

Tech Optics manufacture a huge range of fibre optic cable assemblies for standard and harsh environment applications. Used by some of the biggest names in defence and aerospace plus electrical harness houses and connector manufacturers, Tech Optics has an unsurpassed reputation for high quality flexible manufacture.

Assemblies are manufactured in Tonbridge, UK using our ISO9001:2015 controlled processes which are fully traceable and 100% optically tested (test reports are supplied with each assembly together with a Tech Optics C of C). First Article Inspection Reports are available as a cost option together with supplier C of Cs.

Services

- Build to print – assemblies built to your drawings
- Design support
 - Component selection
 - Harness design
 - Schematic / layout production
 - First Article Inspection Reports (FAIR)
 - Maintainability / serviceability / repair
 - Whole life cost
- Training (bespoke fibre optic courses)
- Maintenance equipment (inspection, test, repair)
- Termination kits / tooling

Assembly Types

- Ruggedised single and multimode assemblies
- Single and multi-channel assemblies
- Field deployable drums
- Armoured fibre optics
- Test harnesses
- Pigtail assemblies
- Patch cords utilising harsh environment and standard fibre connectivity
- Cable management/routing systems, enclosures and breakout systems
- Conduited assemblies
- Bespoke hybrid assemblies
- Loopbacks



Armoured HA (JN1055) harness



TFOCA-II Receptacle with pro-cap



Aircraft assembly ARINC 801 to M38999

Applications

- Aerospace (civil / military)
- Naval Systems
- Ground vehicle systems
- Deployable military communications
- Remotely Operated Vehicles (ROV)
- Radar / targeting systems
- Satellite downlinks
- LIDAR / wind-energy
- Oil and Gas
- Sensors and monitoring systems
- Rail rolling stock and signalling
- Broadcast, out-door events
- Telecoms / datacoms



Interferometric end-face geometry check

Multi-Vendor Componentry

Tech Optics manufacture fibre optic harnesses using multiple approved manufacturers components to provide the best optical performance within time and cost constraints.

Typical Connector Types

- **Standard connectors** ST, FC, SC, LC, SMA...
- **Ruggedised singleway connectors**
 - MFM
 - HA (JN1055)
 - RSC
 - MIL-ST
- **Harsh environment multiway connectors**
 - M38999 / M29504 (/04 /05)
 - M28876 / M29504 (/14 /15)
 - ARINC 801 (PC / APC)
 - ELIO
 - TFOCA-II, TFOCA-III
 - BDC
 - HDM
 - Duplex MFM
 - MC3, MC4, MC5
- **Expanded beam connectors**
 - M83526 / 20 /21
 - Mini-expanded beam connectors
 - Windowed expanded beam connectors
- **Ribbon connectors**
 - MTP® / MPO hybridisation
 - MXC hybridisation

Connector Manufacturers

Tech Optics utilise connectors from the following manufacturers:-

- 3M
- Amphenol Ltd.
- Amphenol Fiber Systems International
- Amphenol Fiber Optic Products
- Avena
- Commscope
- Corning
- Cinch
- Delphi
- Deutsch (TE Connectivity)
- Diamond
- Euromicron (APO)
- Fischer
- Glenair
- Huber + Suhner
- QPC
- Radiall
- Senko
- Souriau
- TE Connectivity
- US Conec
- ...



Fischer fibre optic assemblies



12 Channel Expanded Beam Assembly



M83526 Expanded Beam Assembly



TFOCA-III, 24 channel (SM) ship to shore assembly

Multi-Vendor Fibre Optic Cable

Tech Optics manufacture harnesses using multiple manufacturers cables from standard simplex patch cord to specialised multi-channel cable structures.

Typical Cable Types

- Simplex patchcord
- Zipcord
- Military Tactical cable (MIL-TAC)
- Armoured cable (CST, SWA)
- Distribution cable
- Breakout cable
- Loose tube cable
- JN1008 EFA cable
- Airbus cable (ABS0963)
- Naval cable MIL-PRF-85045
- Rail qualified
- Ribbon

Fibre sizes

- 9/125µm singlemode
 - OS1
 - OS2
- 50/125µm multimode
 - OM2
 - OM3
 - OM4
 - OM5
- 62.5/125µm
- 100/140µm
- 200/230µm
- 200/240µm
- 200/280µm
- Plastic Optical Fibre (POF)
- Speciality fibre sizes and constructions

Cable Manufacturers

- AFL
- Amphenol Spectra-Strip
- Carlisle
- Draka
- Hitachi
- Hexatronic
- Nexans
- OCC
- OFS
- Optral
- TE Connectivity
- WL Gore
- ...



Ruggedised test harness with attenuators



Tech Optics automated polishing station



Tech Optics fibre optic cable store



Deployable assemblies ready for test

This document is a brief overview of our comprehensive harsh environment products and services. Please contact our expert team to discuss your fibre optic requirements in complete confidence.

For further information and to discuss your application contact:-

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TechOptics

A PART OF HEXATRONIC GROUP

ISO9001:2015
for the manufacture of
fibre optic assemblies
and the distribution of
fibre optic products.

