



The Indian Hume Pipe Co. Ltd.

PCCP

Introduces Internationally Acclaimed

PRESTRESSED CONCRETE CYLINDER PIPES (PCCP)

Proven Pipes for many decades of trouble free service for high pressure pumping & gravity mains



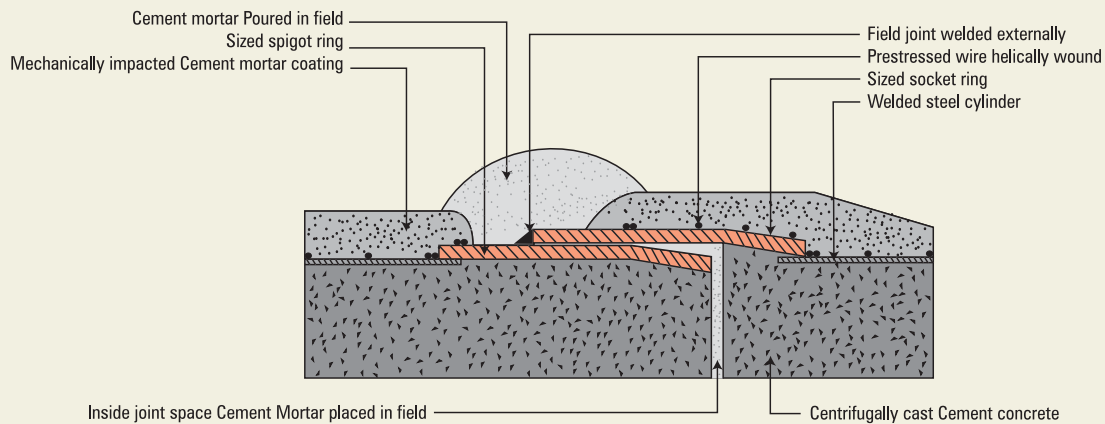
THE PIPE

A thin steel cylinder is fabricated and welded with thick steel joint rings at both the ends. The cylinder is then hydrostatically tested. Concrete is then centrifugally applied inside the cylinder which is called core of the pipe. After curing of core, high tensile (HT) wire is wound around the steel cylinder, bringing the core in compression. The steel cylinder and HT wires are covered with rich cement mortar with high impaction process.

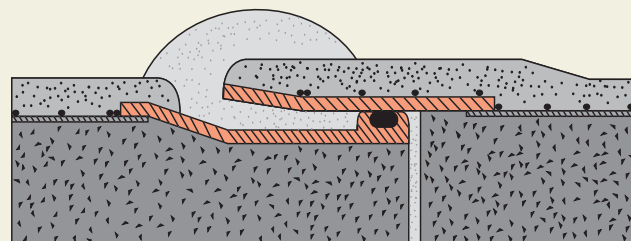


CHOICE OF JOINT

The joint rings are made of thicker steel plates. The field joints can be sliding overlap weld or confined rubber ring joints to suit the requirements of the client. The joints are so designed that they will be watertight under all service conditions.



