

NEW PRODUCT OF

FIBERSTRONG®

TESTABLE DOUBLE BELL COUPLING JOINT

RELIABILITY IN GLASS REINFORCED POLYESTER AND VINYLESTER PIPE SYSTEMS

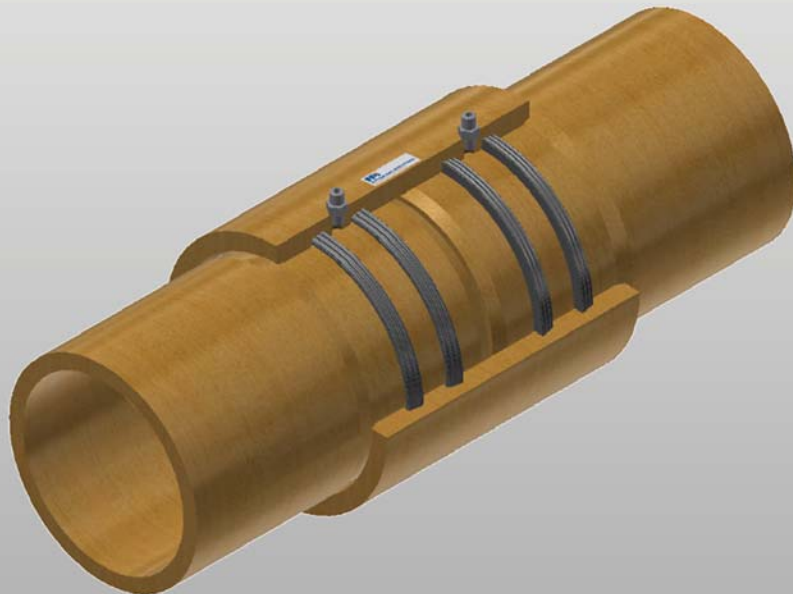
COUPLING JOINT:

Introducing a new double bell coupling joint system with additional REKA sealing rings and pressure taps enabling a more effective and efficient way to perform hydrostatic pressure test of installed non-restrained GRP piping joints. Salient features of this new product includes:

- Enables hydrostatic pressure test of full range of diameters at a much higher test pressure (maximum 12 bars).
- Testing can be done very easily by pressurizing the very small annular space in the joint using a hand operated pump

and connections provided on the coupler.

- Testing can be done from outside of the installed piping joint.
- Outperform the presently available internal joint tester that has limitations on pipe size and test pressure.
- Very economical since the leak tightness of every installed joint can be ensured with least effort and time and without the need for expensive test equipment.
- The second sealing REKA ring in the joint act as an additional barrier and provides extra assurance on the joint integrity throughout the service life of the pipeline.



The new product offers all the historical advantages of the coupler joint such as:

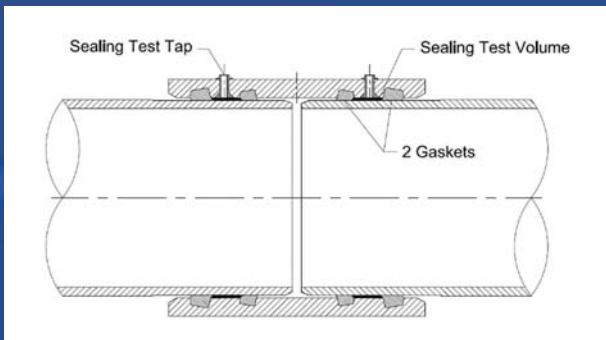
- Providing flexibility to the piping system from both sides of the joint.
- Not transferring axial loads across the joint.
- Ability to absorb relative rotation and lateral movement between pipes, thus providing protection against vertical and lateral settlements and seismic events.
- Function like an expansion joint, allowing angular deflection, draw and lateral offset.
- Suitable for use in buried, trenchless, sub-aqueous or exposed pipeline systems.

COUPLING JOINT ASSEMBLY AND TESTING GUIDELINES:

Double bell coupler joint assembly shall be done as per the standard installation guidelines, taking in to account the following additional assembly instructions.

JOINT ASSEMBLY:

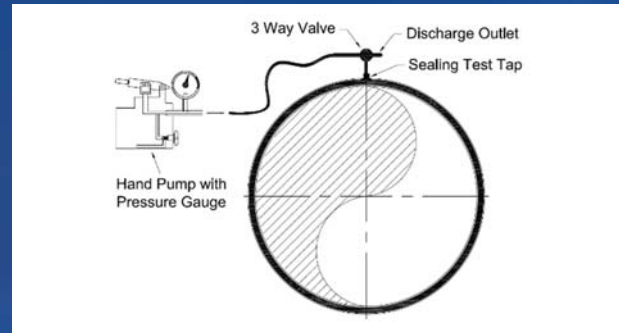
- Clean the grooves of the coupler and install REKA gaskets inside the grooves. Do not apply lubricant in the grooves while fixing the gaskets.



- Ensure uniform distribution of circumferential compression of the gaskets.
- At the start of the joint assembly, position the coupler such that one set of the pressure tap connection is exactly located at the pipe crown to facilitate removal of air during hydrotest.
- Install the coupling joint as per standard FPI installation guidelines.
- Joint to be installed and tested in straight alignment before applying the angular deflection.

TEST APPARATUS:

- Hand operated pump capable of gradually and continuously increasing the hydrostatic pressure up to the required level without exceeding it and able to hold it for the test duration.
- A calibrated pressure gauge with a range not exceeding 2 times the test pressure.



- A 3-way valve, hose, necessary fittings and accessories.

JOINT HYDROTEST:

- Make all the necessary connections for performing the hydrotest using the pressure taps provided on the GRP coupler.
- Fill the annular space between the pipe and coupler with water ensuring that no air is entrapped.
- Using the hand operated pump, increase the internal hydrostatic pressure gradually to the required level with a rate not exceeding 3 bar per minute.
- Hold the test pressure for 5 minutes.
- Check for any drop in pressure or signs of visible leakage from the joint.

ACCEPTANCE CRITERIA:

- Consider the joint passed the test if there is no drop in pressure and no visible sign of leakage from the joint.
- In case of a failure during the test, dis-assemble the joint and inspect the GRP components and sealing REKA rings. Replace the damaged rings, if any. Re-do the joint assembly and re-test.
- Repeat the hydrotest on the other side of the coupler. Alternatively, hydrotest on both sides of the coupler can be done simultaneously by using two separate pressure gauges and connections.
- After successful completion of the leak tightness test on both sides of the coupler, plug and close the pressure taps.

