

VISCOSE FILAMENT YARN





Introduction

Viscose is a fiber made from cellulose pulp that dissolves. Wood, cotton, and bamboo are among the raw materials used in its production. A natural yarn made from wood pulp, bamboo pulp, or cotton pulp is known as viscose filament yarn (VFY). It's a completely natural product. Rayon yarn or rayon filament yarn are other names for viscose filament yarn.

Viscose filament yarn is spun with the aid of cutting-edge technology and high-quality raw materials. Viscose filament yarn is available in a variety of colours and shades, depending on the needs of the consumer. Viscose Embroidery Thread is made from Viscose Filament Yarn (VFY), a natural yarn made from either wood pulp or cotton pulp. Viscose embroidery is used to enhance fine embroidery on a variety of fabrics and garments. It has a natural, long-lasting shine that adds to its soft cottony feel and subtle charm.

Viscose Filament Yarn, also known as "Artificial Silk" or "Art Silk," was developed as a silk substitute; it is cellulosic like cotton and has silk-like aesthetics, but is much less expensive than silk. Viscose Filament Yarn fabric is similar to Cupromonium yarn fabric due to the development of a variety of finer deniers with a greater number of filaments. Fabric made from Viscose Filament is superior to Cupromonium yarn in segments such as Georgette and Crepe fabrics due to the fabric's specific specifications. T-shirts, tunics, shirts, nightwear, and dresses are all made of this fine and soft material. Viscose Filament Yarn also has the benefits of being readily available in the market and being less expensive than Cupprammonium

Uses of Viscose Filament Yarn

Fabrics for clothing and home textiles can be made with viscose filament yarn. Viscose filament yarn can be used to make soft and smooth clothing fabrics because of its ability to breathe and absorb liquid. It's also used in the production of viscose embroidery thread. Viscose filament yarn can be used to create fabrics for clothing and home textiles because of its silky look and feel. Viscose filament yarn can be used to make soft and smooth clothing fabrics because of its ability to breathe and absorb liquid. It's also used in the production of viscose embroidery thread.

It can be used to make comfortable, smooth clothing fabrics. Viscose Embroidery Thread is made from it as well. This raw yarn has a higher tenacity than regular yarn and can be used for sewing. Furthermore, raw yarn may be made from virgin polyester staple fiber or natural polyester staple fiber. Polyester yarns and threads also play a significant role in the garment industry. Rayon T-shirts, tunics, shirts, nightwear, and dresses are all made from this fine and soft material. Viscose Filament Yarn also has the benefit of being widely available.

