PROJECT REPORT

Of

LEAD PENCIL

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **Lead Pencil making 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.

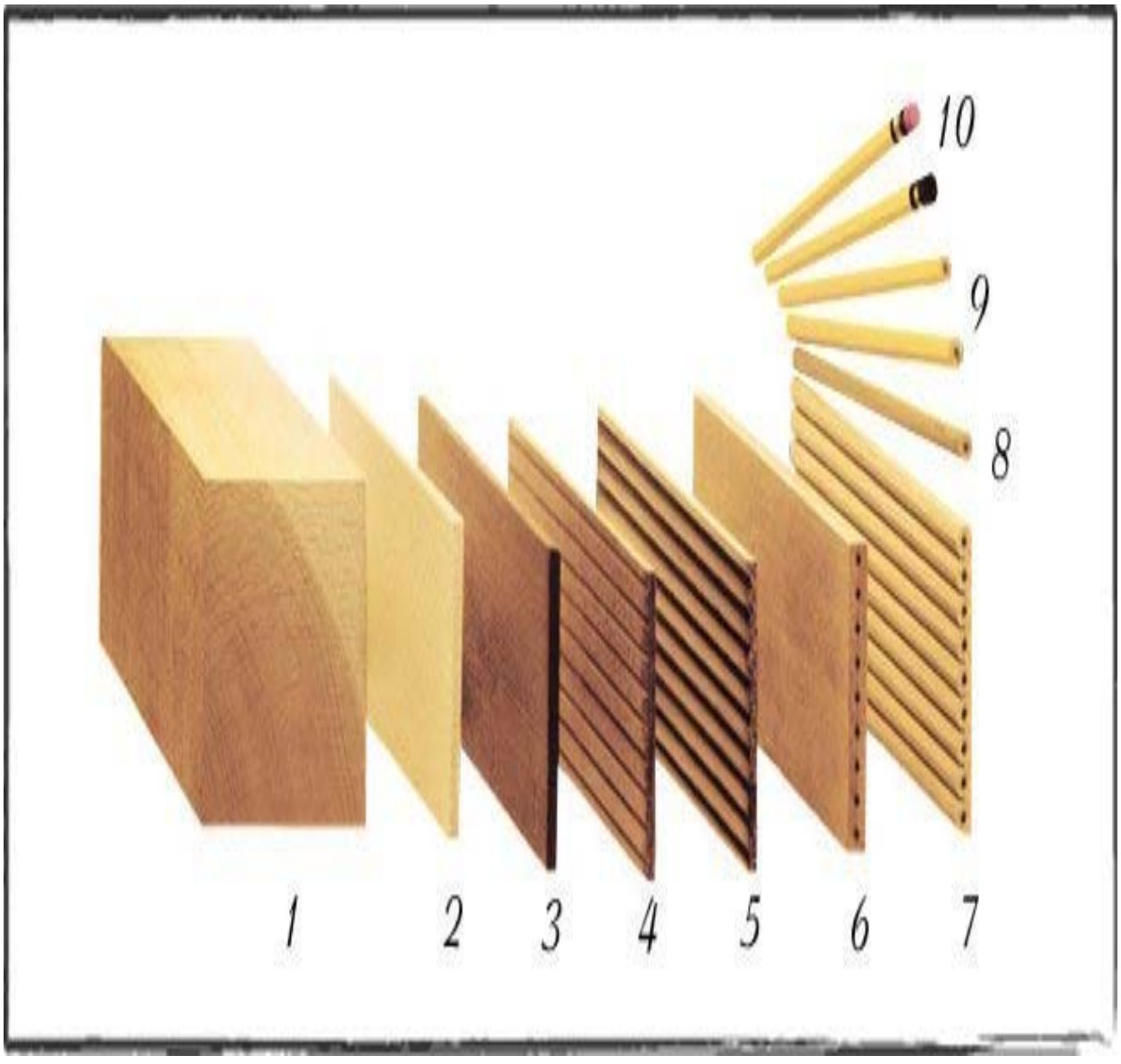
[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

SAMADHAN
Nurturing Dreams - Innovative Solutions

Lucknow Office: Sidhivinayak Building ,
27/1/B, Gokhlley Marg, Lucknow-226001

Delhi Office : Multi Disciplinary Training
Centre, Gandhi Darshan Rajghat,
New Delhi 110002

Email : info@udyami.org.in
Contact : +91 7526000333, 444, 555


10
9
8
1
2
3
4
5
6
7

Introduction

A **pencil** is a writing implement or art medium constructed of a narrow, solid pigment core inside a protective casing which prevents the core from being broken and/or from leaving marks on the user's hand during use.

