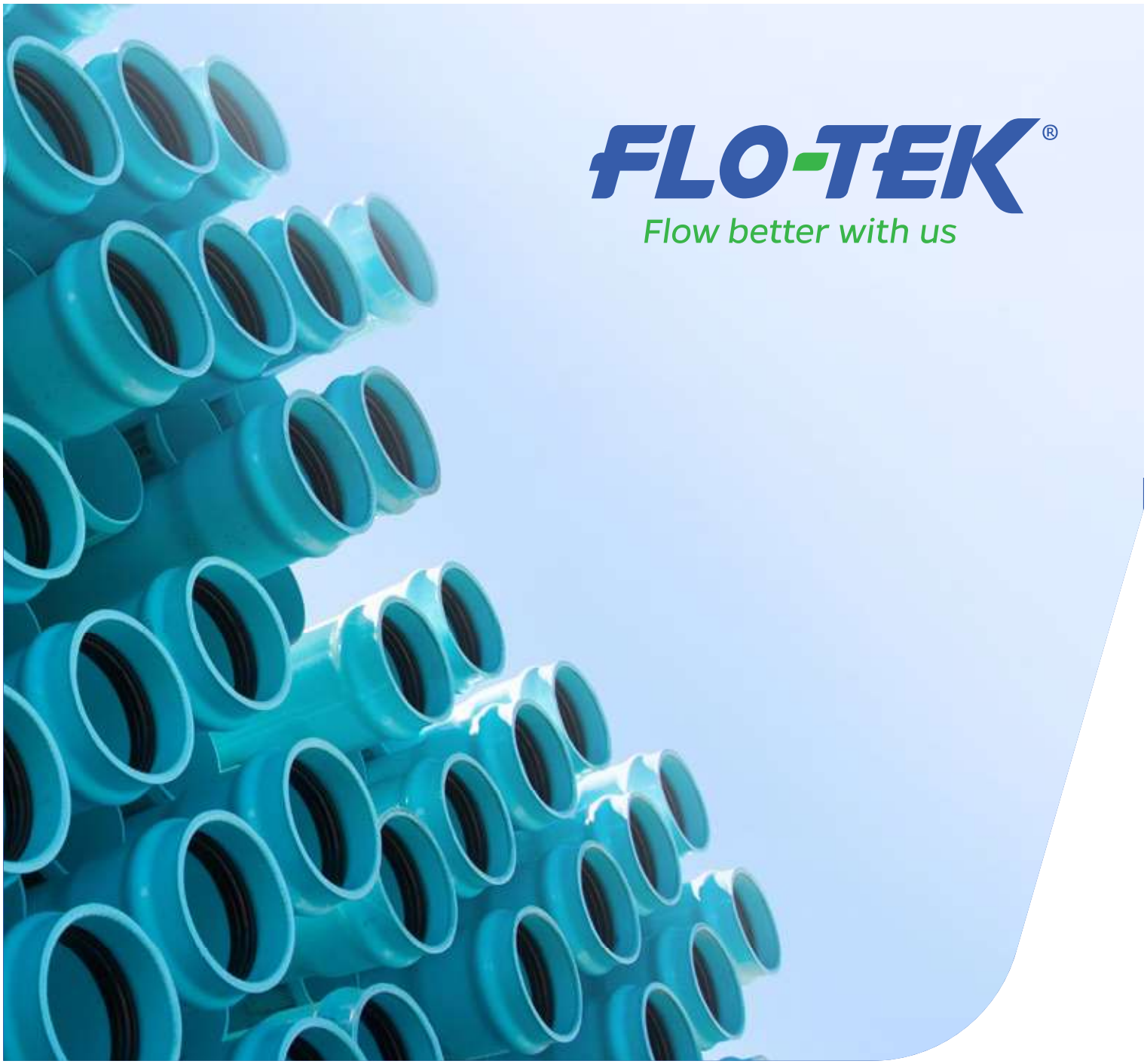

FLO-TEK®

Flow better with us

PVC *Pressure Pipes & Fittings*

UPVC | MPVC | High Impact |

FITTINGS & VALVES

Flo-Tek supplies a range of Cast Iron Valves and Fittings. They have corrosion protective coatings and are also used extensively by the water industry. These are usually of the socket ribber ring type as used on PVC or HDPE and flanged fittings. Viking Johnson fittings are also used for joining plain ended PVC pipes.

