

Capabilities



KITCO
fiber optics

The logo features the word "KITCO" in a bold, blue, sans-serif font with a white outline. Below it, the words "fiber optics" are written in a smaller, italicized, blue sans-serif font. The logo is centered over a glowing blue globe with a complex network of fiber optic lines and nodes.

Our Company

KITCO Fiber Optics is a leading provider of fiber optic connectorization products and consulting services to the military and commercial communications industry. We specialize in the design and fabrication of fiber optic tools, tool kits and custom cable assemblies; producing private label kits for a number of major connector manufacturers and selling our own broad line of products.

We are considered to be fiber optic connectivity experts to the defense industry and for over 10 years have customized our products and services to meet strict military standards. We work with and support major defense contractors and government agencies such as AMSEC, Boeing, General Dynamics, L3 Communications, Lockheed Martin, NASA, Northrop Grumman, SAIC, the U.S. Armed Forces and other U.S. Government agencies.



Strategies For Growth

Our tradition is built on a theme of progress and we strive to fulfill our commitment to integrity, innovation and quality. This is witnessed by recent investments designed to strengthen our industry position and to serve the long term interests of our employees, customers and suppliers. We have positioned ourselves to support a broader market scope through:

- **INTERNATIONAL EXPANSION**
- **IMPROVING OUR INFRASTRUCTURE THROUGH THE ADDITION OF NEW SYSTEMS, MANAGEMENT AND PRODUCT DEVELOPMENT SPECIALISTS**
- **DOUBLING OUR OPERATIONAL CAPACITY**
- **OPENING A WEST COAST OPERATION**
- **ACHIEVING ISO 9001:2000 REGISTRATION**
- **INITIATING LEAN OPERATING PROCESSES**
- **FOCUSING OUR DISTRIBUTION CHANNELS**
- **STRENGTHENING STRATEGIC INDUSTRY PARTNERSHIPS**

Our Capabilities

Tools, Tool Kits & Connectorization Products

At KITCO we sell a full line of fiber optic connectorization products including connectors and consumables, but we are particularly recognized for our expertise in designing and manufacturing tools and the custom packaging of kits for the termination, testing and troubleshooting of fiber optic systems. Our designers continually review the market for technological improvements and either select or custom fabricate only the best suited and highest quality termination products. By doing so, we offer installers the finest tools and tool kits available for both the commercial and military markets.



Commercial

We offer a full line of affordable and user-friendly termination and testing products for the commercial fiber optic installer. Our kit line ranges from the most affordable in our EconoKit to the SSMD (Super Smoking Mac Daddy). The SSMD is the most versatile kit in the industry providing the ability to terminate hundreds of different connector types. Our CCMQJ Multimode Test Kit (Certified Commercial Measurement Quality Jumper) ensures the elimination of costly rework and the optimal performance of your fiber optic system.

Our KITCO branded products also include the ProFixture, a hardened tungsten polishing fixture designed for maximum performance, QuickTemp Ovens, FiberSure™ Crimp Tools and Dies, and the FiberSure™ anaerobic adhesive system. We also sell a full line of preparation tools, inspection tools and consumables. Not only do we sell our own broad line of products, but because of our superior reputation and extensive experience, we are also relied upon by a host of major connector manufacturers to design and build their private labeled kits.

Military

At KITCO Fiber Optics we have been supporting the Department of Defense and its contractors with customized connectorization products for over 10 years. Initially our KITCO development engineers worked with the U.S. Navy to design mil-spec tools and tool kits to support command and control, weapons and other critical systems aboard U.S. Navy surface ships and submarines. We also began our valued association as QPLd assemblers/distributors of Delphi Connection Systems' M28876 and M29504 products. When the U.S. Navy outfitted the fleet with fiber optic tools and tool kits they chose our product line because of its high quality, functionality and strict adherence to the MIL-STD 2042(SH) requirements and specifications.

More recently we have collaborated with NAVAIR (Naval Air Systems Command) to engineer a wide variety of support solutions for fiber optic systems on

Naval and joint military aircraft. Our newest line of kits support fiber optic avionics systems for the latest tactical and non-tactical aircraft. We are dedicated to providing the same level of support to the next generation of military aircraft and weapon systems as we provide to the shipboard Navy.

Because of our recognized industry expertise in military fiber optics, the U.S. Army and U.S. Marine Corps both tasked us with developing a series of support kits for the TFOCA and TFOCA II connectors which are used in a number of systems, including the Patriot Missile, CCOM, Radar and ground support. We now provide termination, mechanical and fusion splicing tool kits to ensure that the warfighter is equipped and able to maintain the most critical systems on

the battlefield and to help improve the overall combat readiness of our military.



