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| <b>Job Title:</b>    | Specialist Postgraduate Design Engineer (dependent on skills and experience) for Diving and Special Applications Umbilicals                 | <b>Job Category:</b>                 |                                                                                                                         |
| <b>Department:</b>   | Design                                                                                                                                      | <b>Job Code:</b>                     |                                                                                                                         |
| <b>Location:</b>     | Hoddesdon, UK<br>(with flexibility for skilled and experienced candidates)                                                                  | <b>Travel Required:</b>              | Infrequent                                                                                                              |
| <b>Salary Range:</b> | Dependent on experience:<br>Specialist Postgraduate Design Engineer with directly-relevant PhD, MSc, MRes (or equivalent) <i>circa</i> £40k | <b>Reports to:</b><br>(Name & Title) | David Hughes<br>Design Manager – Diving, Special Applications, Defence, Other and Remotely Operated Vehicles Umbilicals |

### Company Background

Fibron is a major designer, manufacturer and global provider of subsea cables and umbilical systems used for diving, seismic, defence and other special applications, plus Remotely Operated Vehicles and offshore energy industries. The company has considerable in-house design expertise and manufacturing facilities capable of producing a broad range of products. Fibron has an established track record that comprehensively demonstrates our ability to design and manufacture cables and umbilical solutions for a broad range of applications.

Fibron supplies products to major operators and contractors globally and places great emphasis on developing strong and long-term relationships with their clients and supply base. The specialist nature of the products that are designed and manufactured enables us to provide robust, unique and innovative solutions to meet the challenging demands of our customers who operate in extreme environments.

Due to the company's continued growth and expansion, we now have an exciting opportunity for a skilled umbilical designer to take on the position of Senior Design Engineer, Design Engineer, Specialist Postgraduate Design Engineer or Graduate Design Engineer (dependent on depth and applicability of experience) for our diving and special applications umbilical products.

We are looking for a talented, hardworking, enthusiastic and highly motivated candidate, who will strengthen the core of our design team. Ultimately this will help us to continue to grow and expand our product portfolio thus cementing ourselves as a market leader.

The Fibron head office and factory, at Hoddesdon, is within easy commuting distance from London by rail (closest train station is Rye House) or road (A10 short distance from the M25). There may be scope for experienced hires to be granted permission for some form of hybrid working and/or working at a satellite office in Cambridge or the south west of England.

## Job Description

We are seeking a skilled and knowledgeable Specialist Postgraduate Design Engineer for umbilicals for commercial diving and special applications, to play a key role in the continued development of our products. You will be responsible for design, analysis and qualification (as and when required) of custom umbilicals that are critical to the performance and reliability of our customers' diving, seismic and defence systems, and special purpose applications.

The main functions of the role will include (but not be limited to):

- Leading the design of umbilical cables (combining various functions such as breathing gases, other fluids, electrical power, communication, hydraulics and pneumatics), primarily for commercial diving applications but also for seismic, defence and other special purposes.
  - This includes selection and sizing of functional components (hoses, cables, optical fibres) and their lay-up, plus selection of insulation and jacket materials, braiding, armouring and overall umbilical configuration, to meet the customer's specification, applicable industry and classification requirements, and Fibron in-house standards.
- Writing test specifications and qualification procedures for the umbilical in the relevant customer-specified scenario (e.g. under tension, torsion, compression and cyclic bending), when needed.
- Providing technical support to the production team during the manufacturing process, to ensure quality and conformity to design.
- Investigating and resolving cable-related field failures or performance issues, and implementing robust design improvements into future cable designs.
- Supporting the sales department in growing and expanding our customer base.

## Person Requirements

### Required:

1. Demonstrable practical knowledge and experience of a relevant design engineering and manufacturing work environment, at a level commensurate with the grade sought.
2. Relevant skills and applicable experience in the design of umbilical cables, ideally for diving, seismic or defence applications:
  - a. The Specialist Postgraduate Design Engineer should be able to: apply their academic and industrial specialist knowledge to the analysis and design of umbilicals, to meet customer requirements, under supervision; and to demonstrate and apply an understanding of design and manufacturing processes, gleaned from an industry-placement, internship or relevant industry-based research project.
3. Good understanding of commercial diving practice, technology, equipment and technical standards.
4. Sound knowledge of electrical theory (voltage stress, resistance and voltage drop, current and current rating, and related heating effects in air and water), hydraulics/pneumatics (pressure drop, fluid mechanics) and mechanical engineering (material science, stress and strain, fatigue).
5. Good understanding of the fundamentals of electrical cable design and construction, including cable geometry, helix angles, lay-lengths and copper specifications.
6. Proficient in the use of 2D CAD software, preferably Autodesk AutoCAD; proficiency in 3D CAD (Solidworks) would be an advantage.
7. Proficient with MS Office applications particularly Word, Excel and Outlook.

8. Able to solve engineering problems safely, pragmatically, effectively and efficiently.
9. Able to communicate effectively with customers and colleagues.
10. Able to work effectively as a team member with colleagues in sales, project management, supply chain, manufacturing and testing departments.
11. Able to demonstrate the Fibron company values of Safe, Responsible, Open and Inventive.

**Preferred:**

1. Exposure to a quality system such as ISO 9001 and experience in corrective action resolution.
2. Exposure to systems for control of engineering documentation (SolidWorks EPDM would be an advantage).

**Education & Certification**

Relevant Bachelor's or higher degree in engineering, physics or maths, or demonstrable equivalent level of relevant formal education, structured training and industrial experience.