

PROJECT PROFILE
ON
RUBBER HAND GLOVE MANUFACTURING UNIT
(Action Plan Year 2020-21)

PRODUCT CODE : 22199 (as per IS 25518: 2009)
PRODUCTS : Single use Rubber Glove, Rubber Gloves (Gen Appl)
QUALITY & STANDARD : As per IS25518: 2009/Customer specification
PRODUCTION CAPACITY (P.A.) : 1) Rubber Glove (Medical) - 84000 pairs
2) Rubber Glove (Gen Appl)-120000 Pairs

Value : 114.6 Lacs

MONTH AND YEAR OF PREPARATION : June, 2020
TOTAL COST OF THE PROJECT : 75.12 Lacs
WORKING CAPITAL FOR 1st YR : 43.54 Lacs
WORKINGCAPITAL FOR 2nd YR : 30.47 Lacs
WORKING CAPITAL FOR 3rd YR : 34.83 Lacs
EFFECTIVE WORKING DAYS : 300Days
EMPLOYMENT : 10Nos
DSCR : 3.35
BEP : 61%

**PREPARED BY : Br MSME Development Institute,
Diphu, Dist- Karbi Anglong
Assam.**

A. INTRODUCTION

There are about 200 latex gloves manufacturers in India in small and medium scale sectors. But the resource for raw material mainly the natural rubber production is increasing in Northeastern region day by day. The natural rubbers produced in NER are being sold to support industry in other part of the India. The price of the raw rubber depends as per the trader's call only. Therefore the creation of local buyer as Rubber based industry has high potential to encourage the rubber growers and creation of market for the growers. Another reason to moving towards setting up of manufacturing plant for rubber products is to make available of PPE kit part like rubber hand gloves and safety gloves for general use due to COVID-19 situation. It has high demand and gloves for different applications can be made in production line. The various steps from Rubber Tree plantation to Glove making is as follows: Rubber trees are usually ready to be tapped after about seven years of growth. A steel tapping knife is used to remove thin strips of bark from the tree at a downward curve. This directs the milky-white sap to a spigot, or spigot, which channels it into a cup affixed to the tree. Tapping is done in the early morning, because sap coagulates faster later in the day, when temperatures are higher, and reduces the flow. After about six hours, the fluid stops flowing. In that six-hour period, a tree can usually fill a gallon bucket. The tree can be tapped again with another fresh cut, usually the next day. The latex is preserved with ammonia. Trees often are rested for a period after heavy tapping.

Because of its high water and non-rubber content—about 70% is water, protein, sterol glycosides, resins, ash, and sugars—the latex is concentrated and stabilized. The latex is mixed with processing chemicals including sulfur, zinc oxide, accelerators, pigments, stabilizers, a de-webbing agent, and antioxidants. The latex matures for 24 to 36 hours to become a compound ready for dipping.

Production uses ceramic or aluminum hand-shaped molds, or formers, that are first extensively washed in hot water and chlorine to ensure there is no residue from previous batches. Next the formers, suspended on a continuous moving chain, are dipped into a mixture of calcium nitrate solution and calcium carbonate—the nitrate is a coagulant, while the carbonate helps the gloves release from the formers.

After drying, the molds are dipped into the latex compound, with the duration of the dip determining the mil thickness of the gloves. The freshly molded gloves are next leached in a mixture of hot water and chlorine, which removes residual latex proteins and chemicals to help reduce the severity of any allergic reactions to latex.

The gloves are then dried and cured, which is where Charles Goodyear's enormously important discovery enters the process. Vulcanization converts the gloves to an elastic state by causing a reaction between rubber molecules in the latex and chemicals that have been added, and gives gloves their elasticity so they are less likely to tear.

After drying, the gloves are rinsed again to leach out more latex proteins, then the cuffs are beaded, or rolled, to make them easier to don and doff. After a dip into cornstarch and a final drying, pneumatic air jets strip the finished gloves from the formers, or workers remove them by hand. The gloves are hot-air tumbled to remove any remaining powder. The molds are given another thorough chemical wash and rinse, and the process begins anew.

