A
PROJECT PROFILE
ON

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

2020 - 2021

Prepared By:

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PROJECT PROFILE

PRODUCT	:	NON WOVEN THREE LAYER SURGICAL (MEDICAL) . FACE MASK (DISPOSABLE)
PRODUCT CODE	:	- -
QUALITY	:	Is : 1067 -1968
PRODUCTION CAPACITY	:	Qty. (Annual) 50.4 Lakh Value : Rs. 226.8 Lakhs
MONTH & YEAR	:	June 2020
PREPARED BY	:	MSME- DEVELOPMENT INSTITUTE 34 Industrial Estate . Nunhai , Agra- 282006 UP

A. INTRODUCTION

The Non Woven Three layer Surgical (Medical) disposable Face Mask is a form of personal protective equipment / device that generally fitts 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 mask 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 electrostatically 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 wear 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. per day, 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 errection	-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 month)

(a) Quantity : 50,40,000 nos.

(b) Value Rs : 2,26,80,000 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 400 sq. mtrs. Value : Rs. -

Built up area 300 sq. mtrs. Rs. -

Total Rent of land and building per month is Rs. 15000/-

(2) Machinery & Equipment

Sr. No.		Indigenous/ Imported	Qty.	Price (Rs.)
1.	Blank Mask Making machine cap 100 to 120 mask/min	Indigenous	1	18,00,000
2.	Ear loop fixing machine cap 35to 40 masks/min		3	36,00,000
3.	Stabilizer		1	80,000
4.	Compressor		1	60,000
5.	Packing/Sealing Machine		1	10,000
6.	Sterilization Unit		1	6,00,000

(c)	Pollution control equipment- In this unit no pollution is credited.	
(d)	Energy Conservation – Should be maintained.	
(e)	Electrification and installation charges @ 10% of cost of machines and equipment	6,15,000
	Total cost of machinery & equipment etc.	67,65,000
(f)	Cost of office equipment / Working table, Almeerah, Computer etc.	2,35,000
	Total cost of the Machines	70,00,000
3.	Pre-operative expenses	1,00,000
	Total Fixed Capital (1 + 2 + 3) (0+70,00,000+1,00,000)	71,00,000

4. Working Capital (Per month)

(i) Personal

Designation	**No.**	**Salary**	**Total (Rs.)**
Manager –cum-Prod. Inchage	1	20000	20,000
Skilled Worker	1	15000	15,000
Accountant/Store Keeper	1	12000	12,000
Worker	3	12000	36,000
Peon cum Watchman	2	12000	24000
Total Salaries			**1,07,000**
+ Perquisites @ 15% of Salaries			16,050
		Total:	123050
		Say Rs	1,23,000

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

Particulars	**Indigenous/**	**Qty.**	**Rate/kg**	**Value (Rs.)**
Non Woven Fabric	‘’	830kgs	135/kg	1,12,050
Mett Blown Fabric	‘’	276kgs	1800/kg	4,96,800

Nose Wire	‘’	34560mtrs	2/mtrs	69,120
Ear Loop	‘’	115200metres	2/mtrs	2,30,400
Packing Material		L.S.		1,00,000
		Total Rs		10,08,370
		Say Rs		**10,10,000**

(iii) Utilities (Per month)

Power	15 K.W.H. units @ Rs. 7 per unit	15x7x8x25=	21000
Water	L.S.		1000
			22,000

(iv) Other Consignation Expenses (Per month)

Factory Rent	15000
Postage and Stationery	1000
Telephone	3000
Consumable Stores	1000
Repair and Maintenance	16000
Transport Charges	5000
Advertisement and Publicity	5000
Insurance	8000
Taxes	10000
Miscellaneous Expenditure	6000
Total Rs	**70,000**

(v) Total recurring expenditure (per month) Rs

(I+II+III+IV) (123000+1010000+22000+70000) = 12,25,000

(vi) Total working Capital Rs

1225000X3 = 36,75,000

5. Total Capital Investment Rs

(i) Fixed Capital	71,00,000
(ii) Working Capital	36,75,000
Total Rs	**1,07,75,000**

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	1,47,00,000
Depreciation on Machinery & Equipment @ 10%	6,76,500
Depreciation on Office Equipment @ 20%	47,000
Interest on total capital investment @ 13%	14,00,750
Total cost of production	1,68,24,250
Say	**1,68,24,000**

2. Turn Over (Per Year)

Item	Qty. nos	Rate Rs	Value (Rs.)
Non Woven 3 layers Surgical face mask	50,40,000	4.5	2,26,80,000

3. Net Profit (Per Year)

T.O.	-	C.P.	=	Profit
2,26,80,000	-	1,68,24,000	=	58,56,000

4. Net Profit Ratio

$$= \frac{\text{Net Profit per year x 100}}{\text{Turn Over per year}}$$

$$= \frac{58,56,000 \times 100}{2,26,80,000} = 25.8\%$$

5. Rate of Return

$$= \frac{\text{Net Profit per year x 100}}{\text{Total Investment}}$$

$$= \frac{58,56,000 \times 100}{1,07,75,000} = 54.3\%$$

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

(i) Fixed Cost Rs

(a) Depreciation (on machine & equipment)		67,65,00
(b) Depreciation on office equipment		47,000
(c) Interest on total investment		14,00,750
(d) Insurance		96,000
(e) 40% of salary and wages		5,90,400
40% other contingent expenses		3,36,000
Total Fixed Cost (FC) Rs		**31,46,650**
	Say	**31,47,000**

(ii) Net Profit (Per Year)

$$BEP\% = \frac{F.C. \times 100}{F.C. + Profit} = \frac{31,47,000 \times 100}{31,47,000 + 58,56,000}$$

$$\frac{31,47,000 \times 100}{90,03,000} = 34.9\%$$

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,
Coinbatore, Tamilmnadu 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