Valves Product Range

- Flanged Resilient Seated Gate Valve – SABS 664
- Socketed Resilient Seated Gate Valve – SABS 664
- Plain End Resilient Seated Gate Valve
- Manufactured Flanged Resilient Seated Gate Valve – PN16
- Flanged Wedge Gate Valve – PN16 – SABS 664
- Resilient Seated Gate Valve – Rising Spindle – SABS 665
- Wedge Gate Valve Industrial Pattern -Non Rising Spindle – PN 10
- Wedge Gate Valve Industrial Pattern – Rising Spindle – PN 10
- Shouldered Butterfly Valve – Rubber Lined Disc
- Shouldered Non Return Valve
- Shouldered Coupling
- Diaphragm Valve
- Butterfly Valve Wafer Nickel Plated Disc - PN16 Pinned
- Butterfly Valves Wafer Type 316SS Disc -PN16 Pinned
- Gearbox for Butterfly Valve Wafer type
- Butterfly Valve Wafer Type, 304 Stainless Steel Disc Pinned
- Butterfly Valve Wafer Type, 316SS disc, Pinless – PN25
- EPNS Butterfly Valves Wafer 316 Stainless Steel Body & Disc (Spline Shaft) PTFE Liner - PN16
- Double Eccentric Flanged Butterfly Valves
- Slurry Wafer Butterfly Valves
- Fire Hydrant Valves

Product Range

- Fittings Product Range
- Unequal Tee
- Scour Tee
- Equal Tee
- Flange Adaptor
- Reducing Socket
- Reducing Bush
- End Cap
- Repair Coupling
- Hydrant Tee
- Scour Tee

PVC FITTINGS

Flo-Tek supplies fabricated fittings suitable for irrigation, civil and agricultural industries. These fittings are fabricated from SABS approved 966-1 UPVC and 996-2 MPVC pipes.

A full range of fabricated UPVC and MPVC fittings is available in most sizes up to 315mm; these include tees, bends, hydrants, reducers, adaptors for joining to repaired AC pipes, etc. These fittings are made in two pressure classes, 9 and 16. We also have a range of Cast Iron fittings and Valves available.

JOINTING PROCEDURE

Rubber Ring Joints of Pipes

1. Check the spigot end of the pipe for correct chamfering (at an angle of approx. 15° and a half of the thickness). Ensure that the "depth of entry" mark is visible and that there are no burrs and damage present.
2. Wipe the spigot end clean.
3. Check the socket end of the pipe to ensure that the rubber ring is present and correctly fitted. Make sure that no dirt or mud is present.
4. Apply the thin film of lubricant evenly around the circumference of the spigot up to about half the distance to the "depth of entry" mark.
5. Lubricate the rubber ring sparingly.
6. Place the spigot end of the pipe into the socket so that it rests against the rubber ring.
7. Ensure the two pipes are correctly aligned both horizontally and vertically. Failure to do this could lead to the rubber ring being dislodged when the next step is carried out.
8. Push the spigot into the socket until the "depth of entry" mark is just visible at the end of the socket. It should not be necessary to use undue force — if this becomes necessary it is normally an indication that something is amiss and the joint making process should be started again.

Solvent Weld Joints of Pipes

It must be stressed that solvent cement jointing is a welding and not gluing process. It is important therefore that there is an interference-fit between the spigot and socket to be joined. Do not attempt to make a joint when an interference-fit between a dry spigot and socket is not achieved (ie. a rattle fit).

There are different types of solvent cement available for pressure pipes and for non-pressure applications. Make sure that the appropriate cement is being used. Do not dilute or add anything to the solvent cement.

Excellent solvent weld joints can be made to withstand high pressures, provided the correct welding procedure is followed.

Solvent Cement Joints of Pipes & Fittings

Assemble all the required fittings, pipes and equipment. For the best results, follow the jointing procedure below.

a. Make sure that the spigot has been cut square and that all burrs have been removed.

b. Mark the spigot with a pencil line (or similar) at a distance equal to the internal depth of the socket.

c. Check that, while dry, there is an interference fit between the spigot and the socket before the spigot reaches the full depth indicated by the pencil line.

d. Ensure that both the spigot and the socket are properly dry (not illustrated).

e. Degrease and clean both with an appropriate etch cleaner (not illustrated). This also acts as a primer first.

f. With a suitable brush apply a thin film of solvent cement to the internal surface of the socket. Then apply the solvent cement in a similar manner up to the mark on the spigot. Do not use excess solvent cement. The brush width should be such that the solvent cement can be applied to both surfaces within about 30 seconds.

g. Make the joint immediately. While inserting the spigot rotate it by about 90° and ensure that it is fully inserted up to the pencil mark, as there is a bead of excess solvent cement indicating the correct amount has been applied. Hold steady for at least 30 seconds. Mechanical assistance may be necessary for large pipes.

h. Wipe off any excess solvent cement with a clean rag.

i. Do not disturb for at least 5 minutes.

j. Do not apply pressure for at least 24 hours.