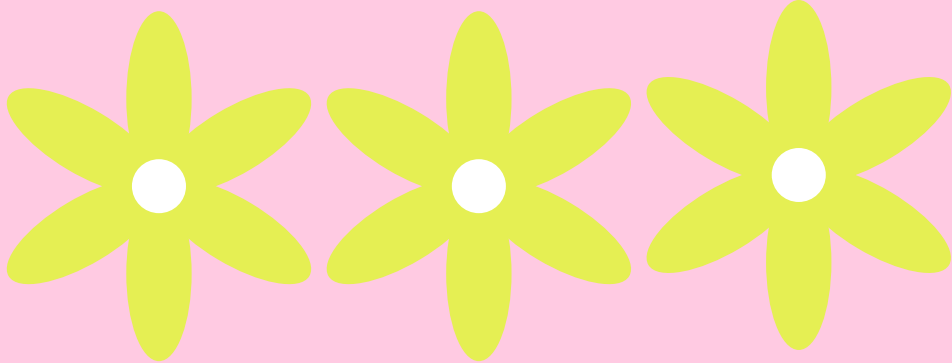


Production Process

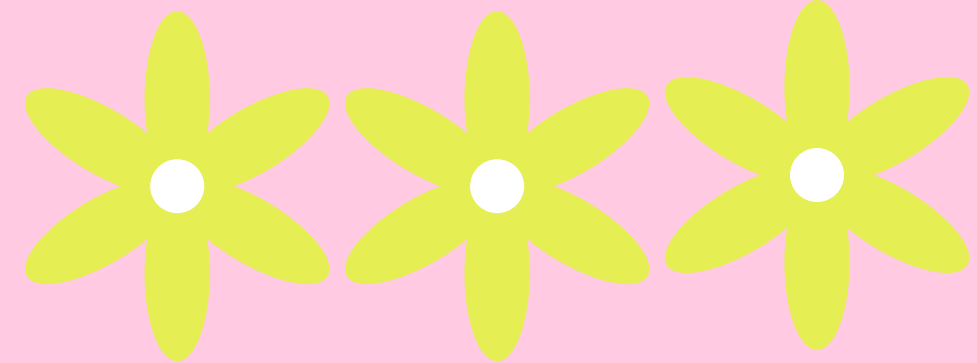
The reaction of cellulose with caustic soda is used in the manufacture of viscose filament yarn.

Depolymerisation occurs during the ripening process, and carbon disulphide is added. This produces cellulose xanthate, an orange-colored crumb that is further dissolved in caustic soda to produce a viscous, orange-colored solution.

As the xanthate decomposes, the solution is pumped via a spinneret with hundreds of holes into a dilute sulphuric acid tank, where cellulose is regenerated as fine filaments. Viscose filament yarn is a cellulose fiber that has been regenerated. Purified cellulose is mercerized with NaOH and xanthate with CS, then dissolved in NaOH to form a spinning solution, which is then spun.



VISCOSE MANUFACTURING PROCESS STEPS



1. Preparation of wood pulp: Wood chips are treated with calcium bic-sulphide and then cooked under pressure with steam.

2. Steeping: To swell the cellulose fibres and transform cellulose to alkali cellulose, cellulose pulp is immersed in 17–20 percent aqueous sodium hydroxide (NaOH) at a temperature of 18 to 25°C.

3. Shredding: *Pressed alkali cellulose is mechanically shredded to produce finely separated, fluffy particles known as "crumbs." This move increases the alkali cellulose's surface area, which improves its ability to react in the steps that follow.*

4. Aging: *To depolymerize the cellulose to the desired degree of polymerization, the alkali cellulose is aged under regulated time and temperature conditions (between 18 and 30° C).*

The original pulp's average molecular weight is reduced by a factor of two to three in this process. The cellulose is reduced to obtain a viscose solution with the desired viscosity and cellulose concentration.

***5. Xanthation:** This step involves placing aged alkali cellulose crumbs in vats and allowing them to react with carbon disulphide at a regulated temperature (20 to 30°C) to produce cellulose xanthate.*

6. Dissolving: *The cellulose xanthate yellow crumb is dissolved in an aqueous caustic solution. The viscosity of the cellulose xanthate solution (or, more precisely, suspension) is extremely high.*

7. Ripening: *The viscose is able to “ripen” by being left out for a period of time. During ripening, two essential processes occur: redistribution and loss of xanthate classes.*

Any of the xanthate groups will revert to cellulosic hydroxyls and free CS₂ as a result of the reversible xanthation reaction. This unbound CS₂ can then escape or react with other hydroxyls on the cellulose chain.

8. Filtration: *The viscose is filtered to eliminate any undissolved materials that could interfere with the spinning process or result in defects in the rayon filament.*

9. Degassing: Bubbles of air trapped in the viscose must be removed prior to extrusion, or the fine rayon filaments will develop voids or weak spots.

10. Wet Spinning: The viscose solution is metered into a spin bath containing sulphuric acid, sodium sulphate, and zinc sulphate through a spinneret.

11. Drawing: Although the cellulose chains are still mobile, the rayon filaments are extended.



Market Outlook

Viscose filament yarn prices increased marginally on the international market in the last fortnight as demand remained steady and the export market remained strong. Clothing textiles and home textiles make up the global viscose filament yarn industry. The demand for viscose filament yarn is a spun thread that is ready to be woven into textiles.

