Optical Fiber Cable (OFC) Manufacturing Industry.
Production of Fiber Optic Cables.
How to Start Your Own Cable Manufacturing Business

[NPCS/2117/23382]
www.entrepreneurindia.co
An optical fiber cable is a type of cable that has a number of optical fibers bundled together, which are normally covered in their individual protective plastic covers. Optical cables are used to transfer digital data signals in the form of light up to distances of hundreds of miles with higher throughput rates than those achievable via electrical communication cables. All optical fibers use a core of hair-like transparent silicon covered with less refractive indexed cladding to avoid light leakage to the surroundings.
Uses of Fiber Optic Cables:

Fiber optic cables find many uses in a wide variety of industries and applications. Some uses of fiber optic cables are described below:

- **Medical**

  It is used as light guides, imaging tools and also as lasers for surgeries.

- **Defense/Government**

  It is used as hydrophones for seismic and sonar purposes, as wiring in aircraft, submarines and other vehicles and as well as for field networking.

- **Data Storage**

  It can be used for data transmission.
• **Telecommunications**

Fiber is laid and used for transmitting and receiving purposes.

• **Networking**

It can be used to connect users and servers in different network settings and can also help increase the speed and accuracy of data transmission.

• **Industrial/Commercial**

It is also used for imaging in difficult to reach areas viz a viz as wiring where EMI is an issue, or as a sensory device used to make temperature, pressure and other measurements, as wiring in automobiles and in industrial settings.
• **Broadcast/CATV**

It is no news that broadcast and cable companies are making use of fiber optic cables for wiring CATV, HDTV, internet, video on-demand and other applications.

Fiber optic cables can be used for lighting as well as imaging and sensors to measure and monitor a vast array of variables. They can also be used in research and development as well as testing across all the above-mentioned industries.
Advantages of Optical Fiber Cable:

- **Bandwidth**

Fiber optic cables have a much greater bandwidth than metal cables. The amount of information that can be transmitted per unit time of fiber over other transmission media is its most significant advantage.

- **Low Power Loss**

An optical fiber offers low power loss, which allows for longer transmission distances. In comparison to copper, in a network, the longest recommended copper distance is 100m while with fiber, it is 2km.
• **Interference**

Fiber optic cables are immune to electromagnetic interference. It can also be run in electrically noisy environments without concern as electrical noise will not affect fiber.

• **Size**

In comparison to copper, a fiber optic cable has nearly 4.5 times as much capacity as the wire cable has and a cross sectional area that is 30 times less.

• **Weight**

Fiber optic cables are much thinner and lighter than metal wires. They also occupy less space with cables of the same information capacity. Lighter weight makes fiber easier to install.
• **Security**

Optical fibers are difficult to tap. As they do not radiate electromagnetic energy, emissions cannot be intercepted. As physically tapping the fiber takes great skill to do undetected, fiber is the most secure medium available for carrying sensitive data.

• **Flexibility**

An optical fiber has greater tensile strength than copper or steel fibers of the same diameter. It is flexible, bends easily and resists most corrosive elements that attack copper cable.

• **Cost**

The raw materials for glass are plentiful, unlike copper. This means glass can be made more cheaply than copper.
Market Outlook

India optical fiber cables (OFC) market is projected to grow at a CAGR of 17% through 2023. Growth in the market is majorly expected to be backed by rising investments in OFC network infrastructure by the Indian government to increase internet penetration across the country, which is in line with the government’s initiatives such as Smart Cities Vision and Digital India. Moreover, growing demand for OFC from IT & telecom sector, rising number of mobile devices, increasing adoption of FTTH (Fiber to the Home) connectivity and surging number of data centers is anticipated to fuel optical fiber cables market in India over the coming years.
India Optical Fiber Cable Market Size, By End User, By Value, 2013-2023F
A huge number of working class population in India own high-end smartphones supporting various technologies such as Wi-Fi, 3G, etc. This class of consumers, in particular, is boosting the demand for on-the-go high speed data services. As a result, the government of India has announced various projects to build and strengthen OFC network for addressing the country’s increasing data transmission requirements. In addition, digitization of cable TV network has been mandated in the country, which is further propelling the demand for OFC network. Currently, the major users of OFCs include telecom service providers, internet service providers, multiple system operators, Cable TV operators, defense agencies and PSUs among others.
The market is projected to grow at a CAGR of 17% through 2023 in India. Growth in the market is majorly expected to be backed by rising investments in OFC network infrastructure by the Indian government to increase internet penetration across the country, which is in line with the government's initiatives such as Smart Cities Vision and Digital India.

Consumers are increasingly shifting towards internet driven applications like HDTV, video on demand and high-speed file sharing. To address the soaring demand for high speed data transmission, the government of India along with telecom giants is investing substantial capital in upgrading the country's telecom infrastructure.
The existing network of copper cables is being overhauled by using advanced fiber optic technology. All these factors are consequently providing a considerable thrust to the OFC market in India.