Custom Cable Assemblies & Measurement Quality Jumpers (MQJs)

Our experienced production staff is highly skilled in the connectorization methods used with the majority of fiber optic connectors and has fabricated thousands of custom cable assemblies for military and commercial applications. We build an extensive array of cable assemblies for a number of different technical applications, and specialize in MIL-STD-2042(SH) qualified assemblies. We are also expert in building multimode and singlemode assemblies that require tight insertion loss and back reflection readings. All cables undergo extensive testing and verification in adherence to accepted industry standards—and we provide test reports with our delivered assemblies.

Military

KITCO technicians custom build a comprehensive line of cable assemblies for the DOD and its contractors. Our diverse capabilities include the ability to build many types of assemblies and rapidly respond to customer requirements, strictly adhering to MIL-STDs when specified. Working in a “clean room” setting, KITCO technicians terminate a wide variety of connectors on multiple types of fiber. We specialize in M28876, TFOCA, Hermaphroditic, ST, FC, SC, LC and FDDI connectors and are equipped to handle various ferrule sizes, core and cladding sizes, flat or domed polishes and singlemode or multimode applications.

One of our signature military products is the MQJ (Measurement Quality Jumper), a highly specialized reference cable manufactured and tested to meet maximum levels of optical performance, while allowing repeatability and flexibility in testing fiber. We were instrumental in leading the development of MQJs, which are used to ensure that fiber optic links perform at optimal levels. Our company is approved by NAVSEA as a source for the full line of singlemode and multimode MQJs.



Commercial

Our CCMQJs (Certified Commercial Measurement Quality Jumpers) are the commercial equivalent of our military MQJs: custom-built cable assemblies for link loss testing. They incorporate singlemode quality connectors with zirconia ferrules and pre-radiused domed surfaces. Our CCMQJs provide the most flexible, repeatable and consistent fiber optic testing method available. And because of their design, CCMQJs will correctly reject links that do not meet prescribed standards.



	850	1300
Thre	6.00	6.00 dB
InsAB	1.67	3.15 dB
InsBA	1.08	2.39 dB
RFAB	-19.3	-19.3dBm
RFBA	-20.0	-20.1dBm

■ Certified Fiber Optic Training

Our training division was created to share our broad industry knowledge, and our hands-on training and advanced certification program have become the hallmarks of our superior reputation. Our trainers have strong credentials including advanced industry certifications and substantial field experience. We have trained thousands of students worldwide on terminating, splicing and testing fiber systems. Our main training facility is located in our headquarters in Virginia Beach, Virginia, and a new west coast presence serves San Diego and the surrounding area. Additionally, with our established mobile training services, we have the ability to train at your desired location—anywhere in the world—customizing and tailoring our courses to meet your training requirements.

Commercial

At KITCO we are proud to be a premier provider of certified commercial fiber optic training. Our courses are approved for BICSI Cabling Installation Program Continuing Education Credits (CEC's) and we offer certifications by 3M, Corning Cable Systems, Alcoa Fujikura, Delphi Connection Systems and KITCO. Industry standards including those of the Telecommunications Industry Association/Electronic Industries Alliance (TIA/EIA) and the National Electrical Code (NEC) are incorporated into KITCO's courses. Students are offered the option of taking the Electronics Technicians Association (ETA) Certified Fiber Optic Installer (CFOI) and the Certified Fiber Optic Technician (CFOT) exams. Some of the highlights of our training capabilities follow:

- **TECHNICIAN, INSTALLER AND ADVANCED OPTICAL TIME DOMAIN REFLECTOMETER (OTDR) COURSES**
- **CORNING TS LAN 200 - 500 COURSES**
- **2 DAY COMMERCIAL INSPECTOR COURSE**
- **FUSION SPLICING/FTTP TRAINING**
- **BLOLITE LICENSED TRAINING (BOF)**
- **HERMAPHRODITIC CONNECTORIZATION**

At KITCO we will meet your custom training needs by tailoring any of our courses to meet your training requirements for delivery at your place or ours. While we normally conduct our courses using KITCO provided tools and test equipment, we can also train using your equipment if so desired.

Military

We develop curriculum and provide training worldwide for the U.S. Armed Forces and we are privileged to continue to serve as the U.S. Navy's sole shipboard fiber optic trainer. Over the last decade our KITCO instructors have worked closely with shipyard and Navy personnel terminating and testing fiber optic topologies aboard U.S. Navy ships and submarines. In addition, our instructors collaborated on the design of termination and testing equipment currently specified in MIL-STD-2042B (SH) sections 5 and 6 (the standard governing the use of fiber on U.S. Navy ships).

