

## Applications

- Network Splicing
- Packaging Applications
- Pig-Tailing
- Security Connections
- Medical Industry

## Features

- Custom polish types & options
- Clean room ready
- Ruggedization
- Attenuation options
- Connector options
- Jacketing options
- PM alignment options

## Benefits

- On-site, precision manufacturing
- Specialty fiber expertise
- Custom angle polish
- Limitless customization

## About Timbercon

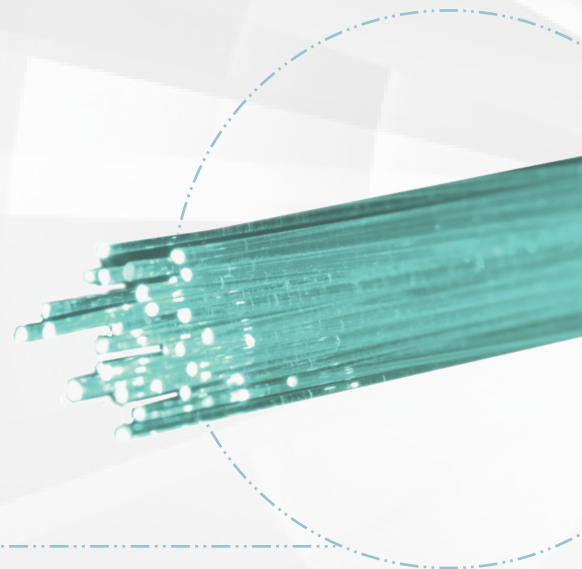
Timbercon, Inc., founded in 1997, is a fiber optic product and solution manufacturing company providing a variety of connectivity solutions to the defense, aerospace, medical, data storage, telecommunications, industrial, broadcast and networking industries. In addition to standard fiber optic assemblies and attenuated loopbacks, Timbercon has pioneered many proprietary products. Additional company information can be found at [www.timbercon.com](http://www.timbercon.com).

## Overview

Timbercon bare fiber processing is designed to optimize bare fiber coupling efficiencies for a variety of precision optical applications, such as network splicing, security connections or medical devices. Timbercon bare fibers offer a specialized and highly customizable solution to applications requiring precision conical, chiseled, angled or flat fiber tips.

In addition to improving coupling, bare fibers can be lensed, eliminating the need for discreet lens systems for some applications. Bare fibers are available in single mode, multimode and polarization maintaining fiber types with a variety of standard and custom polishes, angles and lensed end finishes. Bare fiber is available in the following core diameters: 9, 50, 62.5 and 100 micrometers.

Bare fiber optic cables can be terminated, polished or prepared for pig-tailing. This fiber is primarily used for connecting equipment on one end to a light source on the other.



## Performance

Insertion Loss (Typical)	SM	MM
FC, ST, SC, LC, MU	0.15 dB	0.35 dB
MTRJ	0.30 dB	0.30 dB
Back Reflection (Typical)	≤-55 dB	≤-35 dB
Mating Durability (500 Cycles)	<0.20 dB	<0.20 dB
Temperature Range	-40°C to 85°C	-40°C to 85°C

## Construction

	Buffer	Strength	Jacket
900 um	900 um	-	PVC
3mm Riser	900 um	Kevlar	PVC
3mm Plenum	900 um	Kevlar	PVC
Length Tolerance (Cables)	<1m: +5cm / -0cm 1m - 10m: +10cm / -0cm >10m: +2% / -0%		

## Polish Specifications

	Flat	Angle	Conical	Chisel
Angle Range	0°	0° to 60° off diameter	140° to 50° inclusive	140° to 50° inclusive
Angle Tolerance (typ.)	+/- 0.5°	+/- 0.5°	+/- 0.5°	+/- 0.5°
Squareness (typ.)	n/a	n/a	n/a	+/- 0.5°
Concentricity	n/a	n/a	1µm	1µm
Tip Radius Range (std.)	n/a	n/a	<1 to >60µm	<1 to >60µm
Fiber Size (std.)	80um to 140um (dia.)	80um to 140um (dia.)	80um to 140um (dia.)	80um to 140um (dia.)
Metallized Fiber	Yes	Yes	Yes	Yes
PM Fiber Support	Yes	Yes	Yes	Yes
Polishing Cycles	1	1	1	1

## Polish Types



### Flat Polish

A flat polish is the most cost-effective finish of a fiber. This finish type is appropriate where slightly higher levels of light loss is irrelevant to a given application.



### Angle Polish

A angle polish allows for slightly increased losses, but with minimal back reflection.



### Conical Polish

A conical (cone-like) polish is typically used to focus the output of a light beam, and allows for coupling with less light loss. This is typically used for laboratory research and medical applications, such as for attaching a sensor or photodiode.



### Chisel Polish

A chisel polish is designed to transform and focus the light through its chiseled tip. The chisel shape is another variation to improve coupling efficiency, depending on the shape of the tip to be used.