RUBBER RING TYPE INTEGRAL PIPE END SOCKETS

Laying, backfilling and Hydrostatic test pressure Requirements

1. At the level of the top of the pipes, the trench should be not less than the external diameter of the pipe plus 300 mm.
2. The bottom of the trench should be carefully leveled and cleared of any sharp edge sand stones. If this is not possible, apply suitable bedding material to a thickness of at least 100 mm over the bottom of the trench.
3. Only stable backfill materials should be used. In general, sands and fine gravels are the best materials.
4. If materials have been extracted from the trench which can be compacted sufficiently to fix the pipes properly in place, these may be used. This applies to sand, gravel, top soil and light soils.
5. Pipes should not be encased in concrete.
6. Correct assembly of the joint requires that the spigot end be chamfered and correctly lubricated prior to insertion into the socket
7. The spigot shall be inserted into the socket up to the reference (depth-of-entry) mark made by the manufacturer.
8. A confirmatory visual check of joints can be made on the bore of the pipe by using a lamp.
9. If the elastomeric sealing ring is not in place at the time of delivery, clean the groove, remove any foreign bodies and then locate the ring correctly in the groove.
10. After the pipe has been firmly and uniformly bedded, start backfilling the trench, up to the top level of the pipe, in layers of thickness not exceeding 100 mm. The same material should then be compacted in successive layers over the pipe until a thoroughly compacted layer of 300 mm above the pipe is achieved. Do not roll or use heavy mechanical compaction until at least 600 mm of material has been placed over the pipe.
11. Pressure test requirements stipulate that pressure testing should take place with the pipes only partially backfilled, leaving the joints open for inspection during the pressure testing procedures.
12. For large scale networks, the tests are done on sections of maximum length 500m.
13. Air vents at high points should be open during the filling of the network.
14. Pipes should be slowly filled with water starting from the lowest point to avoid any pressure surges (and water hammer).
15. The air in the system should be allowed to escape during the filling with water.
16. It should be ensured that no air is trapped in any part of the system.
17. The test pressure should normally be not more than 1½ times the maximum working pressure of the system.

Note: These are just guide lines. For detailed procedure please refer SANS 10112 (The installation of polyethylene and poly (vinyl chloride) (PVC-U and PVC-M) pipes). ***Please follow above points to achieve best result.***

STORAGE AND TRANSPORTATION

Storage

Pipes should be stored on level, flat ground, free of stones. They may be stored on timber supports of at least 75 mm width placed 1.5 metres apart with side supports. The height of pipe stacks should not exceed 1.5 metres.

All pipe stacks and stored fittings should be covered to avoid prolonged exposure to direct sunlight

PIPE SELECTION CRITERIA

PRESSURE & NON-PRESSURE PIPES

A very good description of the criteria which may be used for the selection of the various plastics pipes available for each application is given in the SAPPMA Technical Manual (Second Edition, March 2009) (1).

The section in the Technical Manual covers the following:

HYDRAULIC REQUIREMENTS

- Basic Principles
- Operating Pressure, Hoop Stress and Wall Thickness
- Surge and Fatique
- Factory Tests

EXTERNAL LOADS

- Design Basis
- Load Classification
- Pipe Stiffness
- Determining Required Pipe Stiffness
- Vertical Deflection

DURABILITY REQUIREMENTS SYSTEM COMPONENTS

- Secondary Loads
- Manholes
- Joints and Fittings
- Valves

PIPE INSTALLATION

An excellent section in the SAPPMA Manual covers the following on pipe installation procedures:

- Pre-construction Activities
- Excavation
- Embedment
- Pipe Laying and Jointing
- Backfilling
- Anchoring
- Support Spacing for Mine Pipes
- Support Spacing for Soil, Waste and Vent Pipes
- Site Tests

A COPY OF THE SAPPMA TECHNICAL MANUAL IS FREELY AVAILABLE FROM FLO-TEK PIPES AND IRRIGATION, EITHER IN HARD COPY OR ON CD. Please contact any of our Sales Offices or our Export Department.