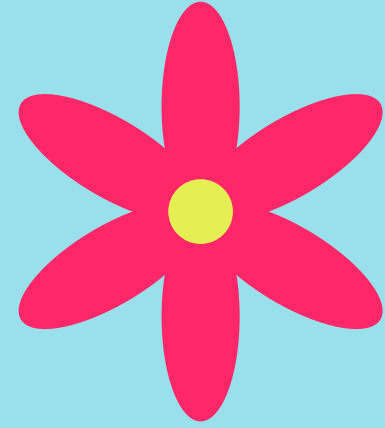


Viscose filament yarn can be used to create fabrics for clothing and home textiles because of its silky look and feel. Viscose filament yarn can be used to make soft and smooth clothing fabrics because of its ability to breathe and absorb liquid. It's also used in the production of viscose embroidery thread. The global demand for Viscose Filament Yarns is increasing, and demand in developing industrial countries is also increasing. It was used to make cloth, especially lingerie and dresses, among other things.

KEY PLAYERS



- Grasim Industries
- Nanjing Chemical Fiber
- Abirami Textiles
- Shandong Helon Co. Ltd
- ENKA GmbH & Co. KG
- Century Rayon
- Yibin Grace Group
- Xinxiang Bailu Chemical Fiber
- Kayavlon Impex Pvt. Ltd
- Hubei Golden Ring



**MAJOR
QUERIES/QUESTIONS
ANSWERED IN THE
REPORT?**

- **What is Viscose Filament yarn ?**
- **How has the Viscose Filament yarn performed so far and how will it perform in the coming years ?**
- **What is the Project Feasibility of Viscose Filament yarn Plant ?**
- **What are the requirements of Working Capital for setting up Viscose Filament yarnplant ?**

- **What is the structure of the Viscose Filament yarn Business and who are the key/major players ?**
- **What is the total project cost for setting up Viscose Filament yarn Business?**
- **What are the operating costs for setting up Viscose Filament yarn plant ?**
- **What are the machinery and equipment requirements for setting up Viscose Filament yarn plant ?**

- **Who are the Suppliers and Manufacturers of Plant & Machinery for setting up Viscose Filament yarn plant ?**
- **What are the requirements of raw material for setting up Viscose Filament yarn plant ?**
- **Who are the Suppliers and Manufacturers of Raw materials for setting up Viscose Filament yarn Business?**
- **What is the Process of Viscose Filament yarn?**

- **What is the total size of land required for setting up Viscose Filament yarn plant ?**
- **What will be the income and expenditures for Viscose Filament yarn Business?**
- **What are the Projected Balance Sheets of Viscose Filament yarn plant ?**
- **What are the requirement of utilities and overheads for setting up Viscose Filament yarn plant?**

- **What are the Personnel (Manpower) Requirements for setting up Viscose Filament yarn Business?**
- **What are Statistics of Import & Export for Viscose Filament yarn ?**
- **What is the time required to break-even of Viscose Filament yarn Business?**
- **What is the Break-Even Analysis of Viscose Filament yarn plant?**

- **What are the Profitability Ratios of Viscose Filament yarn Project?**
- **What is the Sensitivity Analysis-Price/Volume of Viscose Filament yarn plant?**
- **What are the Projected Pay-Back Period and IRR of Viscose Filament yarn plant?**
- **What is the Process Flow Sheet Diagram of Viscose Filament yarn project?**

- **What are the Market Opportunities for setting up Cold Storage plant?**
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- 

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A background image of soft-focus pink rose petals scattered across a light cream-colored surface.

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Preference Share Capital

The background of the slide features a soft-focus image of several pink roses. The roses are in various stages of bloom, with delicate petals visible. They are scattered across the frame, with some in the foreground and others slightly blurred in the background, creating a romantic and elegant aesthetic.

