

BUILDING INFRASTRUCTURES CHALLENGES - INNERDUCT

Building infrastructure challenges are inherent in most buildings, and are influenced by a number of building characteristics, ranging from building age and history to current management practices.

One of these areas of concern which occurs frequently is the required use of innerduct in riser environments, for the deployment of fiber optic cabling. While the use of innerduct was at one time strongly encouraged due to the historically fragile nature of fiber optic cabling, such is no longer the case.



ARMORED VS. INNERDUCT CABLING

Fiber optic cabling is far more resilient today than it was when it was first being deployed. Its bend radius is more forgiving, its jacketing is more protective, and even unarmored, jacketed fiber can now be considered safe from harm when deployed in an infrastructure which is actively monitored and managed.

There exists no requirement in ICT industry standards that innerduct must be installed along with fiber optic cabling. Carriers will often come in with their own requirement that their fiber travels alone through its own innerduct and no other cabling is permitted to share the same space.

Below is a set of pictures showcasing a standard 4" conduit and the amount of space that fills up using armored vs. innerduct cabling.



A 12 strand fiber optic cable inside innerduct (typically 1.25").



An armored 12 strand fiber optic cable.



An armored 12 strand micro-armored fiber optic cable.

By utilizing armored vs innerduct/cabling you can provide significant increase in open space of core holes/ conduits, reducing the cost and impact for future capacity of building pathways.

It is important to understand that the Carrier is bound to abide by your site's requirements. If your CRE property were to dictate "no innerduct shall be used" (or substituted alternative) to save core holes, conduits, and other restrictive pathways spaces, that property requirement would override the desires of the Carrier.

For more information, download our [Building Infrastructures Challenges White Paper](#).