

A large industrial facility, likely a power plant or refinery, is shown at night. A tall, dark smokestack with red lights at the top and along its side is the central feature. The facility's buildings and piping are illuminated with warm yellow lights, contrasting with the cool blue tones of the twilight sky. In the background, a body of water and distant hills are visible under a sky with soft, orange and yellow clouds from a setting or rising sun.

FIBER OPTIC INDUSTRIAL SOLUTIONS

Booklet



AS9100C, ISO9001, ITAR CERTIFIED

FOREWORD

Timbercon has been a leader in engineered fiber optic solutions for over two decades.

- One-stop custom fiber optic solutions, from development to delivery
- High-quality custom fiber optic cable assemblies and equipment
- Quality and delivery performance far exceeding industry standards
- The market leader in domestically-sourced custom fiber optic solutions

When high reliability and performance is your priority, choose Timbercon manufactured fiber optic products and services.

CONTACT

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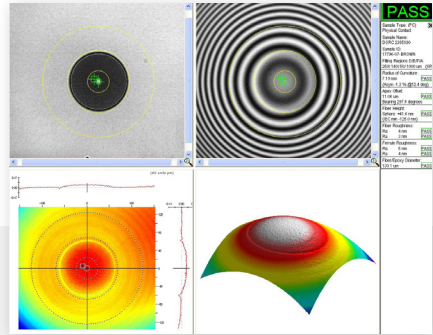
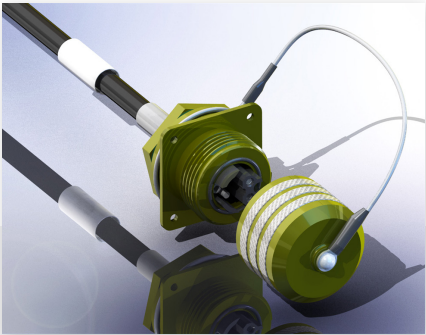
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Timbercon provides a wide array of fiber optic design, manufacturing and testing capabilities. We partner with our customers to enable solutions for harsh environment, mission critical challenges.

CAPABILITIES

Our range of capabilities provides the seamless transition of products from development to full-scale production, reducing time-to-market and total cost. We focus on high quality custom solutions.



PRODUCT DESIGN

- Solutions that optimize cost of ownership while balancing price, performance and schedule
- Engineering services to define a custom product and development plan
- 3D modeling utilizing SolidWorks, 3D printing, precision fiber processing and testing
- Mechanical, electronic and optical design services
- Rapid prototyping capabilities

CONTRACT MANUFACTURING

- Advanced fiber optic engineering
- Final product, sub-level and integrated electrical and optical manufacturing
- New product introduction and test protocol development
- Ability to build product to customer specifications
- Custom packaging and labeling
- Repair and replacement services

TEST & ANALYSIS

- Leading edge optical metrology and interferometry
- Specialized performance and environmental tests, including tensile, load, temperature and humidity
- Testing options ranging from simple insertion loss testing to root cause failure analysis
- Expedited diagnostic and recertification services

PRODUCTS

A FIBER FOR EVERY APPLICATION

As the utility of fiber grows, Timbercon is focused on new applications that advance fiber optic technology. Timbercon's experience and capital equipment is optimized for, but not limited to, the fiber types below.

- Singlemode (SM) and multimode (MM) fiber
 - Fiber Bragg Gratings (FBG)
- Bare fiber
 - Coated fiber
 - Multi-channel and hybrid cables
 - Indoor/outdoor armored cables
 - Polarization maintaining (PM) fiber
 - Doped fiber
 - Large core silica and plastic optical fiber (POF)
 - Custom supplied specialty fiber

Ruggedized Connectors



D38999



TFOCA



M28876



Expanded Beam



MIL-ST/M83522

Semi-rugged Connectors



Armadillo LC



IP67/68 LC



Circular MPO



4CH Push/Pull



Hybrid Push/Pull

Standard Commercial Connectors



ST



LC



SC



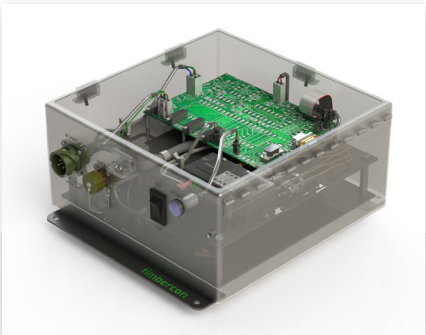
FC



MTP®/MPO

SYSTEM INTEGRATION

Creating new products and solutions involves integrating new technologies that equipment manufacturers need technical support to develop. Timbercon is your optics expert for subsystem or connectivity requirements. We offer design and development, prototyping, validation and production services.



