plant and machinery is sufficient to achieve the target.

H. FINENCIAL ANALYSIS

1. Cost of Production (Per Year)

Total recurring cost per year	1,55,04,000
Depreciation on Machinery & Equipment @ 10%	5,99,500
Depreciation on Office Equipment @ 20%	41,000
Interest on total capital investment @ 13%	1,32,880
Total cost of production	174,67,380
Say	1,74,67,000

2. **Turn Over** (Per Year)

<u>Item</u>	<u>Qty. nos</u>	<u>Rate Rs</u>	<u>Value (Rs.)</u>
Non Woven 3 layers	55,00,000	3.70	20,35,0000
Surgical face mask			

3. **Net Profit** (Per Year)

T.O.	-	C.P.	=	Profit
20350000	-	1,74,67,000	=	288300

4. **Net Profit Ratio** = $\frac{\text{Net Profit per year} \times 100}{\text{Turn Over per year}}$
= $\frac{2883000 \times 100}{20350000}$ = 14.16 %

5. **Rate of Return** = $\frac{\text{Net Profit per year} \times 100}{\text{Total Investment}}$
= $\frac{2883000 \times 100}{1,01,76,000}$ = 28.33%

6. **Break-even Point (% of total production envisaged)**

(i) **Fixed Cost Rs**

(a) Depreciation (on machine & equipment)	5,99,500
(b) Depreciation on office equipment	41,000
(c) Interest on total investment	1,32,880
(d) Insurance	96,000
(e) 40% of salary and wages	8,01,600
40% other contingent expenses	3,98,400
Total Fixed Cost (FC) Rs	20,69,380
Say	20,69,000

(ii) **Net Profit** (Per Year)

BEP% = $\frac{\text{F.C.} \times 100}{\text{F.C.} + \text{Profit}}$
$$\frac{2069000 \times 100}{2069000 + 2883000}$$

$$\frac{206900000 \times 100}{4952000} = 41.78 \%$$

Machinery and Raw material Suppliers

1- M/S Qsaka international inc.
Plot No. -15, Block-Q1, Sector-49
South City-2, Adjacent to Brilliance School Opposite Park Hospital
Gurugao- 122018, Hariyana
Ph- 0124-4361034
Mob- 7303409430
Email- qsakamachines@gmail.com
Web- www.qsakamedia.com

2- M/S D P Machines
14, Lioyrs Avenue, Podanus, Coimbatore,
Tamilnadu India- 641023 Ph- +91
9677772425
Web-www.dpmachines.co.in

3- M/s Shiglo Tech Pvt. Ltd.
C-22, C Block, Sector 10, Noida .
Utter Pradesh
Mob. 9958180990