INDUSTRIAL APPLICATIONS

Serving
- Equipment Manufacturers
- Research and Development
- Semiconductor
- Energy
- Broadcast and Security
- Oil and Gas
- Sensors
- Automation
- High Power
- Materials Processing
- Mining

System Integration
Lab & Test Environment
Deployable
Outside Plant

Timbercon | www.timbercon.com
Equipment manufacturers are often tasked with integrating a series of new components into the development of a finished good. Let Timbercon be your expert in designing the optical subsystem for your product. We offer complete services for development, validation, and implementation into your project or program.

**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
- Turnkey optical subassemblies

**Packaged With Your Device**
- Produced to your 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
- Overmolded solutions
OUTSIDE PLANT

Outside plant is defined as all the cables, conduits, ducts, poles, towers, repeaters, repeater huts, and other equipment between demarcation points. It is the portion of your network that resides outside your facilities, connecting you with the outside world. Timbercon specializes in ruggedized cables, enclosures, optical nodes, and distribution points to withstand any number of adverse circumstances directly related to its surroundings.

Solutions

- 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 ENVIRONMENT

The test and measurement industry is comprised of services providers, equipment manufacturers and end users that offer solutions for optical testing, simulation, diagnostics, and troubleshooting of products and/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 capital equipment and expertise to produce high performance assemblies and optical components.

Solutions

- Polarization maintaining cable assemblies
- Couplers/splitters
- MTP®/MPO cable assemblies
- Patch cables
- Optical and electrical loopbacks
- Attenuated cables and bulkhead adapters
- Cleaning kits
- Breakout Cables
- Reference Cables
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. With understanding your application and performance requirements we can produce the appropriate assemblies for temporary or semi-permanent deployable solutions for semi-rugged or harsh environments.

Solutions

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

Standard Commercial Connectors

<table>
<thead>
<tr>
<th>ST</th>
<th>LC</th>
<th>SC</th>
<th>FC</th>
<th>MTP®/MPO</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="ST Connector" /></td>
<td><img src="image2" alt="LC Connector" /></td>
<td><img src="image3" alt="SC Connector" /></td>
<td><img src="image4" alt="FC Connector" /></td>
<td><img src="image5" alt="MTP®/MPO Connector" /></td>
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Semi-rugged Connectors

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<tr>
<th>Armadillo LC</th>
<th>IP67/68 LC</th>
<th>Circular MPO</th>
<th>4CH Push/Pull</th>
<th>Hybrid Push/Pull</th>
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<td><img src="image7" alt="IP67/68 LC Connector" /></td>
<td><img src="image8" alt="Circular MPO Connector" /></td>
<td><img src="image9" alt="4CH Push/Pull Connector" /></td>
<td><img src="image10" alt="Hybrid Push/Pull Connector" /></td>
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</table>

Mil-spec Connectors

<table>
<thead>
<tr>
<th>Expanded Beam</th>
<th>TFOCA</th>
<th>M28876</th>
<th>D38999</th>
<th>MIL-ST/M83522</th>
</tr>
</thead>
<tbody>
<tr>
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<td><img src="image12" alt="TFOCA Connector" /></td>
<td><img src="image13" alt="M28876 Connector" /></td>
<td><img src="image14" alt="D38999 Connector" /></td>
<td><img src="image15" alt="MIL-ST/M83522 Connector" /></td>
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</tbody>
</table>

MTP® is a registered trademark of US Conec LTD
The utility of fiber optics continuously grows and Timbercon is interested in hearing about your new application. Timbercon’s experience and capital equipment is built for, but not limited to, the fiber types below.

**Solutions**

- Single-mode fiber
- Large core silica and plastic optical fiber
- Polarization maintaining (PM) fiber
- Fiber Bragg Gratings (FBG)
- Customer supplied specialty fiber
- Multi-channel and hybrid cables
- Doped fiber
- Bare fiber
- Metalized fiber
- Coated fiber

**OVERMOLDING CAPABILITIES**

A variety of customer requirements have driven the need to offer overmolded 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.

**Solutions**

- Rugged fan-out transitions
- Flanged connectors
- Backshells
- Optical and electrical potting
- Molded strain relief

Custom Overmolds
Contract Manufacturing
Services include mechanical, electronic, and software design, prototyping services, new product introduction, testing development, final system box build, fulfillment, and sustaining services. This range of capabilities provides for the seamless transition of products from one service offering to another, reducing time-to-market and total cost.

Product Design
Timbercon’s product design services are focused on creating the highest quality possible solution for your application, while ensuring each and every performance, physical, budget, and any deliverable need is satisfied. Through the entire prototyping and product design cycle, our product development engineers will work with you on defining a custom product development plan designed to produce the results you require.

Through programs such as SolidWorks, Timbercon’s product development services incorporate some of the latest in 3D modeling, 3D printing, precision fiber processing, and testing. Assemblies are produced onsite and controlled at our Tualatin, Oregon facility.

Test & Analysis
Timbercon invests heavily in technology to support our test and analytical services. This investment allows us to ensure that each service offered is backed by the latest and most accurate equipment available on the market. Our engineers will design any pulling, compression, and thermal tests your fiber optical cables require in order to provide you with a durable and long lasting fiber optic system. We provide a number of test and analysis options from simple insertion loss testing to root cause failure analysis. We offer expedited repair, replacement, and recertification services, reducing the time it takes to return your product to the field.
NETWORK TEST DEVICES
ALSO AVAILABLE

Solutions are available for common network testing to complex diagnostics. Optical and electrical loopbacks for port testing, rack and benchtop network simulation modules, and host test boards for accurate assessment of transceivers, loopbacks, and active optical cables.

ABOUT TIMBERCON

Timbercon has been a leader in the defense and aerospace communications industries for over 18 years.

Our fiber optic products are fully assembled at the Timbercon manufacturing facility in Tualatin, Oregon, USA. The on-site sourcing, research and development, and production teams enable Timbercon to maintain stringent controls across the build process from source to finished product. Our manufacturing processes and products are RoHS compliant and AS9100C ISO certified.

When quality workmanship is your priority, choose Timbercon USA Manufactured Fiber Optic Products.