Thin Wall Pipe Production

BESSER
an employee-owned company

A BREAKTHROUGH IN THIN WALL PRODUCTION

The roller-compacted process (BiDi®) continues to produce superior quality steel reinforced concrete pipe suitable for traditional thin wall spun pipe markets. Precise control over concrete production combines with the BiDi roller-compacted process to produce high quality, vertically cast thin wall pipe that exceed the requirements of the relevant thin wall standards.

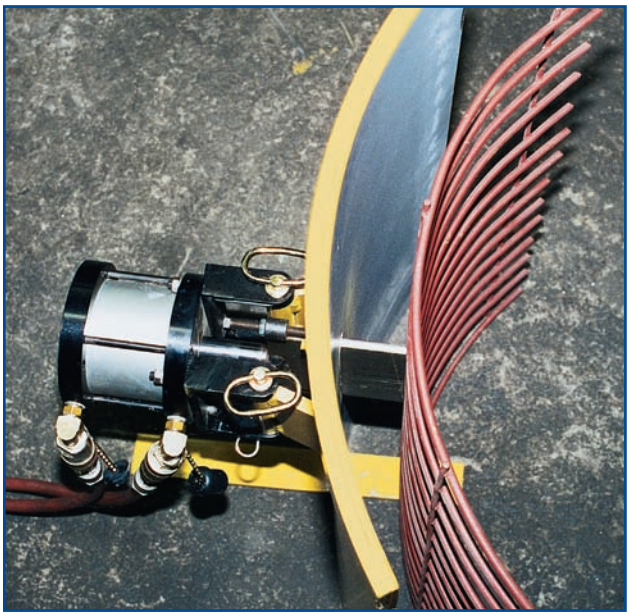
The BiDi® process produces steel reinforced concrete pipe suitable for traditional thin wall pipe markets.

The BiDi Process

The BiDi process is an automatic, precise operation. The Bidirectional pipe machine is controlled by Vision 2 automation, a solid-state electronic control system requiring no machine operator. The result is a high output of consistently superior quality pipe. The automatic process further ensures accurate dimensions on joints and trouble-free joint performance.

The proven roller-compacted process achieves high concrete compaction through use of a unique computer-controlled counter-rotating rollerhead and trowel. The action of the assembly eliminates torsional stresses in the green pipe and finishes internal bores to an exceptional standard. This ensures the finished product will meet worldwide thin wall pipe specifications including those from Australia, New Zealand and Japan. The BiDi process utilizes a low water/cement ratio concrete to produce pipe with high strength, low permeability and excellent abrasion resistance.

A recent production innovation is the introduction of patented form-mounted pneumatic cage positioners for proper placement of the steel reinforcing. Use of the cage positioners improves hydrostatic testing and overall pipe durability while eliminating the need for plastic and/or steel chairs to locate the cage. Thin wall pipe produced by the BiDi process have successfully passed all required D-load (external load) and hydrostatic tests, with absorption typically testing at 3-4 percent.



Form-mounted pneumatic cage positioners ensure proper placement of the steel reinforcing. Reinforcement spacers are not required.

The BiDi process uses a counter-rotating rollerhead and trowel to eliminate reinforcement stress or twist.

Cover: Bidirectional pipe machines are ideally suited for the production of steel reinforced concrete pipe for traditional thin wall pipe markets. Shown here is the Model A-36 Advantage machine with Vision 2 automation.

