CORNING

Positioning Your Fiber Build for the Future: The Rise of Ribbon Cable

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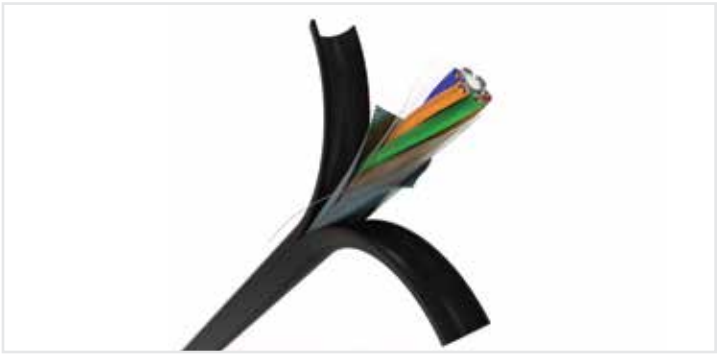
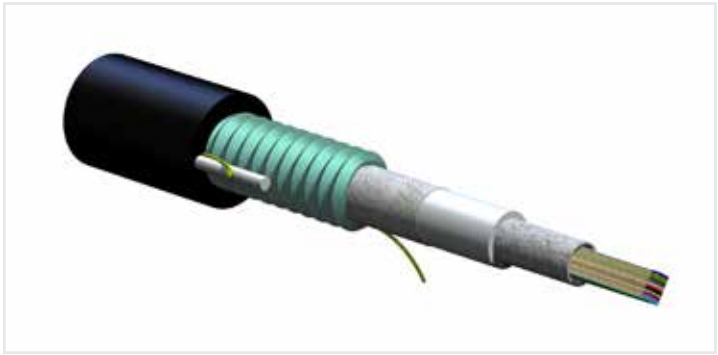
Ribbon cables were first introduced about two decades ago. They were originally embraced by carriers deploying large-count feeder cables looking to maximize density and minimize splicing time. These cables were costly, as were the mass fusion splicers developed to capitalize on the time savings.

Fast forward to 2020. One of the few things that was accurately predicted is the ever-increasing demand for ubiquitous broadband connectivity required to support work from anywhere (WFA), remote learning, telehealth services, and many other important bandwidth-hungry applications.

Fortunately, the last several years have ushered in major advancements in ribbon cable design. Pricing has decreased considerably for both the cable itself and the mass fusion splicers. The majority of splice crews that have experience working with both ribbon and loose tube designs quickly develop a preference for ribbon cables. For these reasons, and many more, the rise of ribbon cable is upon us.



ALTOS® Loose Tube Cable



SST-Ribbon™ Cable

The Benefits of Ribbon Cable

While ribbon cable innovations continue to drive up the number of fibers housed within a cable sheath – Corning now offers a 3456-fiber ribbon cable — the value of ribbon cables can also be realized at much lower fiber counts as well. Indeed, ribbon cable should be considered in any fiber network planning and deployment strategy.

Key benefits of ribbon cable include:

Efficiency and Cost Savings. It's less time consuming to splice ribbon cables, resulting in a reduction of overall installation time and labor cost. On average, ribbon splicing is about six times faster than loose tube fiber splicing. For example, splicing time for a 144-fiber loose tube cable, at 4 minutes per splice, would take about 10 hours to complete and cost about $3,600 per cable joint. Using a 144-fiber ribbon cable, however, would reduce the splicing time to 1.5 hours and cost $1,440. That's a 60% reduction in cost and close to an 85% reduction in time. With many communications service providers (CSPs) finding it difficult to secure high-quality splicing talent, splicing efficiency gains can make a big impact.

Better Solution for Congested Pathways. As CSPs lay more fiber to meet the growing demand for applications like 5G, ductwork and conduit space is at a premium. CSPs can better leverage existing conduits and ducts for future fiber expansion by utilizing ribbon cables. The small footprint of these cables helps alleviate congested pathways and conduits.

More Closure Flexibility. Depending on the topography and market density, CSPs may have diverse closure requirements for aerial, buried, and duct environments. Ribbon cables are versatile and can leverage the same closures as loose tube cables using a ribbon splice tray. Ribbonizing loose tube cables allows them to be spliced with ribbon cables for flexibility and peace of mind during deployment.

Reduction of Splicing Error Rates. Fiber splicing is tedious work and prone to errors. Since ribbon cables require fewer fiber fuses, error rates are reduced in comparison to loose tube cables. With a 144-fiber cable, a ribbon cable only needs 12 fiber fuses – dramatically lowering the possibility of an error. Reducing time-consuming and costly splicing errors benefits technicians, their CSP, and the CSP's customers.

Quicker Time to Restoration. Fiber cuts and the disruption they cause to customers can be catastrophic, particularly for business and wholesale customers. For CSPs to meet their service level agreement (SLA) requirements, fiber cut disruption must be mitigated. With ribbon fiber, CSPs can restore service significantly faster to mitigate revenue loss and improve the customer experience.

Quicker Time to Market. Time is money, especially in the competitive broadband marketplace. Deploying networks as quickly as possible allows CSPs to generate revenue and meet competitive challenges. The time savings for using ribbon cables over loose tube cables is tangible. That time savings directly contributes to a quicker time to market for CSPs, helping better achieve business plan and ROI objectives.

Plan with the Future in Mind

The COVID-19 pandemic has accelerated the demand for increased bandwidth. A recent report from OpenVault, which tracks bandwidth usage trends in North America, found that upstream bandwidth consumption during the second quarter of 2020 increased 56% from the previous year. Additionally, 61% of all broadband customers subscribed to a connection of 100 Mbps or more during the same period.[1]

These "new normal" trends will accelerate the need for more fiber. One Wall Street research firm predicts the trends driven by the pandemic will drive subscribers to eventually abandon technologies like DSL in favor of FTTP. In addition, MoffetNathanson researchers predict legacy DSL market share will go to zero as a result, and FTTN-fed DSL, such as VDSL, will eventually become obsolete as well.[2]

"The pressures on broadband networks laid bare by the coronavirus crisis make it clear that market share will now migrate even faster in this large cohort," MoffetNathanson researchers argue. "As with legacy DSL, it is increasingly clear that this segment is simply not competitive anymore."

To keep up, CSPs will have to build fiber networks quickly. It's also smart to build those networks with the added capacity needed to address future demand. The winning position for any CSP is to have more than enough fiber, rather than not enough.

Adding ribbon cable into an overall fiber network strategy allows CSPs to meet all these requirements. More capacity to meet future demand assuredly, better utilization of skilled splice technicians, and the ability to tap and turn up fiber capacity more efficiently when needed. The end result allows CSPs to better capitalize on current and future market factors, wherever those factors may take them.

[1]OVBI: UPSTREAM BROADBAND USAGE, FASTER SPEEDS SPIKE HIGHER IN Q2 2020, https://openvault.com/ovbi-upstream-broadband-usage-faster-speeds-spike-higher-in-q2-2020/

[2]Research: It's a Two Horse Broadband Race Between FTTP and Cable Broadband, FTTN/DSL Headed to Zero, https://www.telecompetitor.com/research-its-a-two-horse-broadband-race-between-fttp-and-cable-broadband-fttn-dsl-headed-to-zero/

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