B. SCOPE OF MARKET

Due to COVID-19 situation the demand of rubber glove is high as PPE for health workers. Moreover for general application also increases as people are more conscious to take precautionary safety front line protection to avoid direct contact from any other diseases. The requirement of general application may have high demand in future if public has this trend to use hand gloves as fashion and frontline safety barrier. This will be more in demand if certain rules come as “no gloves no” entry to any institutions in future similar to Mask at present situation.

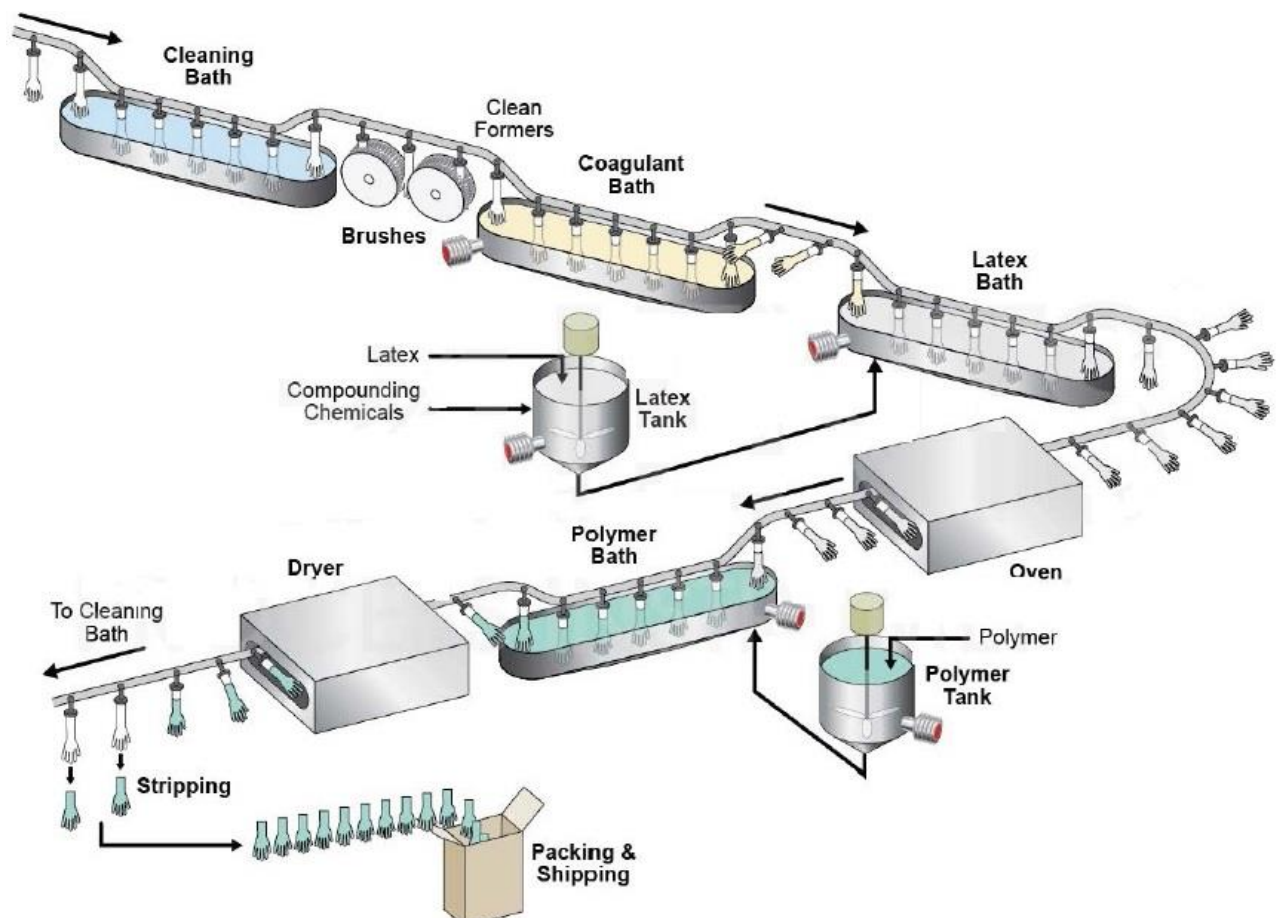
C. RAW MATERIAL

The main Raw material as natural rubber has sufficient production locally and for the chemical part all are manageable to buy from Guwahati and other part of the country.

