

## The alker armoured fibre optic range

Since alker was founded in 1986, we have been pioneers in the field of innovation, design and manufacture of fibre optic terminations. There are a number of applications that require the fibre optics to work in extreme temperatures, wet or dry environments or with excessive vibration. We are continually expanding the array of connectors we can successfully armour to withstand the demands expected in extreme conditions. The alker Armoured Fibre Optic product range is well established within the industry and developed in response to the increasing demand from customers who are taking advantage of fibre optics and their benefits.

### Stainless steel armouring

alker can provide stainless steel armouring in a range of diameters. For applications which have weight limitations or are within a confined space, our Micro Armouring range is the ideal solution. Starting with 1.5mm through to 4mm diameters, this specifically designed armouring offers the high level of protection required. For larger applications we can offer 4.5mm through to 25mm diameters for either single or multi fibre assemblies. This range is the perfect choice for fibre optic looms or harnesses, which can include both fibre and electrical contacts.

### Splitters

alker have developed a series of splitters which enables us to manufacture more complex breakout assemblies. We also have the facility to design and manufacture custom splitters.

### PM Armoured Optics

The alker PM Armoured Optics process can be used on a range



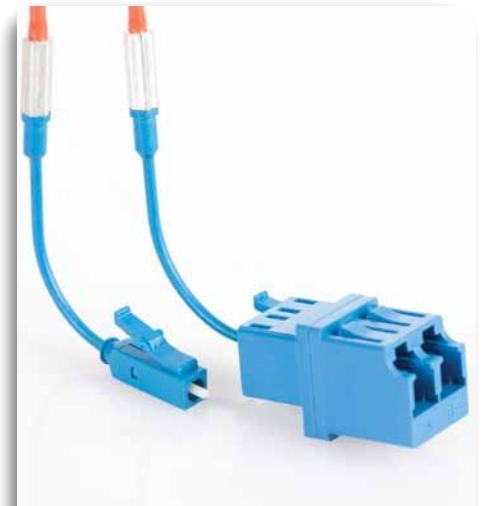
of connectors. With high extinction ratios, our rigorous orientation specification and added protection within the armouring all allows PM fibres to perform in environments not previously possible. The orientation of the fibre is available in fast, slow or custom axis in either FLAT, UPC, 8° FLAT or APC polished finish. The range of connectors includes FC, SC, LC, MU with the E-2000 in development. A bespoke design and manufacturing facility for custom requirements is available.

### Armoured leads for high temperatures (HT)

Armoured HT Optics is a range of assemblies using connectors specifically designed for the power turbine and the jet engine sensor industries. The insulation process protects the entire length of the assembly and allows their use in temperatures exceeding 200 °C.

### Micro armoured 90° curved connector boot (pictured, right)

This innovative compact connector has been designed and constructed



0-90° curved connector boot

by alker technicians. It has a unique curving system (with an angle choice of 0 to 90°) and is an ideal solution where space is limited. The distinctive curve will also prevent the cable from being trapped or damaged. Insertion loss is less than 0.2dB. It is currently available for the LC, FC, SC, MU, ST and SMA connectors.



## The alker inspection and cleaning kit



Cleaning and inspection kit

Included with the cleaning kit:

- Inspection microscope
- Visible Fault Locator (VFL)
- Connector extraction tool (optional)
- Inspection tips to fit your range of adaptors and connectors
- Cleaning tips to fit your range of adaptors and connectors
- Fibre optic cleaner (from 1mm and 2.5mm)
- Wet-to-dry dispenser
- Lint free dry wipes
- Lightweight, water/dust and crush-proof Pelican case (NSN number 6760-01-491-2111)
- Training at your UK location

At alker we have developed an inspection and cleaning kit with tailor made converters to suit your adaptor and connector range.

At approximately 5 microns in diameter, the inner core of an optical fibre is the region along which the light is transmitted.

It is difficult to envisage how small that really is but, as an example, you would need more than 100 cores from a fibre optic cable to cover the full stop at the end of this sentence.