Solutions Inside Your System

- Fiber routing/fiber management
- Precision alignment and coupling
- Terminations and splicing
- Custom polishing services
- V-groove assembly
- Optical and electrical potting
- Design and manufacture of optical assemblies and subassemblies



Packaged With Your Device

- Fiber optics manufactured to custom length and performance requirements
- Reference quality assemblies
- Private labeling
- Custom packaging
- Fully tested with optional written reports
- Stocking plans



Connecting To Your Equipment

- Commercial off the shelf (COTS), semi-rugged and harsh environment connector options
- Cable options for a wide array of environments
- Optical-electrical hybrid capabilities
- Clean room ready
- Overmold solutions



DEPLOYABLE

Timbercon deployable reels offer a number of advantages for applications requiring long fiber runs, temporary connections for easy storage and transportation of long, bulky cable assemblies. We produce custom assemblies for temporary or semi-permanent deployable solutions for semi-rugged or harsh environments.

- Cable options for a wide array of environments and applications
- Can house up to 1.5 km of cable
- Up to 192 channels
- Mil-standard, semi-rugged or commercial connectors available
- Companion wall-mount or jam-nut receptacles
- Manual, powered and modular reel options for any length cable assembly
- Durable polymer, carbon steel, stainless steel and aluminum reels for harsh environments
- Optical/electrical hybrid capabilities
- Compact storage and mobility



TIMBERCON CLEANING KITS

Maintaining a clean connection or mating point is critical to the performance and proper function of any fiber optic link. Timbercon cleaning kits provide comprehensive solutions for cleaning, preparing and maintaining fiber optic connectivity products.

- Top quality supplies for effective cleaning
- Multiple products and methods for properly cleaning virtually any optical connection
- Available replacement supplies for easy kit replenishment
- Several kit sizes and sets available to service a range of application requirements

Cleaning Kit Contents



Cleaning Swabs



Endface Cleaning System



Cleaning Solvent



Hydrosorb Wipes



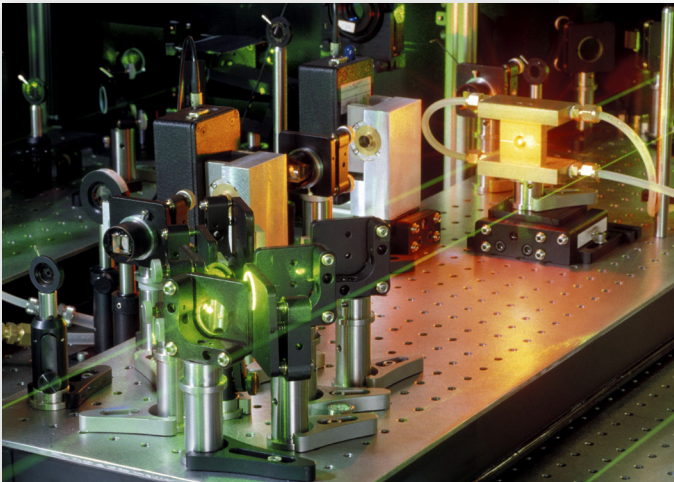
Flexlight



OUTSIDE PLANTS

Timbercon specializes in ruggedized cables, enclosures, optical nodes and distribution points to withstand any number of adverse circumstances. Simply provide your performance and environmental requirements, and we will develop a solution around them.

- Crush-resistant/proof connectivity requirements
- Chemical proof connections
- Turnkey enclosure solutions
- Aerial and direct burial cable assemblies
- Water, fungus, rodent and UV resistance
- Braided jacketing
- Optical-electrical hybrid capabilities
- Pull-eyes for easy installation
- Up to 192 channels



LAB/TEST ENVIRONMENTS

The test and measurement industry is comprised of service providers, equipment manufacturers and end users. Solutions range from optical testing and simulation to diagnostics and troubleshooting of products or networks. A clear signal is mission critical to the success or failure of a given procedure, as weak or unreliable signals can skew results. Timbercon has the equipment and expertise to produce high performance assemblies, including a number of optical components.

- Polarization maintaining cable assemblies
- Couplers/splitters
- MTP®/MPO cable assemblies
- Patch cables
- Attenuated cable assemblies and bulkhead adapters
- Optical and electrical loopbacks
- Cleaning kits

CUSTOM OVERMOLDING

A variety of customer requirements have driven the need to offer molded components. Timbercon can design and produce the required tooling and mold these solutions in-house. An assortment of material types are available and render different degrees of flexibility, texture and density.



- Rugged fan-out transitions
- Flanged connectors
- Backshells
- Optical and electrical potting
- Overmolding for up to 24-fiber channels
- Multiple transition styles provide flexible mounting options
- 100% optically tested to ensure reliability and performance
- Custom molded shapes designed to fit your equipment
- Custom branded transitions for product and company names
- Molded strain relief

BRAIDED JACKETING

Our custom braided jacketing allows you to bundle multiple channels together for improved cable management. This specially braided jacketing aids in abrasion resistance, cable identification and environmental protection.



- Braided sheath
- Cable jacket
- Kevlar® strength member
- Fiber subunits

- Increased abrasion resistance and environmental protection
- Available in stainless steel, copper, monofilament, polypropylene, Kevlar®, Nomex® and nylon
- Multiple color combinations available