D. PROCESS FLOW DIAGRAM

The manufacturing process for Rubber Gloves involves very few steps due to the automatic machines and the machine connects all the forms in moving chain to dip and clean in different tanks of latex and chemicals for continuous process till the packing of Gloves. The business plan is to Natural rubber to Hand Gloves of different applications as per customer demands as per the following flow diagram of the unit and with coloured design required by customer.

E. FLOW DIAGRAM



F. IMPLEMENTATION SCHEDULE:

The project implementation involves various activities like market surveys and tie-ups, procurement of know-how, arrangement of premises/ land, building, preparation of project report, registration, financing, purchase of machines, commissioning of project, recruitment of staff and training, arrangement of power, procurement of raw materials, packing materials, trial production etc. in order to implement the project efficiently and in the shortest period there is a need to initiate many activities simultaneously as far as possible. This will not only cut the slack period but also will give quick results and be cost effective.

S.No	Activity	Estimated period required
1.	Market survey	15-20 days
2.	Procurement of know-how/experts	30 days
3.	Arrangement of premises	30-45 days
4.	Obtaining quotations and preparation of project report.	15-20 days
5.	Registration and financing.	45-60 days
6.	Recruitment of personnel and training.	30-45 days
7.	Obtaining power connection.	15-30 days
8.	Procurement of machines and equipments.	45-60 days
9.	Installation and electrification of machinery.	20-30 days
10.	Procurement of raw materials, consumables, packing materials etc.	10-15 days
11.	Product development/trial production.	5-10 days
12.	Commercial production.	05 days.

ANNEXURE-1**TOTAL COST OF THE PROJECT**

Sl. No	Particulars	Rs. Lakh
1	Land and Building	0.00
2	Machinery & Equipments	58.00
3	Miscellaneous fixed assets	0.65
4	Preliminary & Pre operative Expenses	5.92
5	Contingencies	2.93
Total Fixed Capital		67.50
6	Working Capital Requirement annually	30.47
Total cost of Project per Annum		97.97
7	Working Capital Requirement per Quarter	7.62
8	Total Project cost for finance	75.12

ANNEXURE-2**MEANS OF FINANCE**

Sl. No	Particulars	Equity (%)	Rs. Lakh
1	Promoter's Contribution	10%	7.51
2	Term Loan	90%	67.60
Total			75.12

ANNEXURE-3**LAND AND BUILDING**

Sl. No	Items	Sq. mtr.	Rs. Lakh
1	Land and Building	400	0.00

ANNEXURE-4**MACHINERY & EQUIPMENTS**

Sl. No.	Description	Qty	Rate (Rs)	Cost Rs (Lakh)
1	Automatic Latex Hand Glove Making Machine-(Set) including tanks and forms, Chain and Motors.	1	48,00,000	48.00
2	Testing equipments		NA	5.00
3	Packing equipment		NA	5.00
			Total	58.00

ANNEXURE-5**MISCELLANEOUS FIXED ASSETS**

Sl. No.	Items	No. reqd	Rate Rs. Lakh	Total cost
1	working tables, storage bins etc.	1.00	0.30	0.30
2	Electrification, cabling etc	1.00	0.35	0.35
		Total		0.65

