

# IMPORTANT INDUSTRY UPDATE

TELECOM  
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## KEEPING OUR CLIENTS ABREAST OF IMPORTANT INDUSTRY STANDARDS

### ↘ ARMORED FIBER BENEFITS

The main significant and cost-saving advantage in the use of armored fiber optic cable is that it is installed without plenum inner-duct or conduit. It may be laid in new or existing tray or onto individually installed support structures. This method of installation provides the cabling contractor with a single task to pull material as opposed to installing conduit or inner-duct in a separate construction process before the actual fiber can be installed. That separate process can involve two or three separate operations, all adding greatly to the timing and expense.

The savings reflected in **reduced time, material and labor charges to the client** become even more important when a rapid deployment or reconfiguration is required. Another often overlooked advantage is in reduced disruptions to daily business operations in an occupied work environment. This can often eliminate the need for after-hours labor charges which also drive up costs significantly.

Among the many other positive attributes, armored fiber provides for a **higher allowable pulling tension** on installation to overcome site anomalies. At the same time it **resists damage from accidental contact** with hidden building structural components during the installation. The **bend radius of the fiber optic element is automatically maintained** well within allowable specifications by the spiral-linked metal sheath and thereby also permits a faster deployment process.

Armored fiber cables are particularly protective after initial installation. Naturally recurring building construction and maintenance poses a threat of damage due to accident or carelessness in modification of the building's mechanical, electrical and piping systems to unprotected fiber. Armored fiber provides excellent **physical resistance to crushing, abrasion and cut-through**, while distinctive fiber-specific markings further identify this media apart from any electrical cable.

The greater flexibility of armored fiber easily allows for circumvention of obstacles in the pathways and may not require introduction of costly intermediate pull-points as would be required in a rigid conduit path. Armored fiber easily allows for last minute relocations or pathway changes whereas inner-duct or conduit is not a flexible alternative. These attributes can be a significant factor in rapid growth and changing environments.

### ↘ FIELD VS. PRE TERMINATED FIBER

Use of fiber optic cable with pre-terminated ends may be warranted and manufactured for special applications but as referenced by **Corning Fiber in its 2002 Design Guide – Chapter 7, Pp. 2 and 3** available online at [http://www.corningcablesystems.com/web/pubnet/ftp/ub.nsf/download/dgch7.pdf/\\$FILE/dgch7.pdf](http://www.corningcablesystems.com/web/pubnet/ftp/ub.nsf/download/dgch7.pdf/$FILE/dgch7.pdf) strongly recommends pre-terminated fiber **only** for patch cords, equipment cords and cross-connects, further **recommending use of field-terminations throughout the entire network** and specifically for horizontal and backbone runs with those three exceptions noted above.

New technology in field-termination components, tools and labor process ensure reliability, efficiency and have made this the recommended method in the industry. In either application, testing must still be performed to determine standards compliance.

With **pre-terminated** fiber, there is **increased risk** in damage particularly to the connector assemblies and termination during pulling. Additionally the increased dimension of the cable with connectors in the pulling "sock" reduce **useable fill capacity** in a supporting inner-duct or conduit. It is also difficult to calculate the correct length of pre-terminated fiber with appropriate included footage for service loops and anomalies that may be encountered during installation. The increased cost for over-estimated footage and required space in pathways to manage and store the excess slack now become another realized and significant drawback