Annexure 1 :: Cost of Project and Means of Finance

Annexure 2 :: Profitability and Net Cash Accruals

Revenue/Income/Realisation

Expenses/Cost of Products/Services/Items

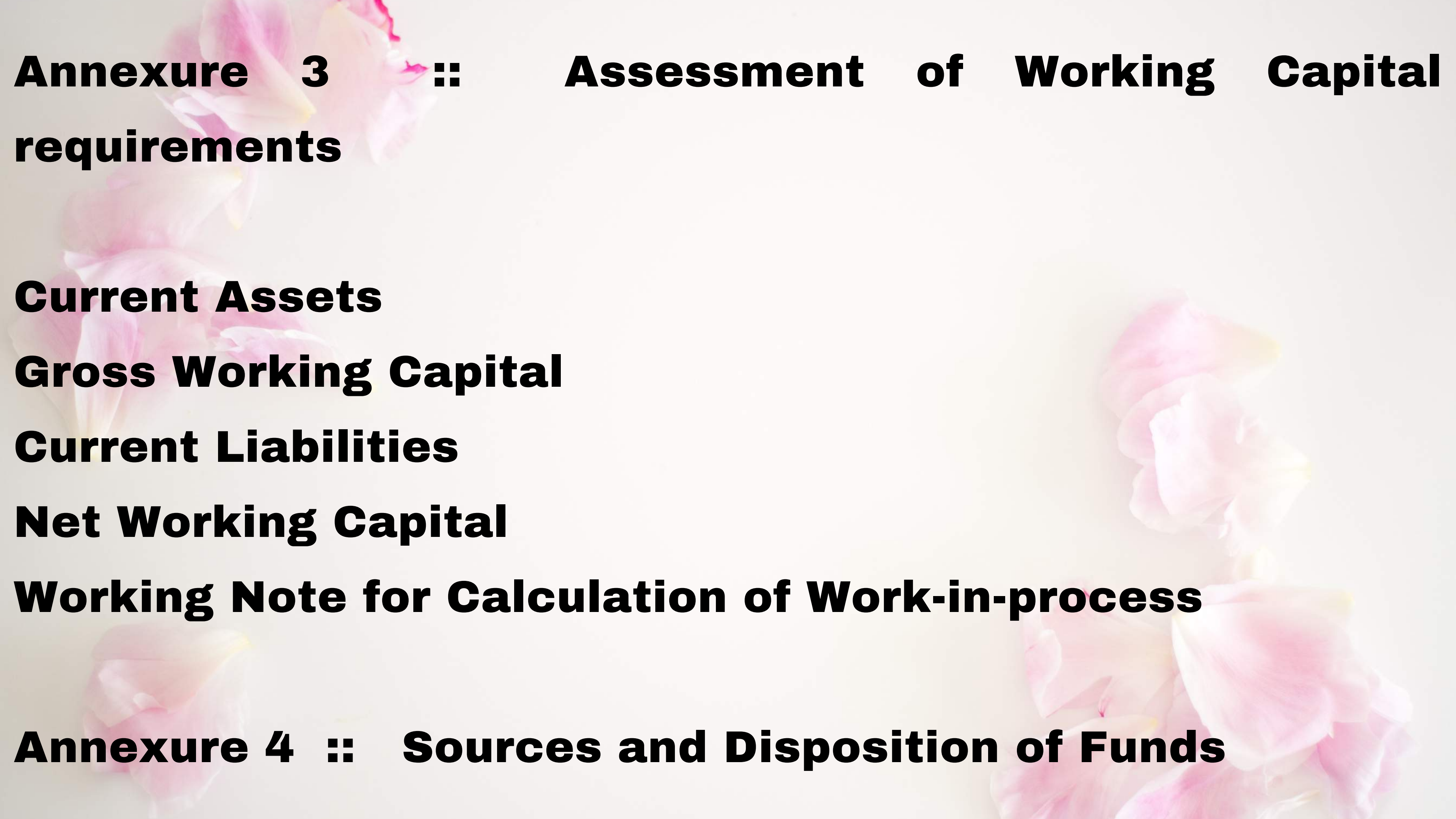
Gross Profit

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Total Cost of Sales

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Net Cash Accruals



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The background of the slide is decorated with soft-focus pink rose petals scattered across the surface.

