B-Tech Connections™ for Infrastructure Piping Applications

Evolution of an Innovation

By: Sam Boyd, Boyd Tech Inc.

A Simple Question

Our journey began with a simple question. "Why is there no pullable HDPE threaded segment system on the North American market?" We learned quickly that no current manufactured HDPE connection in existence would guarantee pipe pull-ability over 2,000 US Pounds! The result of our research and exploration became the basis for **B-Tech Connections™**. We simply couldn't stop until we found a way to solve this problem!

Our preliminary experiments with common threads revealed why previous efforts had likely fallen short. HDPE is a very soft and supple material, it expands over itself, so traditional threads don't hold. Then our out-of-the-box thinking took over, and the brainstorming began. Ultimately, we developed a way to use the suppleness of HDPE pipe almost against itself – a negative positive force configuration for positive output. Our new product **B-Tech Connections™** solved the problem, and can withstand literally tons of pulling force for trenchless pipe rehabilitation and confined space pipe rehabilitation.

A means to mechanically connect HDPE piping for pulling, pushing and transitions, **B-Tech Connections™** provides a pipe-to-pipe connection wherein ID & OD remain the same. Either permanently locked or temporarily installed, connections are water-tight with a broad range of applications in trenchless and non-trenchless applications. In confined space applications, work crews save time and resources when compared to other, time-consuming connection techniques or bulky mechanical methods. Connections can be supplied in short spools up to 36 inches, or pre-fused to any length of pipe to produce custom length spools. Long life span and fast assembly times, make this connection method, time efficient and cost-effective for any HDPE project or application.

Evolution of the Innovation – Rotational Threaded Connection (RTC)

Two patented mechanical connections were developed for joining HDPE:
- **Locking Pull Thread (LPT)** - is a proprietary thread that is machined onto short sections of HDPE and fused onto longer sections on location.
- **Locking Push Conn Tapered (LPCT)** - is a proprietary stepped locking profile that is machined onto short sections of HDPE and fused onto longer sections on location.

By combining these two patented connections, the **LPT** and **LPCT**, into

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The B-Tech Connections™ product is a game changer for Trenchless Technology Engineers, Designers and Contractors

one multipart connection, we created the **Rotational Threaded Connection (RTC)**, which is a time saving and practical mechanical approach to joining long lengths of pipe together with minimal effort and equipment.

This hybrid connection was designed for long length spools where rotating the entire length of pipe would not be possible, or, where rotational alignment is critical. Especially, when using pipes with large diameters and/or heavy wall thicknesses. An end-user can make-up connections with fewer resources. Simply line up the threads and rotate the Collar component of our connection until the thread locks into place. The Collar, or 'union' of the connection rotates freely and independently of the fused sections of pipe allowing threads to make-up without either pipe having to rotate.

The B-Tech Rotational Threaded Connection is preferred by many industry professionals who deal with long length spools found in farm irrigation, dredging, mining, dewatering, by-pass, and all types of temporary conveyance systems. It allows contractors to quickly dis-assemble and re-assemble multiple times and/or locations, with very little assembly equipment.

A Game-Changer

B-Tech Connections™ is quickly becoming recognized as a game-changer in the industry. We set out to assist the trenchless industry in the best way possible, and the response has been incredible. It has been professionally invigorating and rewarding to be able to take *B-Tech Connections™* across multiple industries solving countless different operational issues. Complex bypass systems can be set up within a day, rather than a week, yielding huge cost savings. *B-Tech Connections™* innovative design features make these patented connections completely customizable, providing time and cost benefits to industries such as water, wastewater, telecom, electrical, irrigation and petro-chemical applications *B-Tech Connections™* are specially designed & tested to be extremely pullable, thus eliminating Trenchless Technology connection issues for engineers, designers & contractors.

Our ground-breaking product, *B-Tech Connections™* was winner of the NASTT Abbott Award – New Installation at the NASTT 2022 NO-DIG SHOW in Minneapolis. Our leading edge product also recently won the New Technology

Award at the ASTT No-Dig DownUnder Show in Australia, and is on the short list for the UCT Innovative Product Award in Orlando, February 2023, showing the positive impact we've had on the industry so far.

For more information, contact Sam Boyd, President at samboyd@boydtech.us or visit visit us on LinkedIn: linkedin.com/in/sam-boyd-99b3b712

(L to R) Rollin Boyd with 40 Years of Trenchless and HDD, Sam Boyd with 44 years of General Construction and Consulting are the Architects of B-Tech Connections™. Their collaboration and out of the box designing have produced something that will likely benefit multiple industries! We set out to assist one HDD Contractor and ended up changing an Industry