Pencils create marks by physical abrasion, leaving behind a trail of solid core material that adheres to a sheet of paper or other surface. They are distinct from pens, which instead disperse a trail of liquid or gel ink that stains the light colour of the paper by absorption.

Most pencil cores are made of graphite mixed with a clay binder which leaves grey or black marks that can be easily erased. Graphite pencils are used for both writing and drawing and result in durable markings: though writing is easily removable with an eraser, it is otherwise resistant to moisture, most chemicals, ultraviolet radiation, and natural aging. Other types of pencil core are less widely used, such as charcoal pencils, which are mainly used by artists for drawing and sketching.

The most common type of pencil casing is of thin wood, usually hexagonal in section but sometimes cylindrical, permanently bonded to the core. Similar permanent casings may be constructed of other materials such as plastic or paper. To use the pencil, the casing must be carved or peeled off to expose the working end of the core as a sharp point. Mechanical pencils have more elaborate casings which are not permanently bonded to the core. Instead, the casing supports a separate, mobile piece of pigment core that can be extended or retracted through the casing tip as needed; these pencil casings can be re-loaded with a new core (usually graphite) when necessary.

Market Potential

Wooden pencil or lead pencil is an essential item for students and artists. Generally, HB and 2B pencils have popularity in the Indian market. Even in the recent era of computers, printers, tablets, cell phones and a whole host of other writing and drawing instruments, pencil industry is growing.

There is a growing demand of wooden pencil in the market. The products find application in schools, colleges, government offices, commercial establishments, NGOs and miscellaneous activities.

According to the type of carbon used, pencils are classified as soft, medium and hard. There is no doubt about the acceptability of the product and lead pencils still command a respectful demand. The product has a good export potential also.

According to the different grades, there is a variety of HB, B, 2B, 3B, 4B, 5B, 6B, 7B, 8B, 9B, and 10B. Writing, drawing, sketching, coloring and shading are the basic applications of the wooden pencil.

The ever increasing population of the country and requirement of quality products are the major reason for the growth of this evergreen business. There is sufficient market for the pencil to justify the establishment of a wooden pencil manufacturing plant in India.

Economics Of Pencil Making

Just as with any other manufactured products, the economics of pencil manufacturing are driven by a number of factors.

These cost drivers include:

- cost of raw materials (wood, graphite, clay, brass or aluminum for ferrules, lacquer components, etc.)
- cost of parts or other finished components used to assemble the pencil
- cost of transportation and handling of various materials used and of the finished product to the factory
- cost of labor and benefits for the factory workers employees
- cost of energy
- cost of supplies used to maintain equipment
- cost of government regulations (taxes, duties, compliance to safety, labor or environmental rules)
- cost of capital (money used to buy equipment, to purchase and maintain inventories of raw materials, parts, supplies and finished product)
- cost of management

Pencil companies make a number of important decisions regarding these costs as part of their business. Some of the most important decisions include:

- the quality of product they wish to produce will impact which raw materials and component parts they will purchase
- alternative suppliers for raw materials
- whether to make internally or buy externally different component parts like slats, leads, ferrules and erasers or even semi-finished pencils from other pencil manufacturers where to locate their pencil factories which is driven by relative difference in costs between cities, states or countries for labor and materials, transportation costs for incoming materials as well as to the customer, regulatory and energy cost as well as duties and taxes
- the quantity of product to produce drives the level of investment required in the factory and inventories as well as can effect the cost per unit produced due to economies of scale.

The pencil manufacturer strives to minimize the cost of producing the pencils at the desired quality level and quantity of production and to sell all these pencils for more than the cost in order to achieve a profit.

All of these decisions are made within the framework of the marketplace and the competition the pencil maker faces for business from the other producers. The level of competition can have a big impact on the profit in an industry or segment of the pencil market. Each company tries to focus on what competitive advantage it has versus other pencil makers and what it can do better than others. This is why different companies specialize only in certain markets or product ranges to try to set them apart.

These days, typical yellow writing pencils and children's coloring pencils are generally considered to be a commodity. That is, one product from one producer is more or less considered by the customer to be as good as another, just like corn from one farm is more or less the same as corn from another farm. When this occurs the price often becomes the key purchase factor for the pencils. Then it is more difficult to make a profit without a strong brand name or other point of difference in terms of product feature or performance.

A key factor that effects the competition is the increasing level of international trade. As more markets have opened up to more producers from more countries around the world the pencil industry like many others has globalized. Many poorer countries such as China, Indonesia and India have dramatically increased pencils production and export because of a general cost advantage in materials, labor and reduced regulatory environments.

