Ceiling Zone Enclosure for Structured Cabling, Pre-terminated Cabling, and Passive Optical Networking Components

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Structured and Pre-terminated Cabling Systems

Structured cabling is building or campus telecommunications cabling infrastructure that consists of a number of standardized smaller subsystems. Structured cabling is comprised of Cabling Subsystems and Distributors, and these subsystems may be defined as "zones" physically realized in a facility. Zone enclosures are typically metal enclosures designed to protect and secure distributor and consolidation point hardware such as patch panels, cables, and fiber splitters at the point where they are physically required, rather than in a telecommunications room.

An emerging cabling method is to use pre-terminated, or "plug-and-play", cabling bundles comprised of copper cable or fiber optics cut to length, and factory terminated in modular connectors, fiber-optic connectors, or connector assemblies. This eliminates field termination and can speed installation. Because of the size of the cable/fiber bundles and their respective connectors, it is difficult to use existing zone enclosures because they do not have cable ingress/egress openings large enough for these cable bundles. Further compounding this problem is the fact that CAT6A cables have a larger diameter than prior generations of cabling.

Oberon 1074 series ceiling zone enclosures can be used for passive, pre-terminated cabling consolidation points (left) and for active optical networking equipment (right)

Oberon 1074 series Zone Enclosures have cable/fiber egress openings large enough for pre-terminated cable/fiber bundles and connector assemblies. These cable egress openings include a fire-stop kit for N.E.C compliance

Passive Optical Networking (PON) Ceiling Enclosures

PON equipment such as passive splitters and active Optical Network Terminations (ONTS) can also be protected in ceiling mounted enclosures. Rather than placing ONTS on the desktop, they can be secured in the ceiling enclosure. Oberon's 1074 ceiling enclosures include mounting brackets for standard 19" rack mountable equipment, and can be ordered with a highly perforated, beveled door to allow for cooling of active electronics within (-VENT door option).

Ceiling Mounted Zone Enclosures for Pre-terminated Cabling and PON

When installing structured cabling and networking equipment in the above ceiling (plenum) space, the installer should verify the following:

1. The National Electric Code requires that non-plenum rated equipment must be in a metal enclosure, when placed in, or above, the ceiling
2. There should be no unfilled penetrations in the ceiling
3. The enclosure should be UL listed and have a solid, non-ventilated back box to retain the 2 or 4 hour burn rating of the ceiling system, and to act as a barrier to the spread of smoke
4. The enclosure should also have a fire stopped cable egress opening large enough for pre-terminated cable/fiber bundles and connectors
5. The enclosure shall be supported by the building structure, independent of the suspended ceiling gridwork
6. The enclosure should permit secured access to the equipment inside

Oberon's UL listed, 1074 series ceiling enclosures are the *only* enclosures available with fire stopped cable egress openings large enough for pre-terminated cable/fiber assemblies and their connectors. Oberon's 1074 series enclosures with the –VENT door option are the only ceiling enclosures with the highly ventilated door for active networking and PON equipment.

Additional information on wireless network infrastructure is available at:

http://www.oberonwireless.com/faq-resources.php