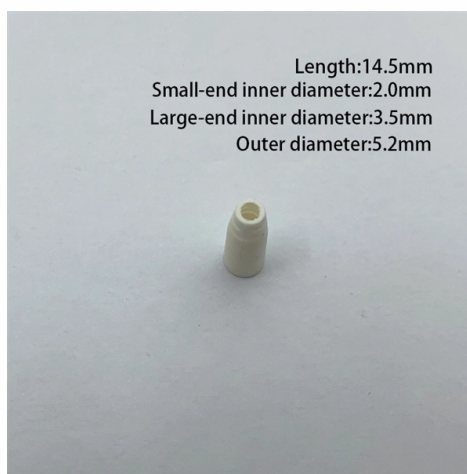


Fiber Optic Cable Air Blowing Method Construction



Overview

ABSTRACT This application note discusses fiber optic cable installation by blowing technique, the factors effecting blowing performance and best practices.

Key Takeaways

Fiber optic cable air blowing, or jetting, uses high-speed airflow combined with mechanical pushing to efficiently install cables into pre-installed ducts. Overview of the MethodThe air blowing method involves pushing the fiber optic cable into a conduit while simultaneously injecting compressed air. The cable is attached to a blowing head with seals that grip it tightly.

As air pressure builds, the cable is propelled through the duct, effectively “floating” inside, which reduces friction and allows for longer installation distances compared to traditional pulling methods. This technique is widely used for telecom networks, broadband infrastructure, and long-distance fiber deployments.

Equipment Required

Key equipment for fiber blowing includes: Blowing machine: Provides mechanical pushing and controls cable feed. Air control system: Regulates airflow and pressure to safely propel the cable. Duct clamps and seals: Ensure airtight conditions for efficient jetting.

Speed and pressure controls: Allow real-time adjustments to prevent cable damage. Cable drive system: Feeds the cable into the duct at a controlled rate.



Procedure

Preparation: Inspect ducts for debris, moisture, and integrity. Verify cable specifications and environmental conditions. **Initial Push:** A few hundred meters of cable are mechanically pushed into the duct using traction rollers or a pushing device.

Air Injection: Compressed air is introduced at the duct inlet, creating a high-speed airflow that reduces contact between the cable and duct walls, allowing the cable to float. **Monitoring:** Adjust air pressure and feed speed to prevent cable buckling or damage. Use the minimum pressure necessary for smooth installation.

Completion: Continue blowing until the cable reaches the desired length or duct endpoint.

Cable and Duct Considerations

Cable type: Both standard optical fiber cables (uni-tube, multi-tube, armored, unarmored) and microduct cables can be installed using this method. **Cable stiffness:** Stiffer cables perform better in straight ducts, while flexible cables navigate bends more effectively. **Friction reduction:** Low-friction cable jackets and optional lubricants improve installation efficiency.

Duct sizing: Choose a conduit slightly larger than the cable to reduce air pressure requirements. **Temperature:** Avoid extremely cold conditions, as brittle cable jackets or freezing air can damage the cable.

Advantages

Minimizes friction and labor costs. Enables long-distance installations, often exceeding 1000 meters in microducts. Reduces risk of cable damage compared to pulling.

Efficiently navigates multiple bends and complex duct routes.

Safety and Best Practices

Always use the minimum air pressure required. Monitor cable tension and duct conditions continuously. Ensure proper environmental conditions to prevent condensation or freezing.

Follow manufacturer guidelines for cable and equipment specifications. The air blowing method is considered the most efficient and cost-effective technique for modern fiber optic deployments, particularly in large-scale or long-distance installations where traditional pulling methods are less practical.

Article Content

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ABSTRACT This application note discusses fiber optic cable installation by blowing technique, the factors effecting blowing performance and best practices.

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Installation of Optical Fiber Cable by Blowing/Jetting

Blowing Method Cable installation by using high speed air flow combined with additional mechanical pushing force is called as “blowing or jetting”. Cable blowing is the process of installation of optical

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