ANNEXURE-6**RAW MATERIAL REQUIREMENT (at 100% capacity utilization)**

Basis Effective working days/Annum

300 8hr/shift/day

Sl. No.	Items	Qty(Kg)/Month	Qty (pcs)/yr	Rate (Rs)/kg	Cost (Rs. Lakh)
1	Latex raw 60% DRP	1000	12000.00	120	14.40
2	Calcium Nitrate	20	240.00	25	0.06
3	Calcium Carbonate	20	240.00	18	0.04
4	Sulfur	20	240.00	50	0.12
5	Zinc oxide	20	240.00	140	0.34
6	Accelerator (TMTD-Tetramethyl thiruam disulfide)	10	120.00	150	0.18
7	antioxidant	10	120.00	180	0.22
8	Other chemicals				0.40

Total 15.76

at 70% 70% I YR 11.03

at 80% 80% II YR 12.60

at 90% 90% III YR 14.18

ANNEXURE-7**UTILITIES (at 100% capacity utilization)**

Sl. No.	Particulars	Rs. Lakh
1	Electricity power Charges	1.80
	Drinking Water Charges	0.24
2	Bill	
	Total	2.04

Annual utilities bill

at 70% capacity utilization 70% I YR 1.43

at 80% capacity utilization 80% II YR 1.63

at 90% capacity utilization 90% III YR 1.84

**ANNEXURE-8
MANPOWER REQUIREMENT**

Sl. No.	Particulars	No. reqd	wages/mly (lakh)	Total Amount (Lakh)
1	Manager cum Supervisor	1	0.15	0.15
2	Machine Operator	1	0.12	0.12
3	Skilled worker	3	0.06	0.18
4	Unskilled worker	3	0.5	1.5
	Total Manpower	8		1.95
	Add 10% towards benefits			0.20
			Total	2.15
	Annual wages bill (in 12 Months)			25.74

**ANNEXURE-9
WORKING CAPITAL REQUIREMENT**

Sl. No.	Items	Norms/yr	at 70%	at 80%	at 90%
1	Raw Materials or Consumables	15.76	11.03	12.60	14.18
2	Wages and Salaries	25.74	18.02	20.59	23.17
3	Utilities	2.04	1.43	1.63	1.84
	Total	43.54	30.47	34.83	39.18

**ANNEXURE-10
PRELIMINARY AND PRE OPERATIVE EXPENSES**

Sl. No.	Particulars	Rs. Lakh	Prov.(%)	Rs. Lakh
1	Land & Building	0.00	10%	0.00
2	On Machinery & Equipments	58.00	10%	5.80
3	On miscellaneous fixed assets	0.65	10%	0.07
4	Legal Expenses			0.05
			Total	5.92

**ANNEXURE-11
CONTINGENCIES**

Sl. No.	Particulars	Rs. Lakh	Prov.(%)	Rs. Lakh
1	Land & Building	0.00	10%	0
2	On Machinery & Equipments	58.00	5%	2.90
3	On miscellaneous fixed assets	0.65	5%	0.03
			Total	2.93

APPENDIX-I
INCOME STATEMENT

(at 100% capacity utilization) (Rs. Lakh)

Sl. No.	Particulars	Qty (pairs) PM	Qty (Pairs) PA	Rate(Rs) (avg)	Rs. Lakh
1	Latex hand Gloves (Medical)	7000	84000	65	54.60
2	Latex hand Gloves (General Application)	10000	120000	50	60.00
Total					114.60

Assume 10% increase from 2nd year

at 70% capacity utilization

1st yr 80.22

at 80% capacity utilization

2nd yr 88.24

at 90% capacity utilization

3rd yr 97.07

APPENDIX-II

LOAN REPAYMENT SCHEDULE & INTEREST CALCULATION (Rs Lakh)

Total term Loan	P	Rs. Lakh	67.60
Rate of Interest	r	(%)	12%
Repayment Schedule	n	(yrs.)	7
Moratorium Period		(yrs.)	1

Sl.no.	Particulars	Beginning amt (lakh)	Repayment (Rs Lakh)	Principle Amt.(lakh)	Interest (Rs Lakh)
1	1st year payment	67.60	0.00	67.60	8.11
2	2nd year payment	67.60	11.27	56.34	8.11
3	3rd year payment	56.34	11.27	45.07	6.76
4	4th year payment	45.07	11.27	33.80	5.41
5	5th year payment	33.80	11.27	22.53	4.06
6	6th year payment	22.53	11.27	11.27	2.70
7	7th year payment	11.27	11.27	0.00	1.35
Total					36.51

