

BALL & SOCKET JOINT

Steel Pipeline Systems

BALL & SOCKET JOINT PIPE FOR POTABLE WATER, RAW WATER, AND SEWAGE RISING MAIN APPLICATIONS

Ball and Socket Joint (BSJ)

Sizes: 914mm to 2495mm OD

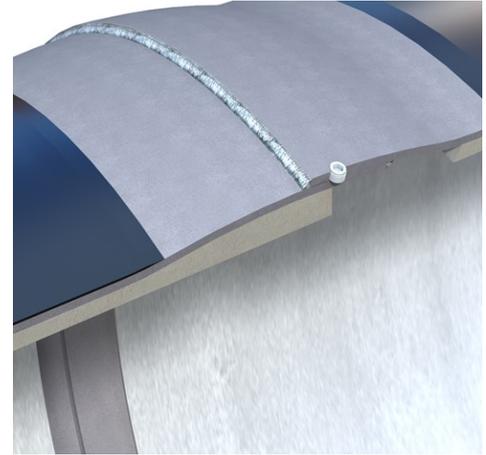
Joint deflection: 3° all sizes

Pressure rating: Full pipe pressure

Wall thickness: Up to 20mm

Advantages:

- Permits internal & external fillet weld for all sizes
- Enables pneumatic field testing of joint
- Full axial restraint - reducing requirement for concrete thrust restraint
- Minimises bends using joint deflection
- Compatible with BSJ fittings



APPLICATIONS

Ball & Socket joints are an external and internal fillet welded joint which provide 100% structural integrity. Suitable for both buried and above ground installations; they provide 3° of angular joint deflection on all sizes. They are primarily used for welded restraint in medium to large diameter pipelines; minimising bends using joint deflection, reducing the requirement for concrete thrust restraint.

CORROSION PROTECTION

External barrier protection is achieved with Sintakote® fusion bonded medium density polyethylene in thicknesses ranging from 1.8mm to 2.3mm dependant on pipe diameter.

Internally, a smooth, dense, centrifugally spun cement mortar lining provides active protection against corrosion.

JOINT CORROSION PROTECTION

External barrier protection of the weld portion is achieved by means of a heat shrink sleeve overlapping the bare steel and the transition to the external corrosion coating of Sintakote® fusion bonded medium density polyethylene.

Internal reinstatement of the bare welded steel area at the joint is achieved with Steel Mains Eziline. Eziline Mortar Mix is a high performance product specifically designed for use in reinstating the field joints and repair of Steel Mains cement mortar lined steel pipes and fittings. It is a complete system, including the primer and mortar materials.

BENEFITS OF BALL & SOCKET JOINTS

Joints can accommodate larger angular rotations up to 3° degrees in both horizontal and vertical plains for all diameters during construction.

Ball & Socket joints are rated at the full pipe calculated operating pressure in accordance with AS1579 (72% of Specified Minimum Yield Strength).

Field assembly for weld preparation is rapid—due to the ability to easily rotate line up the spigot and socket of the two pipe ends for fillet welding due to the Ball & Socket feature and the increased ring stiffness of the joint profile achieved during the forming process.

Ball & Socket joints permit a pneumatic test of the weld integrity in the field during construction.

SINTAKOTE®

Sintakote is a medium density black polyethylene coating applied directly to the steel pipe using a fusion bonding process.

Sintakote is ideally suited to below ground applications, including sub-sea installations such as the protection of tubular steel wharf piling.

With its excellent chemical and mechanical strength, Sintakote should provide a 100 year buried pipe design life when correctly installed. Sintakote is ideally suited to aggressive soils such as acid sulphate soils.

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CEMENT MORTAR & CALCIUM ALUMINATE LININGS

Cement Mortar Lining — Internally a smooth, dense, high radial acceleration centrifugally spun cement mortar lining provides active protection against corrosion. The high radial rotation and simultaneous vibration of Steel Mains cement mortar linings produces a very dense, smooth lining of extremely low permeability.

The dense cement actively protects the carbon steel due to the chemistry at the cement and steel interface. This is achieved by creating a high pH environment, typically pH12 at the steel-mortar interface. A passive film is formed at the surface that inhibits oxidation of the pipe surface.

Calcium Aluminate Cement Mortar Lining—this lining is used when conveying aggressive fluids in sewage and wastewater pipelines.



STANDARDS

Steel Mains Sintajoint pipe comply with :

- AS 1579 - Arc welded steel pipes and fittings for water and waste water
- AS4020 - Water contact approval
- AS/NZS 1594 - Hot rolled steel flat products
- AS4321 - Fusion bonded medium density polyethylene coating and linings for steel pipes
- AS1281 - Cement mortar lining of steel pipes

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