



Technical Support Sheet

RRJ Concrete Pipe Installation

Joint Gaps in Spun Rubber Ring Joint Concrete Pipe

Hynds Pipe Systems Ltd manufacture Precast Spun Concrete Pipe in accordance with AS/NZS4058:2007 - Precast concrete pipes (pressure and non-pressure). The pipes are marked with this Standard and compliance with this Standard is audited by Bureau Veritas.

Hynds Pipe Systems operates a registered AS/NZS ISO9001 quality control system which maintains manufacturing procedures, tests and inspections for Spun Concrete Pipe to AS/NZS4058:2007. Independent AS/NZS ISO9001 quality audits are performed by Telarc NZ Ltd.

Hynds Reinforced Concrete Pipes are individually inspected for correct joint tolerances with a sample hydrostatically tested to AS/NZS4058:2007.

Hynds Joint Design Requirements

The pipe joints have been designed to provide a seal up to 9 m of hydrostatic pressure and to allow:

- angular rotation of adjacent pipe lengths to accommodate axial bending,
- telescopic action of adjacent pipe lengths to accommodate axial movement,
- resistance against excessive radial shear, which could lead to seal failure and possible root penetration.

The above properties are achieved with the nominal joint gap as prescribed in Hynds Technical Guide D 1.1. Gaps of up to between 2 and 2.5 times the nominal value are acceptable when the joint has a rotation of up to 0.5 degrees, provided the joint has been correctly made.

Joint gaps exceeding these parameters (up to three times the prescribed joint gap) may still provide a hydraulic seal (with testing the only way of verifying this) and should not have a significant hydraulic effect on the flow through the pipeline.

Installation Requirements

The key requirement is that the pipes must be laid axially level and square to one another with the prescribed joint gap.

The pipes should not be laid to grade using the pipe invert, as the ID of pipes may vary by +10mm. If the pipes are laid trying to achieve a level invert, the joints may have to be deflected to accommodate the variation in ID.

In order to ensure that the joint gaps are maintained closer to the design requirements, the pipes should be laid using the target placed on the collar joint surface, which is identical on all pipes. This may result in small steps in the line due to the variations in ID which are unavoidable, but fall within the tolerances of AS/NZS4058:2007.

It is recommended that pipes are installed to AS/NZS 3725:2007 – Design for installation of buried concrete pipes.

Rings must be placed onto the pipe and then pinged to relax the ring to achieve an equal stretch in the rubber ring. If this is not done, variations of up to 3mm in the ring diameter may result, causing insufficient ring compression and a loss

of seal under pressure. This is standard practice for fitting rubber rings when laying concrete pipes.

Repair Procedure

In some instances it may be desirable to provide an additional seal to 'back up' the existing rubber ring. 'Repair Procedure for Wide Joint in Rubber Ring Jointed Concrete Pipe' details an acceptable method.

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The logo for Hynds Pipe Systems features the word "HYNDS" in a large, bold, sans-serif font. Below it, the words "PIPE SYSTEMS" are written in a smaller, all-caps, sans-serif font. A thick, black, curved line arches under the text, resembling a stylized pipe or a protective seal.