APPENDIX-III

ADMINISTRATIVE OVERHEAD EXPENSES

Sl. No.	Particulars	Rs. Lakh
1	Telephone, Internet cost.	0.06
2	Travelling and conveyance etc	0.3
3	Sales Expenses	0.24
Total		0.6

**APPENDIX-IV
REPAIRING AND MAINTENANCE**

Sl. No.	Particulars	Rs. Lakh	Prov.(%)	Rs. Lakh
1	Land & Building	0.00	5%	0.00
2	Machinery and Equipments	58.00	5%	2.90
3	Misc. fixed assets	0.65	3%	0.02
4	Insurance 2% on machinery and MFA	58.65	2%	1.17
Total				4.09

**APPENDIX-V
DEPRECIATION**

Sl. No.	Assets for Installed cost	Rs. Lakh	P&P-Op. Exp.	Contingencies	Installed Cost
1	Land & Building	0.00	0.00	0.00	0.00
2	Machinery and Equipments	58.00	5.80	2.90	66.70
3	Misc. fixed assets	0.65	0.03	0.03	0.72
	Total	58.65	5.83	2.93	67.42

Depreciation:

Sl. No.	Items	Rs. Lakh	Provision.(%)	Rs. Lakh
1	Land & Building	0.00	5%	0.00
2	Machinery and Equipments	66.70	10%	6.67
3	Misc. fixed assets	0.72	8%	0.06
Total				6.73

**APPENDIX-VI
COST OF PRODUCTION AND PROFITABILITY STATEMENT
(Rs.Lakh)**

A	Cost of Production	1st yr	2nd yr	3rd yr	4th yr	5th yr	6th yr	7th yr
1	Capacity utilization	70%	80%	90%	90%	90%	90%	90%
2	Working Days	300	300	300	300	300	300	300
3	Shift/day	1	1	1	1	1	1.00	1
4	Sales Revenue	80.22	91.68	103.14	103.14	103.14	103.14	103.14
B	Cost of Operation:							
1	Consumables	11.03	12.60	14.18	14.18	14.18	14.18	14.18
2	Utilities	1.43	1.63	1.84	1.84	1.84	1.84	1.84
3	Wages & Salaries (5% increment)	25.74	27.03	28.38	29.80	31.29	32.85	34.49
4	Depreciation	6.73	6.73	6.73	6.73	6.73	6.73	6.73
5	Admn. Overhead exp. (5% increment)	0.60	0.63	0.66	0.69	0.73	0.77	0.80
6	Rep. & maintenance (5% increment)	4.09	4.30	4.51	4.74	4.97	5.22	5.48
7	Interest	8.11	8.11	6.76	5.41	4.06	2.70	1.35
	Total	57.73	61.03	63.06	63.38	63.79	64.29	64.88
C	Operation profit	22.49	30.65	40.08	39.76	39.35	38.85	38.26
D	Net profit	22.49	30.65	40.08	39.76	39.35	38.85	38.26
E	Cumulative surplus	22.49	53.14	93.23	132.99	172.34	211.19	249.45

**APPENDIX VII
CASH FLOW STATEMENT (Rs. Lakh)**

A	Sources	P&P Op. Period	1st yr	2nd yr	3rd yr	4th yr	5th yr	6th yr	7th yr
1	Equity	7.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Profit(ADBIT)	0.00	30.60	38.76	46.85	45.17	43.41	41.56	39.61
3	Depreciation	0.00	6.73	6.73	6.73	6.73	6.73	6.73	6.73
4	Term Loan	67.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Working Capital	0.00	30.47	4.35	4.35	0.00	0.00	0.00	0.00
	Total	75.12	67.81	49.84	57.93	51.89	50.13	48.28	46.34
B	APPLICATION:								
1	Fixed Capital	67.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Repayment	0.00	0.00	11.27	11.27	11.27	11.27	11.27	11.27
3	Interest	0.00	8.11	8.11	6.76	5.41	4.06	2.70	1.35
4	Current Assets	0.00	30.47	34.83	39.18	39.18	39.18	39.18	39.18
	Total	67.60	38.59	54.21	57.21	55.86	54.51	53.15	51.80
C	Opening Balance	0.00	7.51	36.73	32.37	33.08	29.12	24.75	19.88
D	Net Surplus	7.51	29.22	-4.36	0.72	-3.96	-4.37	-4.87	-5.46
E	Closing Balance	7.51	36.73	32.37	33.08	29.12	24.75	19.88	14.42