The global fiber optics market size was valued at USD 5.41 billion in 2015 and is expected to gain traction over the forecast period. The global fiber optics market is majorly driven by the pursuit of high bandwidth communication and growing opportunities in the healthcare sector along with increasing government funding in the development of network infrastructure.
Global Fiber Optic Cables Market

The global fiber optics market is anticipated to witness a substantial growth over the forecast period. The high demand for optical communication and sensing applications for diverse purposes provides avenues for industry growth. Furthermore, the growing demand for cost-effective, power-efficient, and high-level integration of IT infrastructure is expected to impel market demand in the next few years. However, factors such as capital investment, used in the development of the new fabrication technologies, may pose a challenge to the market demand over the forecast period.
U.S. Fiber Optics Market Size by Type, 2014-2025 (USD Million)
The most prominent factor driving the fiber optic cables market growth is rapidly growing internet traffic worldwide. With increasing proliferation of mobile devices, number of internet users is on rapid rise since the past few years. As of March 2017, there were nearly 3.74 Bn internet users across the globe, resulting into higher requirement of internet bandwidth. The demand for unceasing bandwidth is yielding significant growth in the global fiber optic cables market. Fiber optic cable provides a constant, stable and fast internet connection that allows high speed data transfer with minimal interference. In recent past, it has become noticeable that fiber optic cables are rapidly replacing copper cables and other metal wires due to their wide range of advantages over electrical transmission.
The fiber optics industry presents promising growth prospects throughout the forecast period in view of a combination of factors namely increasing investments and research undertaken by prominent fiber optic cable manufacturers in the industry to develop and upgrade the fiber optics technology application arena. In addition, the growing awareness of the benefits of adopting the technology is further propelling market growth.

Based on applications, the market has been segmented into telecom, oil & gas, military & aerospace, BFSI, medical, railway, and other applications. The telecom application would be the largest segment in terms of revenue and is anticipated to dominate the fiber optic application arena in terms of size by 2025.
The global optical fiber market is segmented by mode, type, industry vertical, and region. Based on mode, the market is bifurcated into single mode and multi-mode. By type, it comprises glass optical fiber and plastic optical fiber. Based on industry vertical, it is categorized into telecom & IT, public sector, healthcare, energy & utilities, aerospace & defense, manufacturing, and others. Based on region, it is studied across North America, Europe, Asia-Pacific, and LAMEA.
Global Optical Fiber Cable Demand from 2012 to 2018

- 2012: 230
- 2015: 280
- 2018: 325
The optical fiber cable market can be segregated on the basis of product type, application, and region. Based on product type, the market can be bifurcated into single mode fiber and multi-mode fiber. Single mode fiber is likely to allow one type of light mode to be propagated at a time. However, multi-mode fiber cable can propagate multiple modes. Multi-mode optical fiber can be used for short distance runs and single mode fiber cable can be used for long distance applications. Hence, single mode fiber segment can grow well during the forecast period attributed to long distance applications and low installation cost as compared to multi-mode fiber.
Machinery Photographs

Complete Line

Secondary Coating Line
Stranding Line

Sheathing Line
## Project at a Glance

### PROJECT AT A GLANCE

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### Project at a Glance

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## Project at a Glance

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<td>Total BEP (% of Installed Capacity)</td>
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### IRR, PAYBACK and FACR

| **Internal Rate of Return .. ( In %age )** | 38.15% |
| **Payback Period of the Project is ( In Years )** | 2 Years 5 Months |
| **Fixed Assets Coverage Ratio ( No. of times )** | 6023.898 |
Major Queries/Questions Answered in the Report?

1. What is Optical Fiber Cable Manufacturing industry?

2. How has the Optical Fiber Cable Manufacturing industry performed so far and how will it perform in the coming years?

3. What is the Project Feasibility of Optical Fiber Cable Manufacturing Plant?

4. What are the requirements of Working Capital for setting up Optical Fiber Cable Manufacturing plant?
5. What is the structure of the Optical Fiber Cable Manufacturing Business and who are the key/major players?

6. What is the total project cost for setting up Optical Fiber Cable Manufacturing Business?

7. What are the operating costs for setting up Optical Fiber Cable Manufacturing plant?

8. What are the machinery and equipment requirements for setting up Optical Fiber Cable Manufacturing plant?
9. Who are the Suppliers and Manufacturers of Plant & Machinery for setting up Optical Fiber Cable Manufacturing plant?

10. What are the requirements of raw material for setting up Optical Fiber Cable Manufacturing plant?

11. Who are the Suppliers and Manufacturers of Raw materials for setting up Optical Fiber Cable Manufacturing Business?

12. What is the Manufacturing Process of Optical Fiber Cable?
13. What is the total size of land required for setting up Optical Fiber Cable Manufacturing plant?

