INDUSTRY SOLUTIONS: MILITARY
What makes OCC Military products superior?

Founded in 1983, OCC was among the first companies to realize the potential of fiber optics. Since then we have been designing and manufacturing some of the most reliable, rugged and innovative cable products in the world. The U.S. military needed an extremely strong, lightweight, rugged and survivable fiber optic cable, able to efficiently transmit previously unprecedented volumes of data in the field. OCC and its engineers were at the forefront of the development of the tight-buffered, tight-bound cable technology that met these criteria. The result: cables that were easy to deploy and performed under the harshest of conditions.

Our military certified distribution and breakout fiber optic cables are optimized to withstand the rigors of difficult cable pulls, high tensile loading and severe crush occurrences and can repeatedly endure the abuse associated with the extreme environmental demands and repeated deployments. Where standard fiber optic cables are likely to fail, military cables are particularly well-suited to survive the harshest environments. Factors that make OCC’s fiber optic cables ideal for the military include:

- OCC uses a unique manufacturing process that pressure extrudes the outer jacket to the cable core. This effectively locks all the cable components together, creating a very stable geometry. These components act as a single mechanical unit providing superior cable element retention and elimination of core component axial migration. Since the cable acts as a single mechanical unit, it exhibits very high crush and impact resistance.

- Helical stranding is a time-tested cable construction design proven to provide flexibility, survival in difficult pulls and excellent mechanical protection for the optical fibers. This design ensures that no one particular element of the cable receives more stress than the other elements—thus equalizing the stress load associated with particularly tough installations.

- Our water-blocked fiber optic cables provide the best water protection system available by combining the inherent water tolerant features of tight-buffered and Core Locked™ tight bound cable with super absorbent polymer aramid yarn. This design provides superb water-blocking performance while retaining the termination cost advantages of totally gel-free and powder-free tight-buffered cable.

- OCC’s Ultra-Fox™ and Ultra-Fox™ Plus cables feature a unique fiber construction consisting of a primary coating of a UV-cured acrylate material and a tight fitting secondary coating that provides an extraordinary level of protection.

Today’s military personnel face a multitude of challenges due to the ever changing operation theater. To improve safety and maximize situational awareness, U.S. and allied military forces continue to upgrade communications and monitoring infrastructure. Investing in fiber optic systems as a cost-effective network alternative provides essential communications solutions, including greater bandwidth for real-time voice, data and video applications, all in easily deployable platform.

It is equally as critical that these communication systems yield a reliable network between the theater and command control center. OCC’s suite of military approved and certified fiber optic cables and harsh environment connectors offer the reliability and performance needed when communications are vital for the success of the mission. Designed for uncompromised dependability in the harshest of conditions, OCC provides physical plant cable and connectivity products that have been tested to the most extreme military standards and are “real world” battlefield proven.

Certifications:

OCC’s fiber optic cables and connectors have been qualified to the most demanding military specifications, including:

- MIL-PRF-30545/8A (Ground Tactical Fiber Optic Cable (U.S. DoD))
- DLA-D003-01 & -02 approved hybrid tactical cables (U.S. Marine)
- A3159864 Ground Tactical Fiber Optic Cable (U.S. Army CECCOM)
- MIL-PRF-29504 Fiber Optic Connector Terminals (U.S. DoD)
- MIL-C-3552 Fiber Optic Connectors (U.S. DoD)
- A3159868 and A3222564 “FGOCA” Ground Tactical Fiber Optic Connectors (U.S. Army CECCOM)
- C-82326 multichannel hermetic connector series
- A3246534 performance specification, Reel, Cable, Lightweight Tactical (U.S. Army CECCOM)
- A3159884 and A32202584 Ground Tactical Fiber Optic Cable Assemblies (U.S. Army CECCOM)
- Def-Stan 00-1, Part 3 Ground Tactical Fiber Optic Cable (U.K. MOD)
- MIL-STD-799G, High Reliability Manufacturing requirements for Military Supplier (DoD certified facility)

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OCC has always manufactured the most rugged and robust fiber optic cables for the military ground tactical market - field proven cables relied on by defense agencies around the world.

In 2005, the United States Defense Logistics Agency certified Optical Cable Corporation as an approved manufacturer of qualified ground tactical fiber optic cables in accordance with MIL-PRF-85045/8A.

This certification was granted after subjecting these fiber optic cable products to an exhaustive series of optical, mechanical and environmental tests to ensure full compliance with the demanding requirements of the United States Military.

Now, OCC hybrid ground tactical cable products, comprised of a combination of single-mode and multimode fibers, are approved to DLA specification 09001 and are set to provide the next generation of tactical fiber cable communications.
In today’s modern military, reliable communication is key to ensure real time situation awareness is shared by commanders and troops on the battlefield. It is imperative that communications not be compromised or corrupted. Our military should expect only the best and with OCC, they get it. Our line of military fiber optic cable, connector and deployment systems products have been thoroughly tested to the most stringent military specifications and have been field proven since 1983. As communication bandwidth requirements increase to better accommodate data, voice and video and the demands on physical plant products is to make it “smaller, faster, lighter”, OCC continually rises to the challenge by bringing innovative solutions. This includes lighter, more robust composite reeling systems as well as hybrid and composite military grade cables. Militaries around the world rely on OCC’s comprehensive product line to meet the demands of today and the future.

OCC is the premier manufacturer of military ground tactical fiber optic cable and connectivity solutions for the U.S. military. Our broad product offering for military tactical applications is built on the evolution of fundamental technologies designed to provide end users with components that are easy to install, provide a high degree of reliability and offer outstanding performance characteristics.

OCC’s Modular Advanced Reel System, or MARS™, is the industry’s first lightweight cable deployment real system designed specifically for the demanding needs of harsh-environment fiber optic installations. Unlike traditional metal-style reels, MARS is a lightweight, durable system constructed of a high impact glass enforced polymer that is easily transported and is ideal for applications where cable needs to be deployed and reeled in quickly and stored efficiently.

D-Series Distribution Mil-Tac cables by OCC are ideal for use in harsh environments where deployment and retrieval are required. Designed for use in adverse environments where reduced size and weight are important, the helically stranded cable core provides flexibility, deployment survivability and exceptional mechanical protection for the optical fibers.

B-Series Breakout – Mil-Tac cables are ideal for use in harsh environments where deployment and retrieval are required and for applications that require termination of the subcables to a connector. These are extremely strong, lightweight and rugged tight-buffered cables designed for military tactical field use and commercial applications.

The OCC EZ-MATE family of hermaphroditic-style fiber optic connectors provides a comprehensive connectivity solution for deployable or mobilized communications systems. Based on a hermaphroditic design, EZ-MATE connectors allow for quick deployment and gender-independent connectivity, permitting the end user to unreel fiber cable without regard for male or female ends.

B-Series Breakout – Mil-Tac cables

EZ-MATE connector

R-JACK™ connectors provide an efficient solution to ethernet connectivity in harsh environments. R-JACK receptacles feature 100% transversely sealed (IP 68) configurations as a standard product design, preventing dust, water or moisture penetration, with or without dust cap or plug engagement. R-JACK is available in a variety of metals and finishes to fit specific applications.

The F-LINK™ Inter-Connect platform was born out of the proven performance of MIL-SPEC cylindrical components, and is a cost-effective solution for commercial, industrial and military applications. F-LINK components were designed to solve a multitude of fiber optic applications, as well as hybrid interconnect systems (the combination of fiber optic and electrical power). F-LINK is available in a variety of metals and finishes to fit various optical fibers.