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ROI (Average of Total Assets)

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D.S.C.R

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Annexure 7 :: Break-Even Analysis

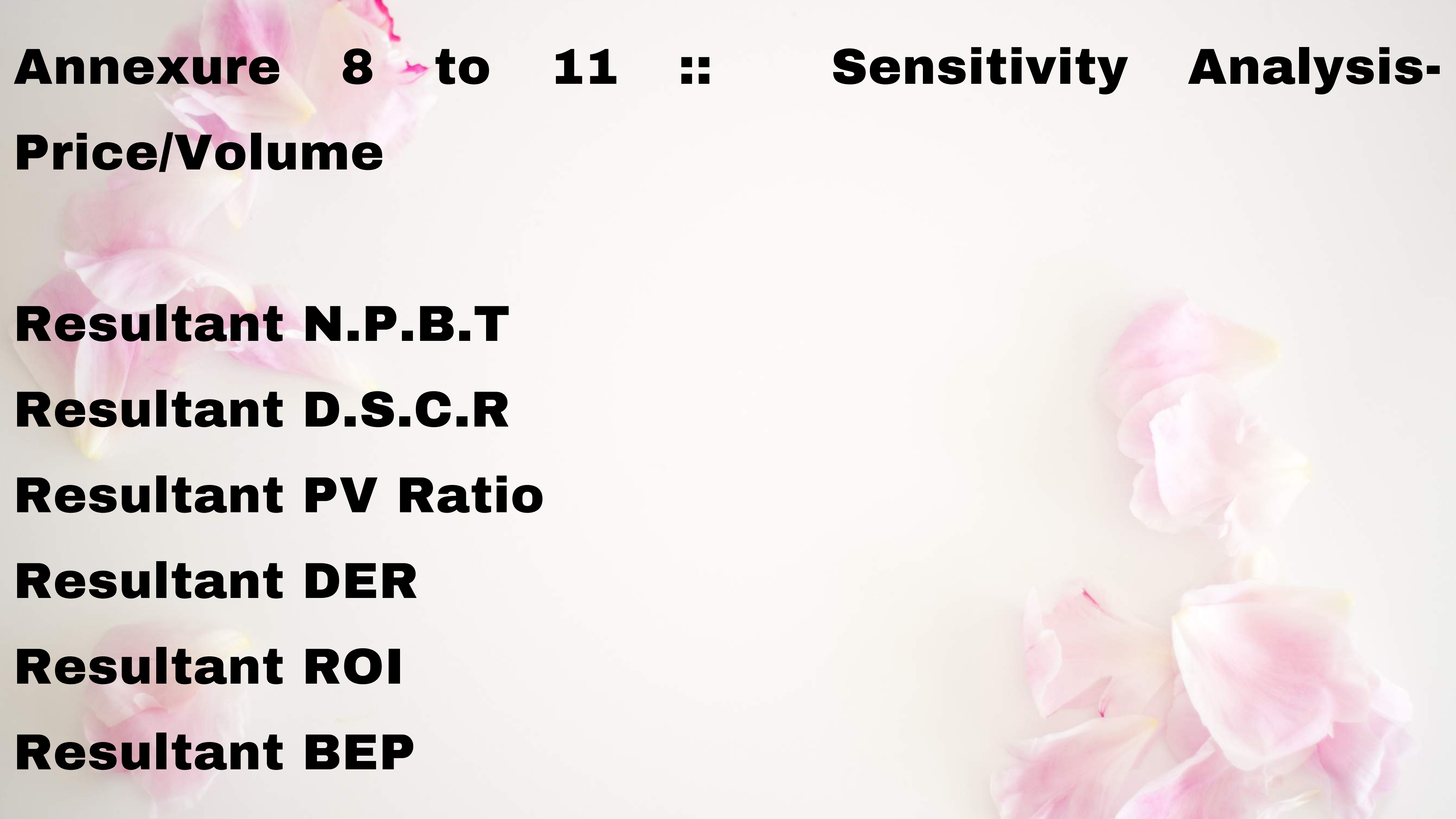
Variable Cost & Expenses

Semi-Variable/Semi-Fixed Expenses

Profit Volume Ratio (PVR)

Fixed Expenses / Cost

B.E.P

The background of the slide is a soft-focus image of pink rose petals scattered across a light cream-colored surface. The petals are in various stages of bloom, with some showing vibrant pink and others appearing more faded or white.

