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PROJECT REPORT

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PROJECT:

SILICONE MANUFACTURING UNIT

PROJECT REPORT
OF

SILICONE MANUFACTURING UNIT

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding Silicone Manufacturing Unit.
The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

PROJECT AT GLANCE

1	**Name of Proprietor/Director**	XXXXXXXX	
2	**Firm Name**	XXXXXXXX	
3	**Registered Address**	XXXXXXXX	
4	**Nature of Activity**	XXXXXXXX	
5	**Category of Applicant**	XXXXXXXX	
6	**Location of Unit**	XXXXXXXX	
7	**Cost of Project**	13.48	Rs. In Lakhs
8	**Means of Finance**		
i)	**Own Contribution**	1.35	Rs. In Lakhs
ii)	**Term Loan**	9.00	Rs. In Lakhs
iii)	**Working Capital**	3.13	Rs. In Lakhs
9	**Debt Service Coverage Ratio**	2.98	
10	**Break Even Point**	0.36	
11	**Power Requirement**	25	KW
12	**Employment**	7	Persons
13	**Details of Cost of Project & Means of Finance**		

Cost of Project

Particulars	**Amount in Lacs**	
Land	Owned/Leased	
Building & Civil Work	Owned/Leased	
Plant & Machinery	8.00	
Other Misc Assets	2.00	
Working Capital Requirement	3.48	
Total	**13.48**	

Means of Finance

Particulars	**Amount in Lacs**	
Own Contribution	1.35	
Term Loan	9.00	
Working capital Loan	3.13	
Total	**13.48**	

SILICONE MANUFACTURING UNIT

1. INTRODUCTION

A silicone or polysiloxane is a polymer made up of siloxane (−R2Si−O−SiR2−, where R = organic group). They are typically colorless oils or rubber-like substances. Silicones are used in sealants, adhesives, lubricants, medicine, cooking utensils, and thermal and electrical insulation. Some common forms include silicone oil, silicone grease, silicone rubber, silicone resin, and silicone caulk. Silicone is also known as siloxanes, is a man-made polymer made up of silicon, oxygen, carbon, and hydrogen. Silicones are produced in forms including silicone fluids, resins, liquid or flexible rubber-like solid silicone. The main sources of silicone are natural origin silica stone (SiO_2), water, and natural gas-derived methanol. From these materials, through complex chemical reactions, silicone is synthesized. The silicone-making process involves extracting silicon from silica and passing it through hydrocarbons. It's then mixed with the other chemicals to create silicone. Silicone sealants will be made by curing silicone. Curing silicone means letting it dry. Curing silicone isn't necessarily difficult, but it does require patience. The temperature needs to be between 40°F and 100°F, and there needs to be between 5% and 95% humidity for silicone to cure. It can take as little as 24 hours to cure, or it can take up to several days if the sealant is especially thick. Silicon rubber- The silicone polymer is mixed with reinforcing fillers and processing aids to form a stiff

gum, which can then be crosslinked at elevated temperature using either peroxides or polyaddition curing. Once crosslinked the silicone becomes a solid, elastomeric material.

2. MARKET POTENTIAL:

Silicone has quickly become the extremely popular safe alternative to toxic plastics due to its excellent characteristics such as high & low-temperature resistance, low chemical reactivity, water repel, resistance to UV, etc. It is consistently marketed as inert and versatile, thus silicones have many uses in a variety of industries and consumer products, silicone cookware is one of the most popular applications, silicone bake mold, silicone ice tray, silicone fermentation lids, etc. One of the most common uses for silicone adhesives is for basic repairs around the house. For example, silicone sealants can be used for caulking cracks. Sometimes individuals may use it to try and level surfaces in their home. Water-resistant silicone sealants are ideal for repairing areas around sinks and other areas where water is frequently found. Even though silicone isn't a good substance to use for weight-bearing seals, there is still a need for its powerful adhesive properties in many construction jobs. Silicone sealants are commonly used to bond surfaces such as plastic, metal, and glass together. For example, aquariums are often sealed with silicone. Windows are often sealed to frames with silicone adhesive since it is weather resistant. Since silicone can keep its adhesive properties when temperatures are high, it is commonly used in automobiles, electronic devices, and appliances. Often silicone adhesives will be used as a bonding agent for parts in car engines, such as a car gasket. In appliances and electronic devices, silicone is used to seal cables and sensors into place.

