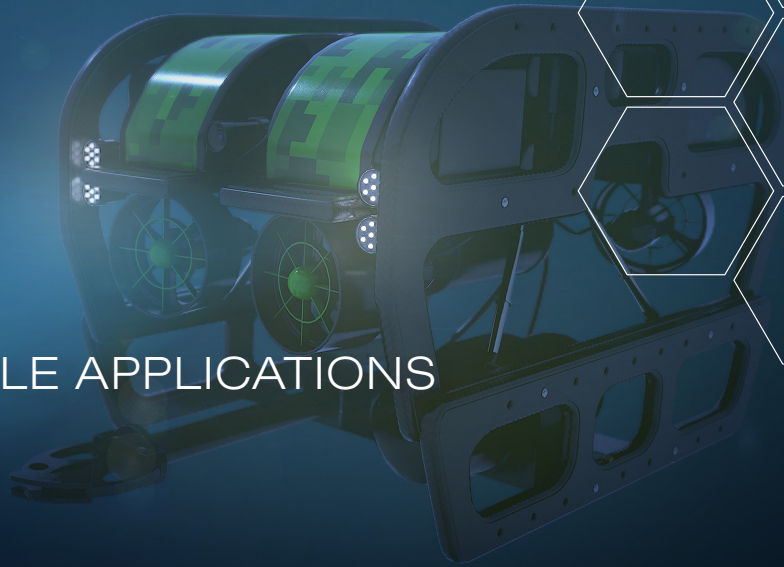


Seal-Connect®

FOR UNDERWATER VEHICLE APPLICATIONS



Remotely Operated Vehicles (ROV) and Autonomous Underwater Vehicles (AUV) are vital systems commonly used in subsea applications for the oil and gas, oceanographic research, and military industry. These underwater vehicles must perform in rugged, pressurized environments where uptime and reliability are critical to the operation, with expensive electronic equipment onboard that must be protected. **Greene Tweed's Seal-Connect® electrical and optical product lines** are designed and tested for harsh environments with vast experience in high pressure environments capable of withstanding operating depths over 20,000 ft with pressure ratings ranging from 25,000 - 35,000 psi. Custom Seal-Connect® products undergo extensive mechanical property lab testing and can perform in harsh media, saltwater conditions.



ST & FC CONNECTOR FAMILY

The **FC connectors** use a threaded position keyed coupling connection while the **ST connectors** feature a bayonet twist-lock (j-slot) connection. When used with an **FC adapter**, **ST adapter**, or **Permanent Bulkhead Feedthrough (PBF)** respectively, the result is a hermetically sealed connection protected from wet environments and particulates that can irreversibly degrade optical fiber. The **DRY™ HP Series** is intended for use in submerged, seawater environments and can withstand pressures up to 10,000 psi*. All FC and ST connectors have passed stringent immersion and heat/humidity tests with minimal light loss.

**Internal lab testing to 5,000 psi with customer field qualification testing to 10,000 psi*



FIBER OPTIC EXTREME

For harsher environments, **Seal-Connect® Fiber Optic Extreme®** solutions provide an optical feedthrough system that ensures data transmission when exposed to extreme pressures and extreme temperatures – is capable of withstanding operating pressures of 25,000 psi and temperatures up to 347°F (175°C). This feedthrough can be designed with up to 24 channels. Along with the Seal-Connect portfolio, Fiber Optic Extreme has high durability and consistent performance in tough, saltwater environments.



Seal-Connect® Portfolio

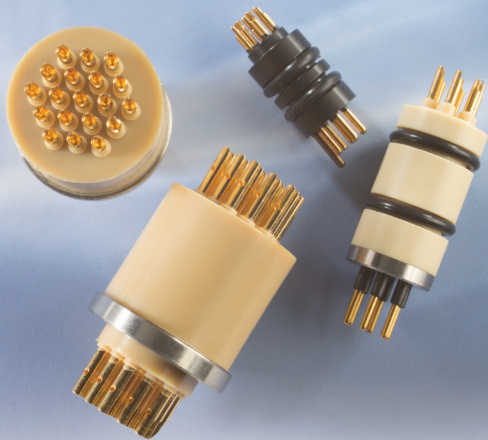
Greene Tweed Seal-Connect® has an extensive portfolio that has been developed with over 30 years of experience. Working in the harshest environments, Seal-Connect has been one of the top connector suppliers to the leaders in the oil and gas industry. Our high-performance products have proven to be reliable even in the toughest environments with temperatures up to 260°C (500°F) and pressures up to 35,000 psi. The Seal-Connect portfolio includes electrical and optical product lines. Seal-Connect features standard and custom solution single pins, multi pins, rotatables, contact blocks, single mode and multi mode fiber optic cables, adapters, and bulkhead feedthroughs.

The Seal-Connect® electrical portfolio utilizes PEEK and PEK through the **Arlon®** brand of materials to overcome the weaknesses of traditional glass to metal. Arlon® materials provide high mechanical strength, wear resistance, and harsh chemical resistance. Used as an electrical connector body material, PEEK allows for smaller pin diameters and higher pin density with an overall smaller, lightweight connector design. For more extreme environments, Greene Tweed developed **Arlon® 3000XT**, a patented cross-linked PEEK. This material was validated through rigorous fluid aging and temperature testing where it showed higher tensile strength and Young's modulus when compared to other grades of PEEK.



Greene Tweed's Seal-Connect® engineers have an extensive knowledge of challenging industries and environments that require reliable electrical and fiber optic connectors. We evaluate and offer solutions to critical industry challenges such as HPHT and shock and vibration through the innovative use of Greene Tweed's best-in-class materials portfolio. Our in-house design capabilities include 3D modeling, rapid prototyping, and finite element analysis (FEA), including thermal-electrical analysis; dynamic, thermal, and thermo-mechanical analysis; and material flow modeling. With an expansive and advanced manufacturing facility, Greene Tweed can produce application ready Seal-Connect® custom connectors in 6 to 8 weeks.

Contact Greene Tweed's sales team about how a standard or customized Seal-Connect® product can be designed for your underwater vehicle application.



Greene Tweed

1684 South Broad Street, PO Box 1307 | Lansdale PA 19446 USA | Phone: (+1) (215) 256-9521 | www.gtweed.com

Statements and recommendations in this publication are based on our experience and knowledge of typical applications of this product and shall not constitute a guarantee of performance nor modify or alter our standard warranty applicable to such products.

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