**APPENDIX-
VIII
PROJECTED BALANCE SHEET (Rs. Lakh)**

A	Liabilities	Pre-Op. Period	1st yr	2nd yr	3rd yr	4th yr	5th yr	6th yr	7th yr
1	Equity	7.51	7.51	7.51	7.51	7.51	7.51	7.51	7.51
2	Reserves Surplus	0.00	22.49	53.14	93.23	132.99	172.34	211.19	249.45
3	Term Loan	67.60	67.60	56.34	45.07	33.80	22.53	11.27	0.00
4	Working Capital	0.00	30.47	34.83	39.18	39.18	39.18	39.18	39.18
	Total	75.12	128.08	151.82	184.99	213.48	241.56	269.15	296.14
B	Assets:								
1	Fixed Assets	67.50	67.50	67.50	67.50	67.50	67.50	67.50	67.50
2	Less Depreciation	0.00	6.73	20.18	20.18	26.91	33.64	40.36	47.09
3	Net Fixed Assets	67.50	60.77	47.32	47.32	40.59	33.86	27.13	20.41
4	Current Assets	0.00	30.47	34.83	39.18	39.18	39.18	39.18	39.18
5	Cash and Bank Balance	7.62	36.84	69.67	98.49	133.71	168.52	202.83	236.55
	Total	75.12	128.08	151.82	184.99	213.48	241.56	269.15	296.14

**APPENDIX-IX
DEBT SERVICE COVERAGE RATION (Rs.Lakh)**

A	Cash Accruals:	1st yr	2nd yr	3rd yr	4th yr	5th yr	6th yr	7th yr
1	Net Profit	22.49	30.65	40.08	39.76	39.35	38.85	38.26
2	Depreciation	6.73	6.73	6.73	6.73	6.73	6.73	6.73
3	Interest	8.11	8.11	6.76	5.41	4.06	2.70	1.35
	Total (A)	37.33	45.49	53.57	51.89	50.13	48.28	46.34
B	Debt Service Requirement:							
1	Repayment	0.00	11.27	11.27	11.27	11.27	11.27	11.27
2	Interest	8.11	8.11	6.76	5.41	4.06	2.70	1.35
	Total (B)	8.11	19.38	18.03	16.68	15.32	13.97	12.62
C	DSCR=A/B	4.60	2.35	2.97	3.11	3.27	3.46	3.67
	Avg. DSCR	3.35						

APPENDIX-X
BREAK EVEN POINT ANALYSIS (RS.Lakh)

(at 90% Capacity Utilization)

A	Variable Cost		Rs. Lakh
1	Consumables		14.18
2	Utilities		1.84
3	Repairing and maintenance (50%)		4.09
		Total	20.11
B	Semi-Variable & Fixed Cost:		
1	Repairing and Maintenance (50%)		4.09
2	Admn. Overhead expenses		0.60
3	Depreciation		6.73
4	Wages & Salaries		23.17
5	Interest		6.76
		Total	41.35
	Total fixed cost		61.45
C	Sales Revenue (at 90% CU)		103.14
D	Profit Contribution at 90% CU		40.08
E	B.E.P = (fixedcost/(fixed cost+profit))%		61%

G. Address of Machinery and Equipment Suppliers:

Glove making machine:

1. Automatic Latex Glove Making M/C set- SD Machinery, Ahmadabad, Gujarat.

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