New Joint Concept

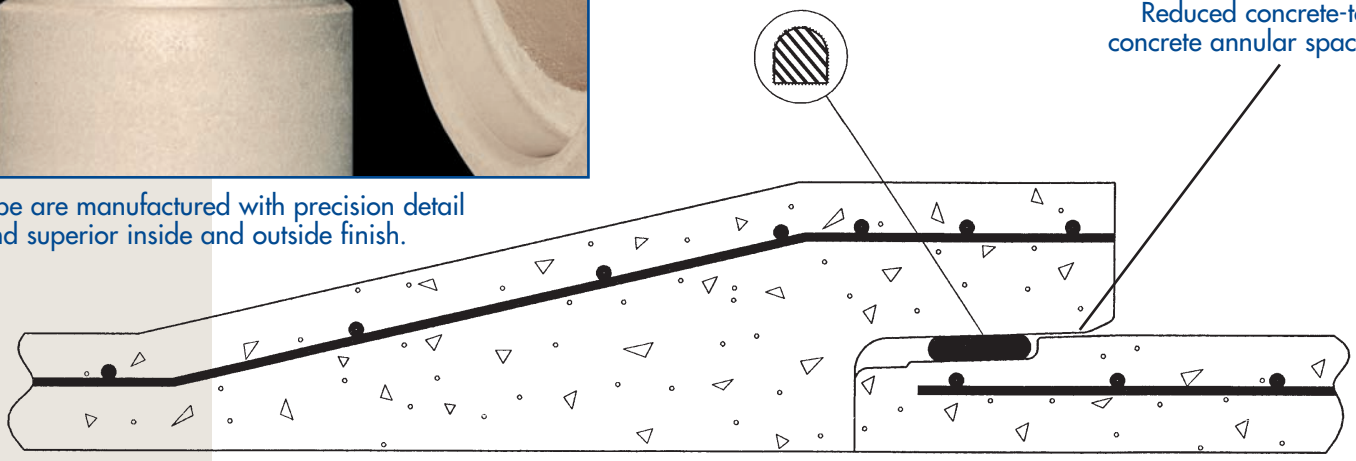
Besser has developed a new gasket joint concept for thin wall pipe that will accommodate several gasket designs. In particular, the design of the new D-gasket has virtually eliminated certain field installation problems as the gasket is easy to place on the pipe and requires no lubrication. The result is positive jointing with the joint and gasket remaining intact during and after installation in the trench. Other gasket designs for thin wall pipe include O-ring, teardrop and profile. Designs for flush joint pipe are also available.

Using the new gasket joint concept, the pipe is centered by minimal concrete-to-concrete annulus and no longer relies on the gasket for centering. The gasket remains circumferentially in place and under compression at all times, eliminating joint leaks.

Pipe made by the BiDi process will meet worldwide thin wall pipe specifications.

Pipe are manufactured with precision detail and superior inside and outside finish.

Excellent concrete compaction ensures durability and test performance.



Typical 300 mm thin wall joint with D-gasket.

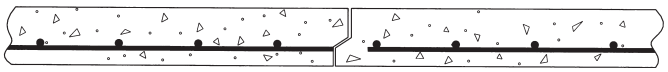
Features and Benefits

Using the Roller-Compacted Process (BiDi®) to Produce Superior Quality Vertically Cast Thin Wall Pipe

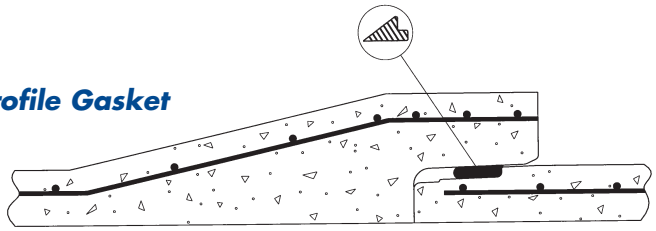
- ***Excellent Concrete Compaction*** for strength and performance
- ***High Production Output*** to allow producers to respond to market demands
- ***Automation*** for greater product consistency
- ***Precise Joint Details*** to ensure performance under all field conditions
- ***New Joint Design*** for ease of installation
- ***Superior Pipe Finish*** for improved hydraulics
- ***Material Savings*** from thin wall production capability
- ***No Reinforcement Spacers Required*** for improved test results and durability
- ***Environmentally Friendly Process*** for a cleaner workplace, reduced noise levels and elimination of slurry pits

Different Joint Designs to Meet Market Demands

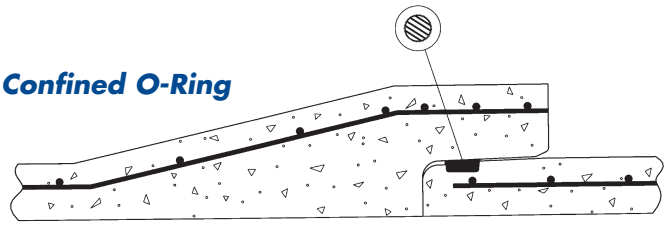
Flush Joint



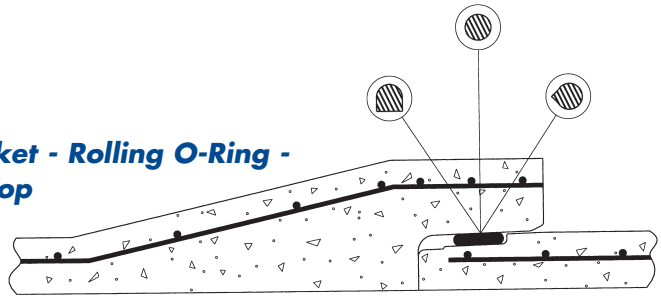
Profile Gasket



Confined O-Ring



D-Gasket - Rolling O-Ring - Teardrop



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