SLIDING OVERLAP WELD JOINT



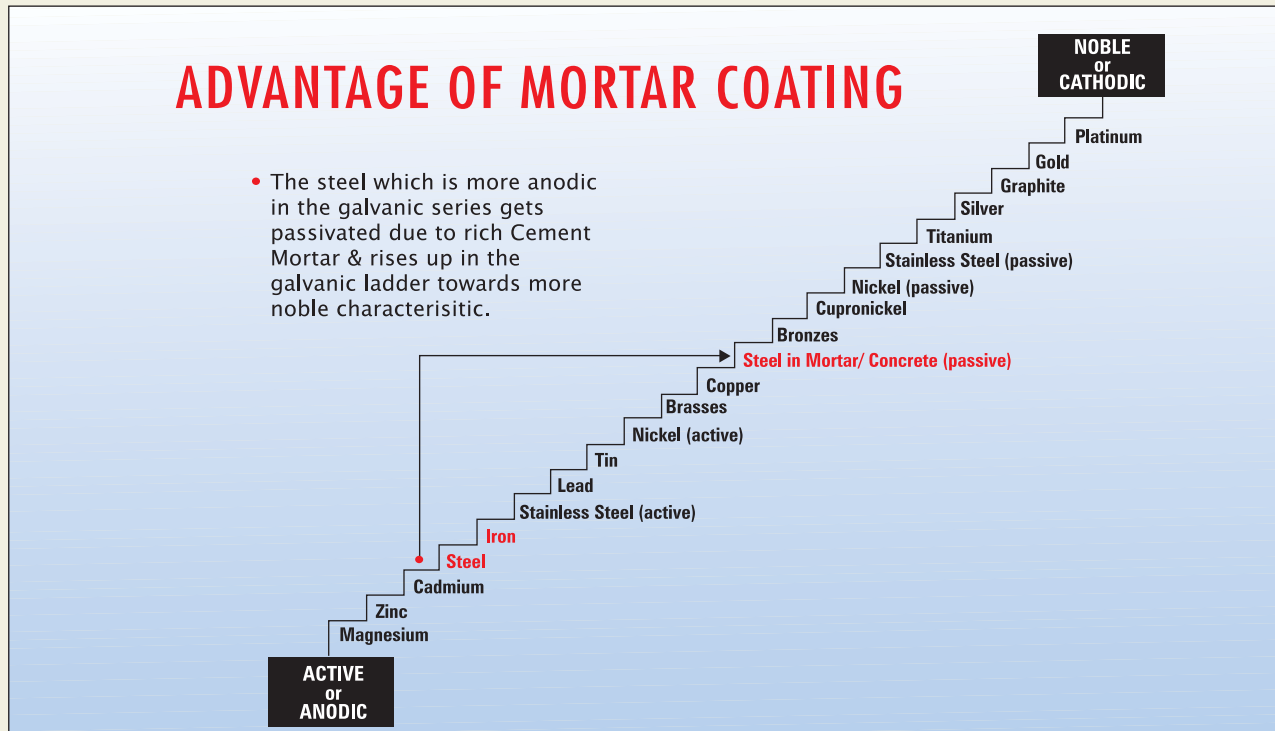
CONFINED RUBBER RING JOINT

EFFICIENT USE OF STEEL

Prestressed Concrete Cylinder pipe makes optimum use of concrete & steel. The composite action of steel cylinder, concrete core, H. T. wire and coating thereon makes the pipe rigid. Prestressed Concrete Cylinder pipe proves techno-economical as compared to metal pipes.

JOINT SPACE

The inner joint surface of the pipe is covered with rich cement mortar. The exterior joint is grouted by use of a wrapper strapped around the pipe and over the joint. The wet cement mortar grout is poured from one side of the opening at the top of the pipe until grout has advanced completely around the pipe.



MAINTENANCE

Survey made by AWWA in USA identified that there is hardly any maintenance required for Prestressed Concrete Cylinder pipelines.

EXTERNAL LOAD STRENGTH

Conventional steel pipes can deflect significantly under external loads as those are flexible pipes. Steel pipes depend upon the soil support on each side to resist horizontal deflection. To achieve proper compaction special equipments, careful supervision by the contractor and regular inspection by the owner are very much essential. This will result in substantial additional cost compared to prestressed Concrete Cylinder pipes which are rigid.

EXTERNAL MORTAR COATING

The external mortar coating of Prestressed Concrete Cylinder pipe is a rugged shield that protects the pipe and increases its strength and rigidity.

EXCELLENT FLOW CHARACTERISTICS

The interior surface of a prestressed Concrete Cylinder pipe is very smooth and corrosion free. The highly alkaline concrete protects the interior surface and prevents internal corrosion which is customary with Steel pipes. The spun concrete surface gives high 'C' value in H-W equation and reduces cost of pumping in rising mains.

CORROSION RESISTANCE

The cement mortar encasement maintains steel elements in a highly alkaline environment (pH of 12.5 or greater) in which galvanic corrosion is permanently inhibited.



The first Prestressed Concrete Cylinder pipeline laid in India for Tirupur WSS of M/s. New Tirupur Area Development Corporation, Tamilnadu consisting 1400 mm dia. x 16kg/cm² FTP, 12kg/cm² LTP for a length of 3.85 kms & 1200 mm dia. x 8kg/cm² FTP, 6kg/cm² LTP for a length of 2.65 kms.

ECONOMICAL FIRST COST

In most situations prestressed concrete cylinder pipes are substantially economical in comparison with conventional Steel pipes with protective cement mortar lining and outcoating as per IS:1916 and Ductile Iron pipes with mortar lining and proper coating outside.

TRACK RECORD

These pipes have given excellent service for water supply, irrigation and sewerage disposal for more than 60 years in the USA and Europe.

DIAMETER AND PRESSURE

These pipes can be made from 400 mm to 1800 mm diameter for working pressure upto 16 kg/cm² as per requirements. Bigger diameter pipes are also possible for large requirements. These pipes are manufactured conforming to IS : 784, Common European Standard EN-642 or American Water Works Association Standard AWWA C-301.

For further details/ demonstration contact



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