14. What will be the income and expenditures for Optical Fiber Cable Manufacturing Business?

15. What are the Projected Balance Sheets of Optical Fiber Cable Manufacturing plant?

16. What are the requirement of utilities and overheads for setting up Optical Fiber Cable Manufacturing plant?

17. What is the Built up Area Requirement and cost for setting up Optical Fiber Cable Manufacturing Business?
18. What are the Personnel (Manpower) Requirements for setting up Optical Fiber Cable Manufacturing Business?

19. What are Statistics of Import & Export for Optical Fiber Cable?

20. What is the time required to break-even of Optical Fiber Cable Manufacturing Business?

21. What is the Break-Even Analysis of Optical Fiber Cable Manufacturing plant?

22. What are the Project financials of Optical Fiber Cable Manufacturing Business?
23. What are the Profitability Ratios of Optical Fiber Cable Manufacturing Project?

24. What is the Sensitivity Analysis-Price/Volume of Optical Fiber Cable Manufacturing plant?

25. What are the Projected Pay-Back Period and IRR of Optical Fiber Cable Manufacturing plant?

26. What is the Process Flow Sheet Diagram of Optical Fiber Cable Manufacturing project?
27. What are the Market Opportunities for setting up Optical Fiber Cable Manufacturing plant?

28. What is the Market Study and Assessment for setting up Optical Fiber Cable Manufacturing Business?

29. What is the Plant Layout for setting up Optical Fiber Cable Manufacturing Business?
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   2.1. MAJOR BENEFITS OF FIBER OPTIC CABLE
   2.2. FIBER OPTIC CABLE BASED ON FIBER TYPES
   2.3. TYPES OF MULTI-MODE FIBERS
   2.4. ELEMENTS IN A FIBER OPTIC CABLES
   2.5. CABLE JACKET MATERIALS
   2.6. APPLICATION REQUIREMENTS
   2.7. FIBRE CABLE CHOICE
   2.8. TWO BASIC FIBER STRUCTURES

3. **B.I.S. SPECIFICATIONS**
   3.1. IS 13882-1-1 (2001): OPTICAL FIBRE CABLES, PART 1: GENERAL SPECIFICATION, SECTION 1: GENERAL
   3.2. IS/QC 210700 (1998): CONNECTORS FOR OPTICAL FIBRES AND CABLES, PART 7: SECTIONAL FIBRE OPTIC CONNECTOR - TYPE FC
   3.3. IS/IEC 60794-1-1 (2001): OPTICAL FIBRES CABLES, PART 1: GENERAL SPECIFICATION, SECTION 1: GENERAL

4. **MARKET SURVEY**
   4.1. NEWLY EMERGING INDICATORS
   4.2. OPTICAL FIBRE CABLES
   4.3. MARKET STRUCTURE

5. **EXPORT & IMPORT: ALL COUNTRIES**
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5.2. IMPORT: ALL COUNTRIES

6. FINANCIALS & COMPARISON OF MAJOR INDIAN PLAYERS/COMPANIES

6.1. ABOUT FINANCIAL STATEMENTS OF CMIE DATABASE
6.2. PROFITS & APPROPRIATIONS
6.3. TOTAL LIABILITIES
6.4. TOTAL ASSETS
6.5. NET CASH FLOW FROM OPERATING ACTIVITIES
6.6. SECTION –I
   6.6.1. Name of Company with Contact Details
   6.6.2. Name of Director(S)
   6.6.3. Credit Ratings
   6.6.4. Plant Capacity
   6.6.5. Location of Plant
   6.6.6. Name of Raw Material(S) Consumed With Quantity &Cost
6.7. SECTION–II
   6.7.1. Assets
   6.7.2. Cash Flow
   6.7.3. Cost as % Ge of Sales
   6.7.4. Forex Transaction
   6.7.5. Growth in Assets & Liabilities
   6.7.6. Growth in Income & Expenditure
   6.7.7. Income & Expenditure
   6.7.8. Liabilities
   6.7.9. Liquidity Ratios
   6.7.10. Profitability Ratio
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16. DRAWING THE FIBER

17. OPTICAL FIBRE AND CABLE TESTING

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18.1. GASEOUS POLLUTANTS
18.2. AIR POLLUTANTS
18.3. PARTICULATE POLLUTANTS

19. BUYER’S LIST

19.1. CONTACT DETAILS OF BUYER’S
19.2. NAME OF DIRECTOR(S)
19.3. CREDIT RATINGS
19.4. PLANT CAPACITY
19.5. LOCATION OF PLANT
19.6. COMPANY WISE CONSUMPTION DETAIL OF THE RAW MATERIALS
20. SUPPLIER OF PLANT & MACHINERY

21. SUPPLIERS OF RAW MATERIALS

22. PHOTOGRAPHS/IMAGES FOR AS REFERENCES
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- Economic feasibility study of the Project
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