Utilizing this experience we provide the only commercially available shipboard training course which teaches fiber principles in strict adherence to Navy standards, and we are working closely with the Army and Marines to develop battlefield maintenance and aircraft fiber optic support training. Our primary military training capabilities include:

- **SHIPBOARD FIBER OPTICS**
- **38999 CONNECTOR TRAINING**
- **TFOCA FIBER OPTIC TRAINING**
- **VIVID—PIERSIDE CONNECTIVITY**
- **HERMAPHRODITIC CONNECTORIZATION**
- **MIL-STD-2042 SUPERVISOR TRAINING**

Advanced Certification Resources:



Field Services

Our Field Services Response Team was a logical outgrowth to our industry training expertise and now sets the standard for fiber optic connectivity support. Our highly skilled team can reliably troubleshoot, terminate, splice (fusion and mechanical) and provide final system testing for a wide range of fiber optic applications from conventional to Blown Optical Fiber (BOF). KITCO's Field Service Team is prepared to respond to your fiber optic requirements anytime, anywhere—rapidly providing the best solutions for overcoming system problems or delays.



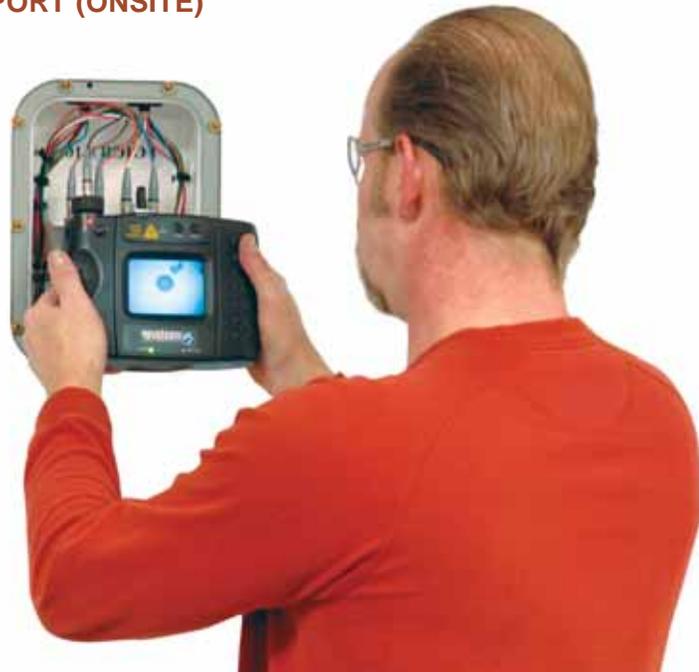
We provide some of the nation's largest defense contractors and government agencies with quality on-site termination and testing support including Northrop Grumman, General Dynamics, BAE Systems, Titan/Unidyne, Raytheon, NASA, L3, AMSEC, MILCOM and RCI. Our Department of Defense and commercial on-site field services capabilities include:

Military Services BOF & Conventional M85045 Cables

- **TERMINATION** M28876, M29504, M83522, COTS SC, M38999, M38999 W/MTRJ, HERMAPHRODITIC, TFOCA AND TFOCA II, DEUTSCHE MC3MKII
- **TESTING AND TROUBLESHOOTING** LINK LOSS TESTING, OPTICAL RETURN LOSS (ORL), OPTICAL TIME DOMAIN REFLECTOMETER (OTDR) AND TROUBLESHOOTING
- **CERTIFICATION/LICENSE FOR BOF**
- **FIBER OPTIC CABLE MAPPING**
- **SYSTEM REPAIR** (I.E. CONNECTOR AND CABLE)
- **CONSULTING TO THE MIL-STD-2042A/B**
- **C5RA** (FORMERLY KNOWN AS CSRR) FIBER OPTIC CABLE PLANT INSPECTION
- **SHIP'S OPERATIONAL VERIFICATION AND TESTING** (SOVT) AND RECORDS OF FOCP (FIBER OPTIC CABLE PLANT)
- **INSURV INSPECTIONS**
- **TECHNICAL SUPPORT (ONSITE)**

Commercial Services

- **TERMINATION** 3M, AMP, LUCENT, DEUTSCHE, DELPHI HERMAPHRODITIC AND 1145846
- **TESTING AND TROUBLESHOOTING** LINK LOSS TESTING, OPTICAL RETURN LOSS (ORL), OPTICAL TIME DOMAIN REFLECTOMETER (OTDR) AND TROUBLESHOOTING
- **CERTIFICATION/LICENSE FOR BOF**
- **FIBER OPTIC CABLE MAPPING**
- **SYSTEM REPAIR** (I.E. CONNECTOR AND CABLE)
- **FUSION AND MECHANICAL SPLICING**



Our Mission

Our mission is to be the leading provider of fiber optic connectorization products, training and services to the military and commercial communications industry. We will do this by exceeding our customers' expectations for service, quality and responsiveness in a way that also benefits our employees, our suppliers and our community.



***Experts in Fiber Optic Training, Field Services
Tool Kits and Custom Cable Assemblies***

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