3. PRODUCT DESCRIPTION

4.1 PRODUCT USES

Silicone is a versatile polymer used in elastomers, oils, greases, and caulks, among other materials. Polysiloxanes are manufactured as fluids, resins, or elastomers, depending on the molecular weight of the polymers and the degree to which the polymer chains are interlinked. Nonvulcanized, low-molecular-weight polysiloxane fluids are exceptionally stable to decomposition by heat, water, or oxidizing agents and are good electrical insulators. They make excellent lubricants and hydraulic fluids, as well as emulsions for imparting water repellency to textiles, paper, and other materials. Silicone resins are used in protective coatings and electrically insulating varnishes and for laminating glass cloth.

4.2 PRODUCT RAW MATERIAL

- **Silica:** Solid silica raw material is used to form silicone. Silica sand or powder can also be used as a raw material.

- **Others:** Chemicals, oxidizing agents, methyl chloride, Packaging material; etc

4.3 MANUFACTURING PROCESS

This process can be broken down into the following steps-

- **Raw material procurement**
- **Production Process**
- **Testing**

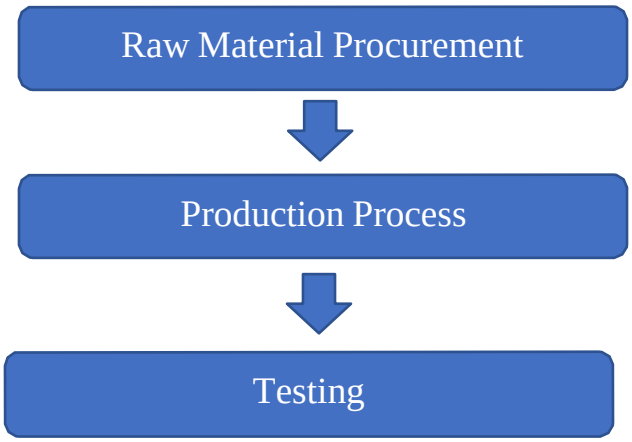
Production Process

1) Heating and grinding silica
2) Mixing
3) Distillation process
4) After distillation, water is added to dimethyldichlorosilane, which causes it to separate into disilanol and hydrochloric acid.
5) Packaging: After silicone formation, the product can dispatch for packaging. Silicone will be filled into the bucket or can by using an automatic packing machine.

Testing

- Quality control

FLOW CHART OF THE PROCESS



4. PROJECT COMPONENTS

Plant & Machinery

S No.	Machine
1.	Temperature chamber
2.	Crusher
3.	Mixing Vessel
4.	Packaging Machine

PROJECTED PROFITABILITY STATEMENT **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Capacity Utilisation %	**45%**	**50%**	**55%**	**60%**	**65%**
SALES					
Gross Sale					
Silicone	52.20	63.39	73.70	84.72	96.47
Total	**52.20**	**63.39**	**73.70**	**84.72**	**96.47**
COST OF SALES					
Raw Material Consumed	31.70	37.20	43.56	50.40	57.72
Electricity Expenses	2.16	2.40	2.64	2.88	3.12
Depreciation	1.50	1.28	1.08	0.92	0.78
Wages & labour	6.30	7.56	8.69	9.13	9.59
Repair & maintenance	0.57	0.76	0.88	1.23	1.45
Packaging	0.52	0.63	0.74	0.85	0.96
Cost of Production	42.75	49.83	57.60	65.41	73.62
Add: Opening Stock	-	1.43	1.66	1.92	2.18
Less: Closing Stock	1.43	1.66	1.92	2.18	2.45
Cost of Sales	41.33	49.59	57.34	65.15	73.35
GROSS PROFIT	**10.87**	**13.79**	**16.36**	**19.58**	**23.13**
	20.83%	**21.76%**	**22.19%**	**23.11%**	**23.97%**
Salary to Staff	2.64	3.56	4.35	5.44	6.52
Interest on Term Loan	0.88	0.78	0.56	0.34	0.12
Interest on working Capital	0.34	0.34	0.34	0.34	0.34
Rent	3.60	4.14	4.76	5.48	6.30
Selling & Administrative Exp.	0.78	0.82	0.96	1.10	1.25
TOTAL	**8.25**	**9.65**	**10.97**	**12.70**	**14.54**
NET PROFIT	2.62	4.14	5.38	6.88	8.59
	5.02%	**6.53%**	**7.31%**	**8.12%**	**8.90%**
Taxation	0.01	0.08	0.16	0.31	0.54
PROFIT (After Tax)	2.61	4.06	5.22	6.57	8.05

