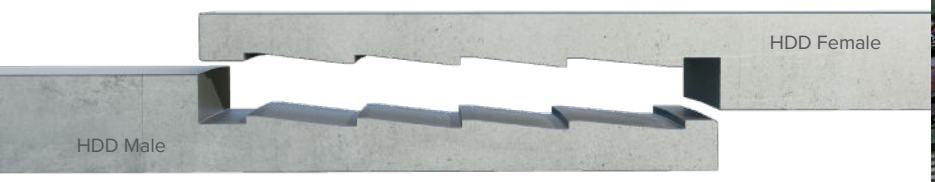


Permalok® HDD Joint

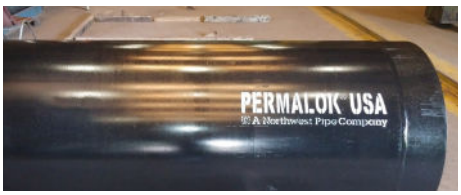
The Permalok® HDD Joint is a direct push system specially designed to optimize Horizontal Directional Drilling (HDD) operations. Typically, an HDD set-up requires a substantial footprint, including a rig/operating area, reception area, and a stretch of open land for laying out the pipe string. The cost of equipment, including rollers, cranes, and excavators, as well as the labor to operate them, quickly add up. Our HDD joint eliminates the need for pipe string out, reducing the project footprint and associated construction costs.

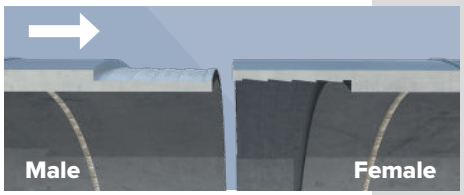
Utilizing direct push to engage joints rather than the pull technique traditionally used in HDD applications, the Permalok® HDD system quickly and easily installs using existing equipment, and without the need for welding. It can be pushed from the shoreline or beach without the need for additional water crews or specialized tools. Our HDD joint provides the same allowable bend radius as a standard HDD installation (100 ft/OD in per ASC MOP 108). Engineered with the precision and durability guaranteed in all Permalok® products, our HDD joint offers a high quality and cost-effective piping solution for even the most challenging HDD applications.

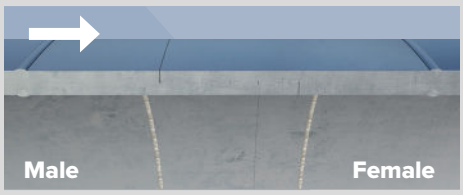
The Permalok® HDD Joint quickly and efficiently connects sections of steel product pipe from the drill rig side of the bore path. It utilizes the drill rig to connect and advance pipe sections similar to drill stem, eliminating the need to string pipe or weld joints together. The joint profile incorporates an additional locking key on the male connection side to increase pull-apart resistance while requiring less force to push joints together securely.

Available in 8” – 156” diameters with wall thicknesses up to 2.5,” Permalok® can be manufactured in custom joint lengths to maximize the efficiency of your project.

Permalok® also offers a wide range of coatings and linings to meet the most difficult project specifications.







Direct Push Installation

The Permalok® HDD joint installs via direct push from the drill rig side with the male end installing inside of the female.

HDD Permalok® Joint

PROJECT SPOTLIGHT

Champlain Hudson Power Express

One of the largest infrastructure investments in New York's history, the Champlain Hudson Power Express is a buried transmission line designed to bring hydroelectric power from Canada to the NYC metro area. Its final segment features over 10,000 feet of Permalok® HDD steel casing pipe installed in two 5,200-foot parallel crossings under the East River. The HDD pipeline will house fusible PVC carrier pipe for the project's fiber optic cables, connecting Randall's Island and the Astoria converter station.

The project was initially designed to have a pipe string out on Randall's Island. However, due to space constraints including train crossings and highway overpasses, pipe string out was not feasible and an approach utilizing a smaller footprint was needed. The Permalok® HDD joint provided Michels with a weld-free solution that allows for the casing pipe to be cartridge-fed from the launch rig side, eliminating string out on the exit side.

Northwest Pipe Company provided comprehensive support from the conceptual design phase, through manufacturing, testing, delivery, and installation. Regular meetings and consistent communication ensured all stakeholders were up to date on production and delivery schedules. Representatives from the NWP Trenchless team were on-site during the initial push of both HDD drives to offer guidance and support and ensure a smooth installation process.

Crews successfully installed the first 5,200-foot drive in just over two days—averaging an impressive 100 feet per hour. The second drive was completed even faster, showcasing the efficiency of the Permalok® HDD joint

Location
Queens, NY

Pipe Specifications
10,400 LF of 20-inch Steel Casing Pipe with Permalok® HDD Joints and Polyurethane Coating

Contractors
Kiewit; Subcontractor - Michels Trenchless, Inc.

Owner
Champlain Hudson Power Express

> *The Permalok® HDD joint is very easy to work with and installs much faster and more efficiently than welding traditional HDD pipe strings.*
>
> *The biggest cost savings are on welding crews and other equipment needed for pipe string layout and pullback assistance, plus it can all be done on the space you are already using.*

JEREMIAH YLINIEMI
Assistant Operations Manager - Michels Trenchless, Inc.

See the Project in Action!

Scan to watch a video featuring installation footage and interviews on our YouTube channel.

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www.permalok.com
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