JCM Industries, Inc.

Fittings & Fabrications
for Repair - Connection - Branching
All Types and Sizes of Pipe

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JCM FABRICATED TAPPING SLEEVES FOR FIBERGLASS REINFORCED POLYMER MORTAR PIPE

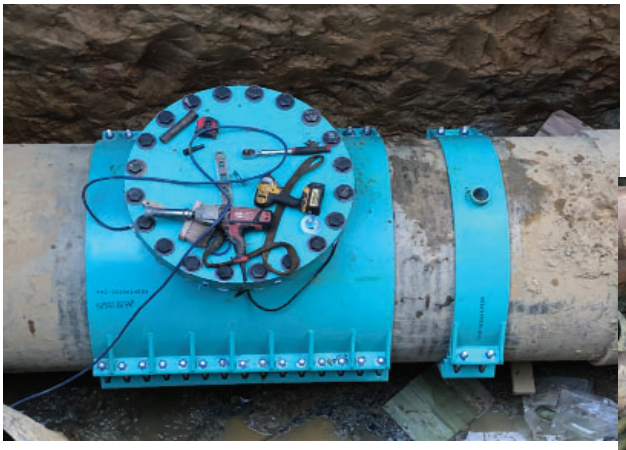
LAB TESTED - TIME TESTED - FIELD PROVEN

In 1990 JCM Industries worked in partnership with a major manufacturer of fiberglass pipe (Price Brothers/Hobas) to determine the best tapping sleeve design for use when branching/tapping this piping material. With thorough, detailed test procedures, JCM and the pipe manufacturer concluded that just a few modifications to the standard fabricated tapping sleeve would accommodate and enhance the performance characteristics of this pipe.

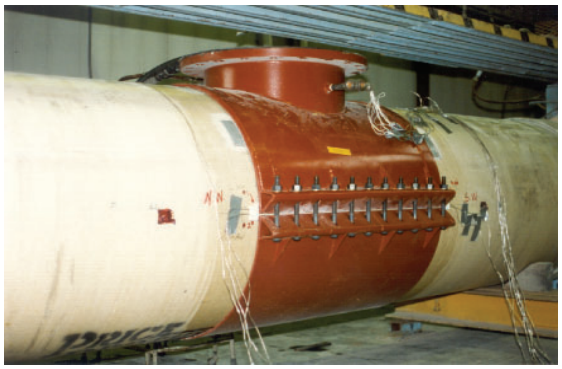
The subtle changes include strategic and geometrical supporting gussets on the body/lug section, a gasket lined body of specific width and fooprint, and JCM's exclusive thick, hydromechanical lip gasket. These elements join together to provide support while protecting the pipe from point loading and reducing undue stress on the pipe wall.

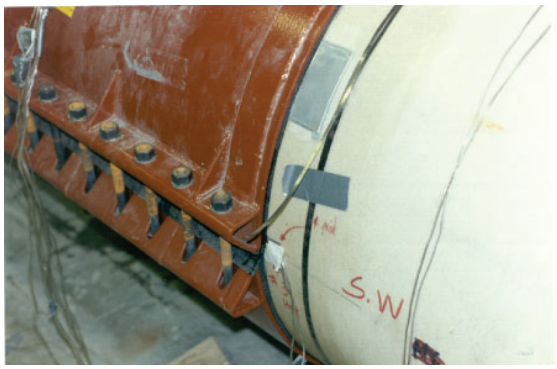
Since 1990, JCM Industries has been the leader in the growth of fabricated tapping sleeves for use on Fiberglass Reinforced Polymer Mortar Pipelines. This enhancement of our traditional tapping sleeve design has provided the most common service applications to pipelines to be included for FRPM from branching/tapping the pipe to line stopping procedures to fabricated repair sleeves for damaged pipe. JCM is the expert for FRPM bolt on sleeves.

JCM furnishes FRPM fittings in both carbon steel and stainless steel (304 or 316), in sizes 6" up through 58" and larger.



During the 1990 research, a final lab evaluation report from Hobas Pipe (formerly Price Brothers) presented the process and results of an installation of a JCM 412-36 x 24 GRP tapping sleeve on Hobas Pipe and the conclusion of the development stages of this sleeve design. In the lab tests, the pipe manufacturer used strain gauges to determine stress levels on the pipe during the procedure. It was determined that the sleeve modifications kept axial strains below the allowable levels.





In 2013 JCM partnered with Flowtite Pipe for further evaluation of these sleeves on this pipe. A FRPM style sleeve was furnished to Flowtite Pipe engineering group. Flowtite installed, tested and evaluated a JCM 24 x 8 GRP tapping sleeve with postive results.

Conclusions

Laboratory and field testing with contractors and pipe manufacturers, JCM has formulated the tapping sleeve design parameters tailored to accommodate the following characteristics of GRP:

- Decrease point loading and support the pipe wall
- Outlet gasket should provide a wide, positive sealing surface area on the pipe surface
- Sleeves should have a body gasket liner that more evenly distributes the load giving stability to the sleeve body to prevent slippage and protect the pipe surface
- External reinforcement of the bolting/lug section (gussets) - prevents toe-in of sleeve sections into the pipe wall during bolting compression and eliminates point loading
- Specific sleeve formation to accommodate pipe diameter and impede uneven pressure or spot loading
- Coating and hardware should provide corrosion resistance equal to pipe material to last the life of the pipeline

For a successful application, JCM and pipe manufacturers have determined that the following installation steps are strongly recommended.

- A tapping sleeve designed to accommodate GRP characteristics
- Proper blocking of the valve and sleeve per AWWA M-44 Manual recommendations
- Hand fed, sharp, diamond cutter - is on emethod to provide a smooth cut
- Inspection of pipe integrity and quality of the installation is the responsibility of the pipeline owner, contractor, or installer.

For additional information, contact JCM Industries at 800-527-8482 or 903-832-2581 or sales@jcmindustries.com

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