Annexure 8 to 11 :: Sensitivity Analysis- Price/Volume

Resultant N.P.B.T

Resultant D.S.C.R

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Resultant DER

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REASONS FOR BUYING OUR REPORT:

- This report helps you to identify a profitable project for investing or diversifying into by throwing light to crucial areas like industry size, market potential of the product and reasons for investing in the product
- This report provides vital information on the product like it's characteristics and segmentation
- This report helps you market and place the product correctly by identifying the target customer group of the product

- This report helps you understand the viability of the project by disclosing details like machinery required, project costs and snapshot of other project financials
- The report provides a glimpse of government regulations applicable on the industry
- The report provides forecasts of key parameters which helps anticipate the industry performance and make sound business decisions



Our Approach:

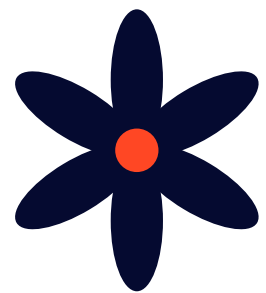
- Our research reports broadly cover Indian markets, present analysis, outlook and forecast for a period of five years.
- The market forecasts are developed on the basis of secondary research and are cross-validated through interactions with the industry players
- We use reliable sources of information and databases. And information from such sources is processed by us and included in the report

Scope of the Report

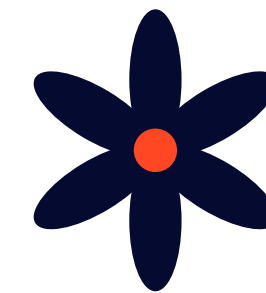
The report titled “Market Survey cum Detailed Techno Economic Feasibility Report on Viscose Filament Yarn.” provides an insight into Viscose Filament Yarn market in India with focus on uses and applications, Manufacturing Process, Process Flow Sheets, Plant Layout and Project Financials of Viscose Filament Yarn project. The report assesses the market sizing and growth of the Indian Viscose Filament Yarn Industry. While expanding a current business or while venturing into new business, entrepreneurs are often faced with the dilemma of zeroing in on a suitable product/line. And before diversifying/venturing into any product, they wish to study the following aspects of the identified product:

- Good Present/Future Demand
- Export-Import Market Potential
- Raw Material & Manpower Availability
- Project Costs and Payback Period

We at NPCS, through our reliable expertise in the project consultancy and market research field, have demystified the situation by putting forward the emerging business opportunity in the Viscose Filament Yarn sector in India along with its business prospects. Through this report we have identified Viscose Filament Yarn project as a lucrative investment avenue.



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A background image featuring pink cherry blossoms in full bloom, set against a clear blue sky. The blossoms are in sharp focus in the foreground, with some branches extending across the frame.

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OUR MARKET SURVEY CUM DETAILED TECHNO ECONOMIC FEASIBILITY REPORT PROVIDES AN INSIGHT OF MARKET IN INDIA. THE REPORT ASSESSES THE MARKET SIZING AND GROWTH OF THE INDUSTRY. WHILE EXPANDING A CURRENT BUSINESS OR WHILE VENTURING INTO NEW BUSINESS, ENTREPRENEURS ARE OFTEN FACED WITH THE DILEMMA OF ZEROING IN ON A SUITABLE PRODUCT/LINE.

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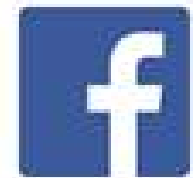
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