PROJECTED BALANCE SHEET **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
Liabilities					
Capital					
Opening balance		2.46	4.32	6.24	8.31
Add:- Own Capital	1.35				
Add:- Retained Profit	2.61	4.06	5.22	6.57	8.05
Less:- Drawings	1.50	2.20	3.30	4.50	5.50
Closing Balance	**2.46**	**4.32**	**6.24**	**8.31**	**10.86**
Term Loan	8.00	6.00	4.00	2.00	-
Working Capital Limit	3.13	3.13	3.13	3.13	3.13
Sundry Creditors	0.74	0.87	1.02	1.18	1.35
Provisions & Other Liability	1.00	1.20	1.44	1.73	2.07
TOTAL :	**15.33**	**15.52**	**15.83**	**16.35**	**17.42**
Assets					
Fixed Assets (Gross)	10.00	10.00	10.00	10.00	10.00
Gross Dep.	1.50	2.78	3.86	4.78	5.56
Net Fixed Assets	**8.50**	**7.23**	**6.14**	**5.22**	**4.44**
Current Assets					
Sundry Debtors	1.74	2.11	2.46	2.82	3.22
Stock in Hand	2.48	2.90	3.37	3.86	4.38
Cash and Bank	2.11	2.48	2.86	3.25	3.89
Loans & Advances /Other Current Assets	0.50	0.80	1.00	1.20	1.50
TOTAL :	**15.33**	**15.52**	**15.83**	**16.35**	**17.42**
	-	-	-	-	-

PROJECTED CASH FLOW STATEMENT **(in Lacs)**

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
SOURCES OF FUND					
Own Margin	1.35				
Net Profit	2.62	4.14	5.38	6.88	8.59
Depreciation & Exp. W/off	1.50	1.28	1.08	0.92	0.78
Increase in Cash Credit	3.13	-	-	-	-
Increase In Term Loan	9.00	-	-	-	-
Increase in Creditors	0.74	0.13	0.15	0.16	0.17
Increase in Provisions & Oth labilities	1.00	0.20	0.24	0.29	0.35
	-				
TOTAL :	**19.34**	**5.75**	**6.86**	**8.25**	**9.89**
APPLICATION OF FUND					
Increase in Fixed Assets	10.00				
Increase in Stock	2.48	0.42	0.47	0.49	0.52
Increase in Debtors	1.74	0.37	0.34	0.37	0.39
Repayment of Term Loan	1.00	2.00	2.00	2.00	2.00
Loans & Advances /Other Current Assets	0.50	0.30	0.20	0.20	0.30
Drawings	1.50	2.20	3.30	4.50	5.50
Taxation	0.01	0.08	0.16	0.31	0.54
TOTAL :	**17.23**	**5.37**	**6.48**	**7.87**	**9.25**
Opening Cash & Bank Balance	-	2.11	2.48	2.86	3.25
Add : Surplus	2.11	0.37	0.38	0.38	0.64
Closing Cash & Bank Balance	**2.11**	**2.48**	**2.86**	**3.25**	**3.89**

CALCULATION OF D.S.C.R

PARTICULARS	1st year	2nd year	3rd year	4th year	5th year
CASH ACCRUALS	4.11	5.34	6.31	7.49	8.83
Interest on Term Loan	0.88	0.78	0.56	0.34	0.12
Total	5.00	6.11	6.86	7.83	8.95
REPAYMENT					
Instalment of Term Loan	1.00	2.00	2.00	2.00	2.00
Interest on Term Loan	0.88	0.78	0.56	0.34	0.12
Total	1.88	2.78	2.56	2.34	2.12
DEBT SERVICE COVERAGE RATIO	**2.65**	**2.20**	**2.68**	**3.35**	**4.22**
AVERAGE D.S.C.R.					**2.98**

