A PROJECT PROFILE ON

MANUFACTURE 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 : Qty. (Annual) 50.4 Lakh
CAPACITY : Value : Rs. 226.8 Lakhs

MONTH & YEAR : June 2020

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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 fits loosely over the nose and mouth. The masks shield against large cough or sneeze droplets, splashes or sprays. But they cannot protect against smaller droplets.

Surgical face masks are worn by healthcare 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 wearer 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

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time Required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time required for preparation of project report</td>
<td>One month</td>
</tr>
<tr>
<td>Selection of site</td>
<td>One month</td>
</tr>
<tr>
<td>Time required for registration as SSI unit</td>
<td>One week</td>
</tr>
<tr>
<td>Time required for acquiring the loan</td>
<td>Three months</td>
</tr>
<tr>
<td>Machinery commissioning and errection</td>
<td>Two months</td>
</tr>
<tr>
<td>Recruitment of labourers etc.</td>
<td>One month</td>
</tr>
<tr>
<td>Trial runs</td>
<td>One month</td>
</tr>
</tbody>
</table>

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 the 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 x 95 mm of mask) are loaded to combine three layers. And these three layers are passed 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.
**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 suitable 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**

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

Total cost of machinery & equipment etc.

(f) Cost of office equipment / Working table, Almeera, Computer etc.

Total cost of the Machines

3. Pre-operative expenses

Total Fixed Capital (1 + 2 + 3) (0+70,00,000+1,00,000)

4. Working Capital (Per month)

(i) Personal

<table>
<thead>
<tr>
<th>Designation</th>
<th>No.</th>
<th>Salary</th>
<th>Total (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manager –cum-Prod. Inchage</td>
<td>1</td>
<td>20000</td>
<td>20,000</td>
</tr>
<tr>
<td>Skilled Worker</td>
<td>1</td>
<td>15000</td>
<td>15,000</td>
</tr>
<tr>
<td>Accountant/Store Keeper</td>
<td>1</td>
<td>12000</td>
<td>12,000</td>
</tr>
<tr>
<td>Worker</td>
<td>3</td>
<td>12000</td>
<td>36,000</td>
</tr>
<tr>
<td>Peon cum Watchman</td>
<td>2</td>
<td>12000</td>
<td>24000</td>
</tr>
</tbody>
</table>

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)

<table>
<thead>
<tr>
<th>Particulars</th>
<th>Indigenous/</th>
<th>Qty.</th>
<th>Rate/kg</th>
<th>Value (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non Woven Fabric</td>
<td>‘‘</td>
<td>830kgs</td>
<td>135/kg</td>
<td>1,12,050</td>
</tr>
<tr>
<td>Mett Blown Fabric</td>
<td>‘‘</td>
<td>276kgs</td>
<td>1800/kg</td>
<td>4,96,800</td>
</tr>
</tbody>
</table>
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. FINANCIAL 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      50,40,000  4.5  2,26,80,000

   Surgical face mask

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 = \[ \frac{\text{Net Profit per year} \times 100}{\text{Turn Over per year}} \]

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

5. Rate of Return = \[ \frac{\text{Net Profit per year} \times 100}{\text{Total Investment}} \]

   = \[ \frac{58,56,000 \times 100}{1,07,75,000} \]
   = 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 \(5,90,400\)

Other contingent expenses \(3,36,000\)

**Total Fixed Cost (FC) Rs** \(31,46,650\)

Say \(31,47,000\)

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

\[
\text{BEP} \% = \frac{\text{F.C.} \times 100}{\text{F.C.} + \text{Profit}}
\]

\[
= \frac{31,47,000 \times 100}{31,47,000 + 58,56,000}
\]

\[
= \frac{31,47,000 \times 100}{90,03,000}
\]

= 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,
Coimbatore, 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