It is no surprise therefore that contamination is a real problem, which if not addressed will make fibre optics the most vulnerable element of your system.



Inspection microscope

The alker range of fibre optic inspection and cleaning kits use the latest technologies and processes. They incorporate a wet-to-dry cleaning system which concentrates cleaning fluid directly on the ferrule endface. In a single process, this neutralises static build up, softens contamination and aids the final cleaning process, leaving the ferrule endface residue free.

alker will provide on-site training at your UK location for the easy to use cleaning kit as a standard part of our service.

### Features:

- Microscope to inspect termini endfaces for debris or damage.
- The microscope LCD display makes it safer to inspect the fibre.
- Can be used with both singlemode and multimode fibres.
- Designed for military multiway ferrule connectors (pictured above).
- No need to remove termini/ferrule from connector, saving time and minimising the risk of damage.
- Angled cleaning available for difficult to reach places.
- Designed to clean fibre optic patchcords, pigtailed and adaptors of all types.
- Suitable for harsh environments.



## alker bespoke fibre optic solutions

At alker we can provide bespoke and innovative solutions for your fibre optic needs.

In the example pictured above, we worked for our client to terminate a device they developed with an FC UPC connector. To do this we first protected the 250um primary fibre with our micro armouring. We then terminated the high tolerance FC-UPC hybrid connector.

For your packaged photonics (sealed optics) we can in most cases ruggedise from 250um primary fibre with our micro armouring. We can from there terminate almost any fibre optic connector.

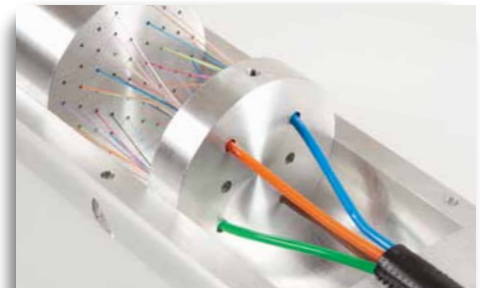
alker can provide the terminated fibre in FLAT, UPC (Ultra Physical Contact) and APC (Angled Physical Contact) polish, for SM (singlemode), MM (multimode) and PM (polarisation maintaining) fibre types.

### Ruggedisation and armouring

The breakout unit pictured on the right was designed at alker for 48 fibres. It is made from aluminium, weighing 700g. The client's brief was for the unit to work in prolonged high temperatures within an abrasive, sandy environment.



Breakout unit - close up



Breakout unit - open



Custom-made breakout unit - from primary fibre to armoured



## Who are alker?

We are an independent fibre optic termination house based in Surrey in the UK. We specialise in the termination of optical fibres and connectors for the telecommunications industry, sensor, medical, aerospace and defence applications. We provide a bespoke termination service to customers who need quality, consistency and peace of mind.

## What makes alker different?

### Quality

We process everything in-house – we do not batch test. All of the 13 to 15 stages in our termination facility are 100% tested. We only use the finest components from the best suppliers in the world. With alker quality is guaranteed.

### Speed

We have large and varied stocks of connectors and fibres so we can deliver tailor made products on average in less than two to four weeks for the majority of our lines.

### Experience

Founded in 1986 by Alan Kershaw we have celebrated our 24<sup>th</sup> year in business. alker is now run by Alan's son Richard. We have spent these years perfecting our processes and being recognised throughout many industries as experts in the field of fibre optic terminations, polishing and cleaning.

### Innovation

If you are starting a project involving fibre optics that need to work within a harsh environment, alker offer a consultancy, design and one-off prototype service. This will help guide you through the most vulnerable stages of fibre optic design. Call our fibre optic engineers to discuss your requirements.

### Our engineers

We will work with our customers, or their supplier engineers, to overcome fibre issues before they become a problem in production, by inspecting, re-polishing or re-terminating.

### Service

We keep our promise to you. We do this by only promising what we can achieve. We keep a varied stock to avoid the delays usually associated with supply problems.

*"Many thanks for taking an interest in my company, I look forward to assisting you with your fibre optic projects in the future."*

*Richard Kershaw  
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