REPAYMENT SCHEDULE OF TERM LOAN							
					Interest		11.00%
Year	**Particulars**	**Amount**	**Addition**	**Total**	**Interest**	**Repayment**	**Closing Balance**
1st	Opening Balance						
	1st month	-	9.00	9.00	-	-	9.00
	2nd month	9.00	-	9.00	0.08	-	9.00
	3rd month	9.00	-	9.00	0.08	-	9.00
	4th month	9.00	-	9.00	0.08		9.00
	5th month	9.00	-	9.00	0.08		9.00
	6th month	9.00	-	9.00	0.08		9.00
	7th month	9.00	-	9.00	0.08	0.17	8.83
	8th month	8.83	-	8.83	0.08	0.17	8.67
	9th month	8.67	-	8.67	0.08	0.17	8.50
	10th month	8.50	-	8.50	0.08	0.17	8.33
	11th month	8.33	-	8.33	0.08	0.17	8.17
	12th month	8.17	-	8.17	0.07	0.17	8.00
					0.88	**1.00**	
2nd	Opening Balance						
	1st month	8.00	-	8.00	0.07	0.17	7.83
	2nd month	7.83	-	7.83	0.07	0.17	7.67
	3rd month	7.67	-	7.67	0.07	0.17	7.50
	4th month	7.50	-	7.50	0.07	0.17	7.33
	5th month	7.33	-	7.33	0.07	0.17	7.17
	6th month	7.17	-	7.17	0.07	0.17	7.00
	7th month	7.00	-	7.00	0.06	0.17	6.83
	8th month	6.83	-	6.83	0.06	0.17	6.67
	9th month	6.67	-	6.67	0.06	0.17	6.50
	10th month	6.50	-	6.50	0.06	0.17	6.33
	11th month	6.33	-	6.33	0.06	0.17	6.17
	12th month	6.17	-	6.17	0.06	0.17	6.00
					0.78	**2.00**	
3rd	Opening Balance						
	1st month	6.00	-	6.00	0.06	0.17	5.83
	2nd month	5.83	-	5.83	0.05	0.17	5.67
	3rd month	5.67	-	5.67	0.05	0.17	5.50
	4th month	5.50	-	5.50	0.05	0.17	5.33
	5th month	5.33	-	5.33	0.05	0.17	5.17
	6th month	5.17	-	5.17	0.05	0.17	5.00
	7th month	5.00	-	5.00	0.05	0.17	4.83
	8th month	4.83	-	4.83	0.04	0.17	4.67
	9th month	4.67	-	4.67	0.04	0.17	4.50
	10th month	4.50	-	4.50	0.04	0.17	4.33
	11th month	4.33	-	4.33	0.04	0.17	4.17
	12th month	4.17	-	4.17	0.04	0.17	4.00

					0.56	**2.00**	
4th	Opening Balance						
	1st month	4.00	-	4.00	0.04	0.17	3.83
	2nd month	3.83	-	3.83	0.04	0.17	3.67
	3rd month	3.67	-	3.67	0.03	0.17	3.50
	4th month	3.50	-	3.50	0.03	0.17	3.33
	5th month	3.33	-	3.33	0.03	0.17	3.17
	6th month	3.17	-	3.17	0.03	0.17	3.00
	7th month	3.00	-	3.00	0.03	0.17	2.83
	8th month	2.83	-	2.83	0.03	0.17	2.67
	9th month	2.67	-	2.67	0.02	0.17	2.50
	10th month	2.50	-	2.50	0.02	0.17	2.33
	11th month	2.33	-	2.33	0.02	0.17	2.17
	12th month	2.17	-	2.17	0.02	0.17	2.00
					0.34	**2.00**	
5th	Opening Balance						
	1st month	2.00	-	2.00	0.02	0.17	1.83
	2nd month	1.83	-	1.83	0.02	0.17	1.67
	3rd month	1.67	-	1.67	0.02	0.17	1.50
	4th month	1.50	-	1.50	0.01	0.17	1.33
	5th month	1.33	-	1.33	0.01	0.17	1.17
	6th month	1.17	-	1.17	0.01	0.17	1.00
	7th month	1.00	-	1.00	0.01	0.17	0.83
	8th month	0.83	-	0.83	0.01	0.17	0.67
	9th month	0.67	-	0.67	0.01	0.17	0.50
	10th month	0.50	-	0.50	0.00	0.17	0.33
	11th month	0.33	-	0.33	0.00	0.17	0.17
	12th month	0.17	-	0.17	0.00	0.17	-
					0.12	**2.00**	
	DOOR TO DOOR	60	MONTHS				
	MORATORIUM PERIOD	6	MONTHS				
	REPAYMENT PERIOD	54	MONTHS				

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