TECHNOLOGY AND ENGINEERING

A. TECHNOLOGY

1. Process Description

The pencil making plant consists of the following processes: making uncoated pencils, lacquering, stamping, attaching of eraser, final treatment, and packing.

a) Wood working process

The pencil slat is shaved in to fixed size, and a semicircular groove is made on the surface with the grooving machine.

The grooved slat, which is half a pencil, is coated with glue and the leads are placed in the groove and then covered with the second slat. The resulting block is tightened with iron frames and dried in a drying chamber. The dried block is passed through a shaping machine that shapes the raw pencil.

b) Lacquering Process

The raw pencils are then lacquered in a painting machine, which is made to apply three to ten times of lacquer coating depending on the quality of finish required.

c) Final Treatment:

After the final coat of lacquer, the pencils are placed in heading and sizing machine which sands off excess wood and paint from the ends of the pencils and trims the pencils to their exact finished length.

The tipping process for making eraser tipped pencil consists of several steps. First, the pencils are sent to rounding-off and sharpening machine .The ferrule and the eraser are fitted to the pencil and, with the aid of punching device, steel needles are plunged through the ferrule to pierce the ferrule to both pencil and eraser.

The manufacturer's brand name, the hardiness number of lead, and any other required information is imprinted on the pencil by means a stamping machine.

The finished pencil are then inspected and graded, and then packed for dispatch.

B. ENGINEERING

1. Machinery and Equipment

Table shows the list of machinery and equipment required for a.

MACHINERY AND EQUIPMENT REQUIREMENT

Sr. No	Description
	I. Wood working Line
2	Automatic gluing machine and connector
3	Oleo-hydraulic press
4	Clamping frame and plate
5	Automatic slut-end rough cutting machine and connector
6	Cutter grinder
7	Glue stirrer
8	Exhaust fan
	II. Painting Process
10	Lacquer stirrer
11	**III. Final Treatment**
12	Automatic triple hot foil stamping machine and connector
13	Automatic triple hot foil stamping machine and connector
14	Automatic eraser tipping machine
15	Exhaust fan
16	Foil cutter

RAW MATERIALS

The major raw materials required are wood, lead, glue, lacquer, ferrule, eraser tip and packing materials. The raw material requirement is calculated on the bases of the final output.

Wooden Pencil Manufacturing – Legalities

To start a small scale wooden pencil manufacturing business, you will need to apply for different registrations and licenses. It is advisable to check the specific rule of your state.

- Register your firm with ROC
- Apply for Trade License from Municipal Authority
- Additionally, apply for MSME Udyog Aadhaar Registration
- Apply for GST
- Obtain NOC from Pollution Control Board

Project Financials

Basis and Presumptions:

1 The basis for calculation of production capacity has been taken of single shift basis, working of 25 days per month on 75% efficiency.

2 The maximum capacity utilization on single shift basis for 300 days a year.

3 Interest rate for Fixed and Working capital of the project has been taken at an average rate of 13 % .

4 Land and Building is owned and Cost of Plant and Machinery has been taken as per prices prevailing in the market.

5 The wages for skilled workers are taken as per prevailing rates in this type of industry.

6 The essential production machinery and test equipment required for the project have been indicated.

7 Financial Assistance required from Bank/ Financial Institutions:

Term Loan : 1,290,000.00

Working Capital: 1,199,000.00

Cost Of Project

S.NO.	PARTICULARS		AMOUNT(Rs)
1	Land & Building		Rented
2	Plant and Machinery		1255500.00
3	Furniture & Fixture		125000.00
4	Computer		80000.00
5	Pre-Operative Expenses		125000.00
5	Margin for Working Capital		399700.00
	Total		**1985200.00**

Means of Finance.

S.NO.	PARTICULARS		AMOUNT
1	Own Contribution		695200.00
2	Term Loan		1290000.00
	Total		**1985200.00**

Fixed Capital

(i)	Land and building		Amount(In Lakhs)	
i)	Land & Building(On Rent)	150 Sq.mtr		Rs 10000/- Per Month
(ii)	**Machinery and Equipment**			
S.no.	**Description**	**Qty. nos.**	**Price/unit**	**Amount (In Rs.)**
1	Ball mill - 200 kg cap			120,000.00
2	Filter press -18 plates & frames			60,000.00
3	Diaphragm pump			30,000.00
4	Kneading m/c			35,000.00
5	Press for billet making with motor			90,000.00
6	Electric baking oven - range upto 250 C			35,000.00
7	Extruding m/c - hand operated			200,000.00
8	Furnace, coal fired, self draught with chimney			210,000.00
9	Automatic shaping and grooving m/c			114,000.00
10	Gluing m/c for slats			158,000.00
11	End cutting m/c			38,500.00
12	Painting m/c			50,000.00
13	Embossing m/c			65,000.00
14	Dies, tools, cutters & other misc. equipments			50,000.00
	Sub Total			**1,255,500.00**
	Furniture and Fixture/ Office Equipment			125000.00
	Computers			80000.00
	Total Fixed Capital			**1460500.00**

Total Capital Investment

			Rs
1	Total Fixed Capital		1460500.00
2	Working Capital for 3 Months		1598700.00
	Total		**3059200.00**

Total Working Capital.

