Spotlight on...

The Full-Blown Approach to Fast Fibre Rollout

webro

Chris Bacon
Sales Director, Webro Cables & Connectors Ltd

What's the main challenge in telecoms?

The race is on to accelerate Full Fibre rollout in the UK. This calls for faster, more efficient and effective installation methods.

Why are Blown Fibre Networks taking preference?

There's most definitely an increased focus on blown network applications in the UK to drive faster expandable installation. The advent of reduced diameter products is helping to scale down duct sizing, material use, and network build time.

In turn, this delivers additional material cost savings with reductions in polymer weights and faster processing speeds during manufacture – plus a significant reduction in non-recyclable plastic usage. In addition, the use of multicore duct allows for future network expansion without the need for further civils contractor works.

What's the key to ongoing success with Full Fibre rollout?

Certainly, the move from traditional G652D fibre to G657A1 and 2 fibre has helped to reduce the diameter of cable products, with the use of 200um fibres in place of the previous 250um versions. This vital development has reduced finished cable diameters by nearly 60% on some fibre constructions, helping to scale down the requirement for large duct.

Progress continues at pace with focus on miniaturisation to cut down material usage, helping to overcome the demanding installation challenges that face the telecoms industry over the next few years.

What's the best approach to optimise performance in Blown Networks?

The term 'High Fibre Density' is often spoken about within the industry. However, in terms of guidance it's a slightly contradictory statement, as it states that a 65% fill rate is the ideal capacity for any duct. However, in our experience, with the correct cable and material design we've seen that high levels of blown performance can be achieved with products exceeding 80% fill rate.

Both the method employed and the equipment for deployment are key elements to the formation of an effective blown network. The market has an extensive choice of blowing machines, compressors, flow meters, and accessory options to choose from that are vital to the success of achieving the best results in blown installations.

Any top tips?

Accessories such as blowing plates and dies should be chosen carefully, with cable diameters being considered in detail to allow the smooth flow of cable through the blowing machine. The incorrect choice can cause issues with folding and snagging, and the knock-on effects can include project delays and cost implications such as fines.

The finer details of blowing are a major consideration, whether it's payoff drum stand or fleeting. Questions arising include:

- Is my pay off stand capable of accepting the available drum size?
- Should I use the capped/bullet or uncapped method when blowing?

We'd always advise that the capped/bullet method is used to prevent air penetration into the cable, and to help the smooth transition of cable through ducts, couplers or bends. The fact is that all bends will have an impact on the blowing performance as they create a greater level of resistance to the flow of air.

Airflow is critical when starting the blown process. In our experience, we suggest beginning the blow in stages, pushing cables via the belt drive on the blowing machine before using compressed air. It can then be built slowly as the cable travels through the duct. Adjustments in bar pressure are typically required throughout the process.

How significant is duct in the process?

We're often asked which should be selected first - the duct or the cable? In our opinion, to ensure correct network performance and installation it should be a choice that's made in tandem.

The actual size of the duct is a fundamental consideration. Smaller ducting requires smaller cables, which can cause challenges in some cases if cables have a poor tensile strength. Duct condition is key to maximum blowing distance too. A perfectly straight duct will obviously deliver a high level of blowing performance, whereas duct containing bends or damaged sections creates waves within the duct cavity during blowing, which of course reduces the reachable distance. Pressure testing duct with a gauge will help to identify any holes created by external damage, which is critical as leaks will prevent air pressure from building.

What part does cleanliness have to play?

Following pressure testing, the cleaning process should begin. The use of sponges blown through the duct helps to remove any debris or moisture, leaving the internal surface clear for the introduction of lubrication. On short blown networks it's not always necessary to use lubricant, but longer length duct certainly benefits from the use of lubricant to eliminate friction between the cable and inner duct surface.

Finally, how do Blown Fibre Networks contribute to sustainability?

The rapid development of miniaturised products for blown networks is making a significant contribution to sustainability. Given that millions of metres of duct and cable are being installed across the UK by thousands of installers, from an environmental perspective the upshot is a significant reduction in the use of non-recyclable plastic.

For more information, see www.webro.com