A South African Success

Location: South Africa   Date: August 2018

Frogfoot deploys Miniflex® pushable fiber to the home (FTTH) across South Africa

Background

Frogfoot is a licensed open-access fiber network provider in South Africa with 15 years' experience in the telecoms industry. Frogfoot is widely acknowledged for its technical excellence and plays a pivotal role in the growth of fiber to the business and home in South Africa. The network provider is well positioned to build and maintain fiber networks that will enable service providers to acquire their own fiber backbones on a shared network.

Having operated fiber networks throughout South Africa for years, Frogfoot understands the challenges of deploying and managing large fiber networks. Frogfoot currently has an extensive fiber footprint, with more than 50,000 buildings already linked to its network and a coverage area spanning more than 18,000 sq km (about 6,950 sq miles) in five regions.

PPC Broadband is the pioneer and market leader for high-quality, pushable and spliceless FTTH solutions for Africa, designed to dramatically reduce installation times while increasing the quality and network reliability.

Mustek S.A has the largest pre-termination facility on the continent of Africa with the ability to produce in excess of 2,500 FTTH leads per day. Each lead is tailored specifically to Frogfoot specifications and factory polished before being individually tested and given a unique serial number for full traceability.

Miniflex de-skills to allow for hand-pushable installations
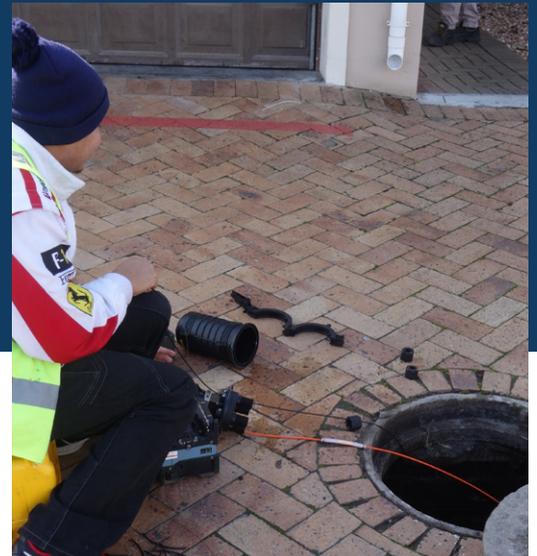
Products Used

- Miniflex® fiber optic cable

- PPC OLT

- 20 mm PVC conduit

Synopsis

Pre-terminated 4-Core Miniflex directly onto the OLT for fiber to the home (FTTH) installations, removing the need for skilled engineers within the customer premises

Run Lengths

Made to order between 30 to 150 m (98 to 492 ft)

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Benefits

- ✓ Vastly reduced installation time

- ✓ Removal of field splicing inside the customer premises

- ✓ Increased network performance

- ✓ Large reduction in remedial work and repairs

- ✓ High quality and increased warranty period

Scenario

"Frogfoot embarked on an aggressive FTTH expansion program to deploy FTTH to 30,000 homes during 2017. We will have 135,000 passed or under construction by the end of 2018." says Rikus Stander, Head of Planning at Frogfoot. "There is a land grab going on in South Africa at the moment and not only do we need to give coverage, we need to give quality, reliability and longevity to our network so the customer can pick and choose the right service for them."

"Frogfoot brings four fibers to each home once they branch out from the backbone fiber, giving the end customer total freedom to select from up to 50 ISP's depending on the level of service they require," says Simon Roberts, PPC Sales Director for Africa. "With such aggressive deployment plans and a high requirement for quality and ease of deployment, it was hugely important that we understood what Frogfoot was trying to achieve and gave them the tools to do it right first time."

Tailored Frogfoot Terminated, Pushable FTTH Solution

PPC Broadband pioneered and tailored Miniflex® fiber optic cable for not only the harsh challenges of the African environment, but for the gap that existed as the installation teams migrated from a copper network to a fiber optic network.

"PPC designed the Miniflex to withstand impact crush resistance of more than 350kg per square foot," Daniel Jenkins, Director of Research and Development at PPC Broadband, said. "We had to consider such a cable needed to be flexible and lightweight, which is why we introduced the live hinge technology to give Miniflex a

Frogfoot installer deploying FTTH Miniflex through the drains

5X bend radius. We used only high quality polymer for our material and brought to life a fully UV stable white cable."

This innovative African Miniflex cable is a mere 3 mm in diameter and weighs just 13 kg (28.7 lb) for a 2 km (6,562 ft) reel, making this the cable of choice for African FTTH providers.

"We were using a local cable with varying degrees of success. Our contractors were often hampered during the installation process because the cable was either too big or there was too much friction when trying to get it through the existing and/or new ducts," said Stander. "Not to mention, the difficulties around field splicing or differing levels of polishing."

Frogfoot approached PPC Broadband and Mustek S.A in 2016 with the aim of pre-terminating the customer end of the installation directly on a four fiber OLT.

"Mustek had invested heavily in a localized pre-termination facility that can deliver over 5,000 ready-made FTTH leads per week," says Sean Lax, PPC Product Manager at Mustek. "We listened to Frogfoot and understood what they were looking to achieve and the price points we had to meet.

Mustek leads the market with high-quality solutions, localized production and support, and has a dedicated team focused on last-mile, pre-terminated solutions. We made big local investments in 2014 to ensure we were skilled, technologically-savvy and in a position to scale to the demands of all FTTH providers as their networks evolve over the coming years. It's been a pleasure to be part of the Frogfoot journey and help connect over 5,000 customers with our handmade, tailored FTTH solution."

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End-to-End Last-drop Solution

"While civil costs account for almost 75% of network costs, there are shortages of many fiber skills, such as splicing, which can delay the rate at which rollouts are completed," Roberts said. "Frogfoot needed to look at de-skilling installations where possible, while increasing productivity and ensuring reliability. This is the key behind why they adopted pre-connectorized Miniflex fiber. Miniflex does not require splicing, is proven to reduce the skill levels needed within implementations and allows for deployments to be completed by electricians, increasing the number of daily installations."

The Miniflex® fiber optic cable has been designed for the demanding African environment and allows the installer to hand-push up to 100 m (328 ft) through existing microducts when present. Miniflex can also be hand-pushed through 20 mm PVC microducts when Frogfoot runs from the break-out box into the preferred room after consultation with the homeowner.

"The PPC/Mustek team are constantly on hand with new and exciting product updates, support and innovation around installation methodology," says Stander. "Top class support for my contractors is one of the reasons Frogfoot has selected this product as our FTTH drop cable of choice and will continue to do so as our network explains to grows to new heights."

With cable faults accounting for nearly 70% of network downtime, Miniflex is proven to reduce maintenance callouts by almost 80%, freeing up valuable engineering resources for the more important job of installing new customers onto the Frogfoot network.

Flexible design to overcome demanding installation conditions

Empowering Africa Through Innovation

Throughout Africa, there has been a big influx of low-quality solutions that have entered the market, temping operators with low prices. "Frogfoot made the decision to invest in quality and took the right path in partnering with PPC to develop a tailored African solution that they can trust will always do the job," Roberts said.

In addition, Frogfoot receives 24 hour localized support from Mustek when they need it and a contractor training program that takes less than 30 minutes. The PPC spliceless solution will plug and play from end-to-fend, empowering the contractor to complete more installations. This helps them raise the bar, in terms of quality and performance, and ultimately drives a far superior return on investment (when comparing the total cost of ownership) than low-cost, low-quality solutions.

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PPC Broadband ready-made FTTH toolbox de-skills the last-drop installation