

Overview

Situation

A major telco sought a cost-effective drop-cable connectivity solution to deploy FTTH to MDUs.

3M Solution

The 3M™ No Polish Connector SC/APC

Results

- The No Polish Connector gained acceptance based upon stringent test requirements.
- Capital expenditure, installation time and total installation cost cut in half.
- Simple, easy-to-install fiber connectivity solution.

3M™ No Polish Connector enables FTTH Deployment in MDU-rich NYC

When a major telco needed a fast fiber solution for multi-dwelling units, they connected with 3M. Our 3M™ No Polish Connector (NPC) helps reduce total install cost by nearly 50 percent compared to fusion splicing.

The Challenge

A major telco embarked on a massive deployment across the U.S., including in MDU-rich New York City, with aggressive timelines.

In terms of drop-cable connectivity, the company typically used fusion splicing in their MDU FTTH deployment, installing a factory-terminated pigtail connector at the tenant's apartment and fusion splicing the opposite end at the fiber distribution terminal. However, as installations moved forward, the scope and speed of the company's deployment to MDUs magnified the cost and complexities of fusion splicing.

While fusion splicing can deliver a highly reliable connection, it is expensive compared to other splicing methods for FTTH drop-cable applications. Fusion splicing machines sell for thousands of dollars each, requiring a heavy investment to equip each technician in the field. Additionally, the machines require electrical power or a battery, which can deplete of charge in the field, adding time and cost to the process. Moreover, fusion splicing can be a time-consuming process that requires specially trained technicians, further bumping up costs.

Continuing with fusion splicing for FTTH deployment to MDUs would require a hefty investment in equipment and skilled labor in order for the telco to meet its "homes connected" goals. Faced with cost and time constraints, the company's network planners sought new, cost-effective options for drop-cable connectivity.



The Solution

3M offered the 3M™ No Polish Connector SC/APC. The No Polish Connector consists of a factory-angle polished ferrule assembly and an angle cleaved mechanical splice, enabling fast, onsite installation of 250µm and 900µm fiber.

The company chose the SC/APC angled cleave version of the No Polish Connector due to the network requirement for [-60dB back reflection performance](#) to deliver voice, data and RF analog video in cases where required.

The No Polish Connector is installed onsite with a simple handheld tool that is included in every box of 60 connectors. Additionally, installation does not require an electrical power source. Terminating fiber using the No Polish Connector is fast, easy and requires only a short training session. Fusion splicing can require up to three full days of training. Using the No Polish Connector, a single-fiber termination can be completed in three minutes.

Like many in the industry, the company was initially wary of mechanical splicing. Specifically, there were concerns that the index matching gel inside mechanical splices would yellow or dry out, resulting in service failures. However, over the last 20 years, great strides have been made across the industry in improving the gel performance and longevity. Service providers in Japan, for example, have deployed more than 10 million 3M mechanical splices and connectors, indoors and outdoors, with proven reliability.

Testing shows that the gel used in the No Polish Connector can perform well in temperature extremes from -40°F to 167°F. Extensive third-party optical, environmental and mechanical tests proved that the No Polish Connector is a highly reliable, cost-effective product for FTTH deployments.

The Network of Networks

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The Results

The telco requires its suppliers' products to pass some of the toughest testing in the telecommunications sector. The 3M™ No Polish Connector gained the company's approval after being tested to the company's test requirements for field spliceable optical connectors.

The company expects savings of around 50 percent on capital expenditure, installation time and total installation cost as a result of switching from fusion splicing to the 3M No Polish Connector. The company also reports a significant time savings on training by using the No Polish Connector as opposed to fusion splicing.

To learn more about the 3M No Polish Connector, visit 3M.com/Telecom.

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