

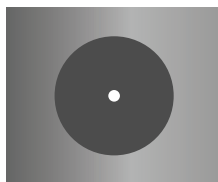
How a hardened solution provides simpler fiber deployments

Growing 5G networks have mobile network operators and neutral hosts racing to deploy more fiber to macro and small cell sites. Nothing less will provide the performance, capacity and speed 5G requires. However, making those fiber connections to remote radio units (RRUs) is a common source of performance-crippling infiltration of contaminants, dust and dirt, or even damage to the optical surface.

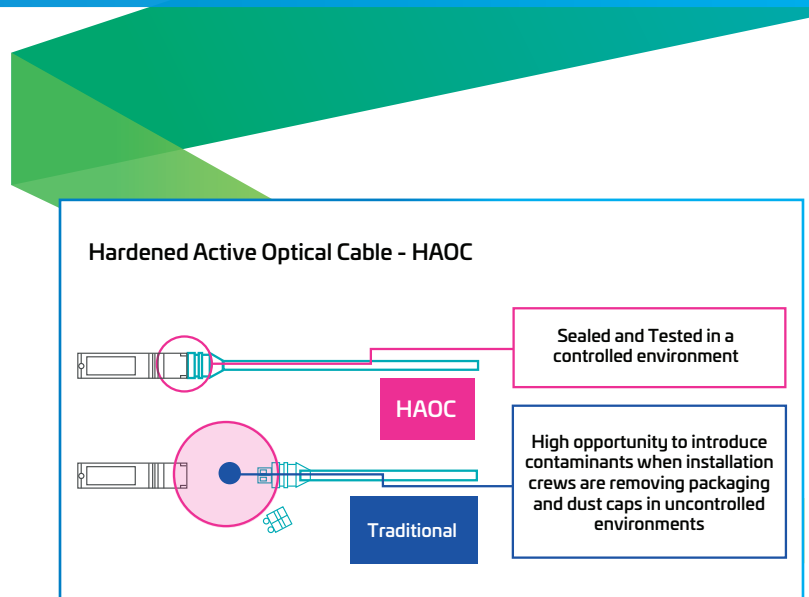
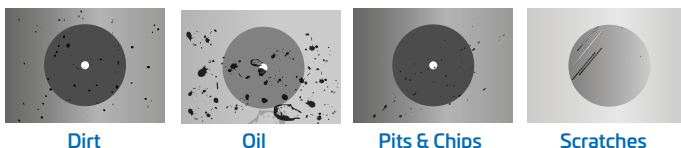
CommScope put our most innovative thinking into a new hardened fiber cable solution that reduces this problem, as well as the expensive mitigation measures it requires. We call it the HELIAX® Hardened Active Optical Cable (HAOC) assembly. Here’s what you should know about how it positively impacts the quality of your fiber deployments.

Fiber end faces should be free of any contamination or defects, as shown below:

Clean end face



Common types of contamination and defects include the following:



Q. What are transceivers?

A. Optical transceivers—also called “modules” or just “SFPs,” generically—are, hot-swappable components that convert electrical signals into optical signals, and vice versa. These components are therefore a vital link in the optical data network supporting 5G. Optical connections have a high vulnerability to dirt infiltration, which requires, careful cleaning processes that often must be repeated.

Q. What is the HAOC solution, and how does it connect RRUs better?

A. The HAOC is a ruggedized, indoor/outdoor, factory-terminated and sealed assembly with the transceiver built right in. This enables consistent, clean fiber connections to RRUs—removing a common source of degraded network performance and the costly mitigation measures that must be taken to clean compromised connections. This improves cost structures and accelerates site turn-up.

Q. What are the benefits to mobile network operators and neutral hosts?

A. The HAOC solution is weatherproof and suitable for any indoor or harsh outdoor deployment, on macro or small cell sites. By combining fiber termination with an integrated transceiver, RRU connections are developed to be free of contaminating dirt or optical face damage, which can provide maximum optical performance. At the same time, they simplify and accelerate deployment processes, and reduce the frequency and cost of ongoing maintenance.

Q. Which configuration options are available with the HAOC solution?

A. HAOC assemblies are built on the technology used in data centers and come with a variety of configurations suitable for virtually any deployment:

- SFP+ transceivers, designed to operate at 10 Gbps
- SFP28 transceivers, designed to operate at 25 Gbps with increased bandwidth, superior impedance control, and less crosstalk than SFP+
- Two different wave lengths, 850nm and 1310nm
- Multimode and single mode short- and long-range versions of each, pre-programmed for different OEM's with MSA being the standard



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Marcus Ash is a product manager at CommScope with over 32 years of experience in wireless telecommunications infrastructure products, including fiber-to-the-antenna, active products, coaxial cables, and connectors. He previously worked in Field Engineering Services, providing on-site support for the installation of all RF products.



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