

GAS DISTRIBUTION SYSTEMS INTEGRITY

Mechanical joining technology inspires growing interest

While mechanical coupling use in natural gas distribution systems is an emerging technology outside North America, it is the method of choice for most gas utilities in the United States. For the last 30 years mechanical couplings have proved to be the easy, safe way to make durable connections.



Since Perfection Corporation introduced its first Permasert mechanical coupling in 1976, demand for mechanical joining products from US natural gas companies has increased significantly. Estimates indicate that more than 100 million mechanical connections were made in US gas distribution systems in the last 30 years.

A wholly-owned subsidiary of the American Meter Company of Horsham, Pennsylvania, and a member of the Elster Group, Perfection Corporation is the market leader in providing gas companies with mechanical joining products. Perfection's complete mechanical polyethylene gas distribution system



Despite wet weather conditions and temperatures of 2°C, installation of a U-gauge on the basement piping of a commercial building was completed without interrupting the gas supply or causing a drop in pressure



Fast, safe and easy installation of a service line onto a main with Perfection's complete polyethylene mechanical system

allows installers to make fast, easy and safe connections, from mains to meter, without using special tools or expensive equipment. Proven reliability and ease of installation have fuelled the growing trend towards use of mechanical joining technology in the USA.

"We use Perfection Permaserts for service lines because they are quick and easy to use. We have thousands of them in the ground, and the leak history is virtually non-existent," said Jim Erickson, Compliance Manager with Minnesota Energy Resource Corporation.

Compared to conventional fusion methods, mechanical coupling installation requires less

workforce training time and significantly cuts down on installation time, allowing a greater number of installations to be carried out within a specific period of time than conventional fusion methods. While all joining methods can be subject to failure, Permasert failures show up instantly during pressure tests and can be immediately repaired at the work site, saving additional time and money.

Many Perfection customers continue to increase their use of mechanical connectors. In the early 1980's, PSE&G (Public Service Electric and Gas Company) used fusion methods to make all their polyethylene connections. Perfection introduced the New Jersey utility to mechanical fittings and PSE&G has since installed more than 500,000 mechanical fittings. The utility, which serves 1.7 million gas customers, now prefers to use mechanical fittings, whenever possible, to join polyethylene pipes.

Mechanical joining technology has proven successful in a variety of environments. Perfection presently has millions of mechanical fittings in use in every conceivable climate and soil condition. And compared to other joining methods, mechanical fittings are more easily installed in adverse weather and soil conditions. Approximately two thirds of all service lines in the United States use some type of mechanical connection. Increased use of mechanical connectors in gas mains in the USA is also apparent, with Perfection being a major supplier. Perfection's PermaLock mechanical tapping tees, used to join polyethylene service lines to polyethylene gas mains, are used by more US utilities than any other manufacturer's tapping tees. Perfection has sold an increasing number of these tapping tees each year, more than a million since its inception 20 years ago.

Perfection's commitment to exceed the most stringent safety and quality requirements has raised demand for its mechanical couplings, in both US and international markets. Rigorous performance tests of existing products are continuously carried out in Perfection's state-of-the-art Research & Development laboratory. Through its dedication to maintaining superior standards, Perfection aims to establish customer relationships as reliable and as lasting as the mechanical joining products it manufactures.

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