

# INTELLIGENT DATA & POWER SOLUTIONS

## BLOWN FIBRE

**Unrivalled experience and capability in Blown Fibre Installation**

### INTRODUCTION

Blown Fibre is now regarded as a competitive option in the Data Communications Market. The advantages of the concept have been clear from the start and now the product can be deployed in so many ways that it would not be possible to describe them in detail.

However; in simple terms the Micro Duct is first laid, this consists of a number of parallel tubes configured in a bundle. Typically the bundle consists of up to 24 tubes laid up and sheathed with the appropriate sheathing for the environment in which it operates. This duct forms the arteries of the system through which the fibres can be blown.

The installation of fibre is achieved using specialised blowing equipment. Bundles of up to 12 fibres can be installed into each tube; the fibres are set in a buffer layer, which provides excellent dimensional and thermal stability. The latest developments in technology mean that OM3+ Fibre can deliver 10Gb over 550m.

Blowing distance is related to several different elements: tube size, air flow, pressure, number of bends and their location in the route, bend radius of the tubes, tube bundles, winter and summer conditions. However, for practical considerations the blowing distance will be between 300m and 1500m and does not present a practical limitation on the application of blown fibre.

Traditional cables have the disadvantage that installation has often subjected them to high pulling forces, as they are pulled into ducts by pulling machines. Since optical glass cannot survive more than a few percent elongation, it has to be protected from high pulling forces. Even forces that do not cause fibre damage can reduce fibre lifetime significantly, and this makes low tension, low strain fibre

installation. All the more important if the fibres are not going to fail in their first year or so.

Blown Fibre systems offer a number of key advantages: these include optimal fibre performance, as the fibre sits stress free in the tube, future proofing and flexibility. It is easy to add to the number of fibres, or re-route connections through the tube infrastructure, without further installation or civil works.

### FIBRE SPECIFICATIONS

Multi - Mode	
OM1	62.5/125
OM2	50/125 Multi-Mode Fibre
OM3	50/125 Multi-Mode Fibre
OM3+	50/125 Multi-Mode Fibre

Single - Mode	
OS1	9/125 Single-Mode Fibre

### INS SUDLOWS EXPERIENCE

INS Sudlows are in the forefront Blown Fibre installation and the company has installed many Blown Fibre network connections, including Greater Manchester West Mental Health NHS Trust, British Steel, Hope Hospital, Mersey Care, North Staffordshire NHS Trust and the University of Manchester. In addition the company was involved in a major national security project at GCHQ in Cheltenham.

# INTELLIGENT DATA & POWER SOLUTIONS

INS Sudlows are the sole Blown Fibre approved installer of Emtelle Systems in the North West and a leading Certified Installer of Molex Premise Networks. This is in addition to the many approvals INS Sudlows hold for conventional fibre and copper systems.

Training in Blown Fibre is key to our success. All installation personnel are trained in fibre handling with a number specifically trained in Blown Fibre installation techniques. Training has included BT, Emtelle, Prysmian and Molex courses and qualifications, as well as specialist in-house training and regular updates on systems.

## SECTORS

Blown Fibre is being used throughout all areas of Building Environments including; Universities, Hospitals, Commercial, Industrial and more recently, Domestic premises.

Blown fibre is also being deployed in specialist areas such as; CCTV and Security.

## LATEST DEVELOPMENTS

Blown Fibre has now become integral to all new building projects, and is now considered as fundamental as utilities such as gas, electricity and water.

## FTTx

With new products designed for every environment this "4th Utility", has developed into a range of high capacity broadband networks such as:

- **FTT Desk** (for Commercial Use)
- **FTT Home** (for Domestic use)
- **FTT Apartment** (For Residential Flats use)

## INS SUDLOW'S DESIGN AND PLANNING SKILLS

Good Design and Planning are essential for successful installations of any communication networks, Blown Fibre installations are no exception. INS Sudlows have fully trained engineers and planners experienced in Blown Fibre. They understand the network topology, the environment in which the ducting sits, the access points and blowing and fibre handling.

All are essential aspects of design. As are the more conventional issues of fibre management, splicing, splice protection and handling.

Total competence in these disciplines allows INS Sudlows to deliver well-engineered solutions in a cost effective manner.

## TESTING STANDARDS

There is often a lot of confusion over the correct standards for Testing Blown Fibre.

The official testing procedure, as per OTDR (Optical Time Domain Reflectometer) manufacturer's instruction, states the following:

- Wavelengths 1310nm and 1550nm Single-Mode.
- Wavelengths 850nm and 1300nm Multi-Mode.
- Fully compliant to relevant Bellcore Telcordia Specifications.
- Fully calibrated.
- Electronic data storage and test traces.

## INS SUDLOW'S INVESTMENT

The company has invested significantly in installation equipment; currently the company has 6 complete operational blowing sets and the components to increase this number significantly. This is supported with associated OTDR (Optical Time Domain Reflectometer) measuring equipment, splicing and terminating capability. Currently 6 mobile units are readily available for installation work throughout the country. These mobile units are fully equipped with appropriate traffic management, barriers and safety equipment.

The teams operating them are fully trained in all aspects of the work and in common with all INS Sudlows installation engineers, fully familiar with Health and Safety Procedures and in particular 'Working in Confined Spaces' procedures.

## LOGISTIC SUPPORT

In conjunction with its suppliers the company has established the logistical and manufacturing back up to ensure short lead times for all Blown Fibre Components.

INS Sudlows Limited is committed to developing further its technical and operational capability and providing customers with intelligent solutions.