1	Salary and Wages		(i)		148,500.00
2	Raw Material		(ii)		330,400.00
3	Utilities		(iii)		17,000.00
4	Other Contingent Expenses		(iv)		37,000.00
	Total				**532,900.00**
	Working Capital for 3 months				**1,598,700.00**

Staff and Labour

S.No.	Designation	No.	Salary(Rs.)		Total (In. Rs.)
1	Manager cum Engineer	1	20,000.00		20,000.00
2	Supervisor	1	15,000.00		15,000.00
3	Accountant	1	10,000.00		10,000.00
4	Sales Man	1	9,500.00		9,500.00
5	Skilled Worker	4	9,000.00		36,000.00
6	Unskilled Worker	5	8,500.00		42,500.00
7	Helpers	1	8,000.00		8,000.00
8	Watchman	1	7,500.00		7,500.00
	Total	**15**			**148,500.00**

Raw Material

S.No.	Particulars	Rate(Rs)/unit	Quantity		Total(In. Rs.)
1	Wooden slates (6 ply) - Gross Nos.	Rs 3 per unit	40800		122400
2	Graphite	Rs45 Per Kg	24 MT		108,000.00
3	Ball Clay Glue, paint, varnishes, driers, lacquers, binders, pigments, sand papers, stamping papers, cotton boxes, etc as required		LS		100,000.00
	Total				**330,400.00**

Utilities.

S No	CALCULATION OF POWER EXPENSE		Amount
1	Power		15,000.00
2	Water		2,000.00
	Total		**17,000.00**

Other Contingent Expenses.

S.No.	Particulars		Amount(In.Rs)
1	Rent		9000.00
2	Repair and Maintenance		10000.00
3	Postage and Stationery		3000.00
4	Telephone Charges		2500.00
5	Transportation and Freight		8000.00
6	Insurance		5000.00
7	Sales Expenses		6000.00
8	Consumables		2500.00
	Total		**37000.00**

Financial Analysis.

Cost of Production.

S.No.	Particulars		In. Rs.
1	Total Recurring Expenditure		6394800.00
2	Depreciation on Plant and Machinery @ 15%		1255500.00
3	Depreciation of Furniture/Fixture & Office Equipment @ 10 %		12500.00
5	Depreciation of Computers @ 60 %		48000.00
6	Finance Cost		298680.00
	TOTAL COST OF PRODUCTION		**8009480.00**

Turnover

S.No.	Particulars		Qty(nos.)	Rate (in Rs)	In. Rs.
1	Card Boxes		37500 Gross Per Annum	230.00	8,625,000.00
	The finished products are packed in card board boxes with 12 dozens of pencils each.				
	TOTAL TURNOVER				**8625000.00**

Profit Rs615520/=

Percentage Profit on Sales 7.14%

Ratio Analysis

i) Rate of Return on Total Capital Investment

=Net Operating Profit/ Invested Capital
=20%

ii) Return on Assets

=Sales/Average total Assets
=0.42

iii) Return on Equity

=Sales/ Stockholder's Equity
=0.89

iv) Debt to Equity Ratio

=Total Term Liabilities/Total Shareholder's Equity
=1.9

v) Interest Coverage Ratio

=Earning before Interest & Tax/ Interest Expense
=3.06

SAMADHAN
Nurturing Dreams - Innovative Solutions

DISCLAIMER

The views expressed in this Project Report are advisory in nature. SAMADHAN assume no financial liability to anyone using the content for any purpose. All the materials and content contained in Project report is for educational purpose and reflect the views of the industry which are drawn from various research material sources from internet, experts, suppliers and various other sources. The actual cost of the project or industry will have to be taken on case to case basis considering specific requirement of the project, capacity and type of plant and other specific factors/cost directly related to the implementation of project. It is intended for general guidance only and must not be considered a substitute for a competent legal advice provided by a licensed industry professional. SAMADHAN hereby disclaims any and all liability to any party for any direct, indirect, implied, punitive, special, incidental or other consequential damages arising directly or indirectly from any use of the Project Report Content, which is provided as is, and without warranties.