



## Milltest Air Test Stoppers



### **Overview**

To hire or purchase, Allpipe Milltest pipe stoppers are an inflatable ring, with a central membrane and are designed for use on a standard pipe air test of 100mm of water over air. Light weight and easily transported when deflated, the Milltest pipe stoppers are ideal for passing through restricted openings.

All stoppers are provided as a pair, one test stopper and one blank end.

Milltest pipe stoppers are designed for fitting to all standard pipes from 300mm up and particularly ideal for concrete pipes where the inside circumference is not always true.

All sizes we supply inflate to 15p.s.i, using a foot pump or a compressor adaptor fitted with a pressure regulator to avoid over inflation.

### **Introduction**

This leaflet is intended to provide basic information for users of Allpipe Milltest Inflatable Pipe Stoppers. They are intended to be used when air testing for leaks in drains/sewer pipes to a standard air test of 100mm of water over air (0.14 p.s.i)

They are NOT intended for other purposes.

Stoppers are manufactured to fit exact pipe sizes and are only suitable for one size of pipe. Inflation is generally by a stirrup or footpump fitted with a pressure gauge, but for larger sizes (i.e above 675mm diameter) a compressor adapter inflator may be used.

### **Air Testing of Drains and Sewers**

Testing of drains and sewers is governed by the requirements of BS EN 752, Drain and sewer systems outside buildings. Similar requirements are also stated in Water Authorities Association publications.

Users are assumed to be familiar with the requirements of these standards.



## Sizes available and weights

Nominal Pipe Size	Weight
300mm	1.3kg
375mm	1.44kg
400mm	1.6kg
450mm	1.96kg
525mm	2.16kg
600mm	2.63kg
675mm	4.0kg
750mm	3.86kg
800mm	4.0kg
825mm	4.0kg
900mm	5.4kg
975mm	5.0kg
1000mm	5.8kg
1050mm	6.6kg
1200mm	7.8kg
1350mm	9.4kg

## Handling & Storage

All equipment should be handled carefully to prevent damage. Equipment should be kept clean and stored in a safe secure place. When storing stoppers, inflate to 3-4 p.s.i and lay flat in a cool place away from direct sunlight.

## Health & Safety Considerations (Risk Assessment)

Before any tests are applied, attention should be given to the safety of the operatives and other persons involved in the testing operation. If the work is being carried out in a confined space, suitable rescue equipment should be made available. It is essential that a proper means of access should be provided to the area of work, and the sides of any trench or excavation in which the works is to be carried out are adequately supported and free from hazards. The main hazard associated with the use of Pipestoppers is that of "blow-out" of the stopper from the pipe under excessive internal pressure. For this reason users are strongly advised to *ensure operatives keep clear of the plugged ends of the pipe. This applies to the remote ends of the pipe as well as the end at which pressure is being applied.*

## Pre-Installation Checks

- Inspect the pipeline for possible damage sustained during or subsequent to laying
- Clear the pipeline of any debris and flush out
- Check that all pipe joints have been correctly made
- If any cement mortar joints have been used, leave for at least 24 hours before testing to allow the mortar to set and reach adequate strength
- Thoroughly check all stoppers and equipment. Ensure that any rubber tubing used in connections is in good condition and not perished
- Check that the diameter of the stopper selected corresponds to the internal diameter of the pipe



- g) Check that the operating pressure will not exceed 0.14 p.s.i
- h) Clean the area of the pipe at the point of installation for both stoppers, always removing any sharp protrusions to avoid punctures. Note: Concrete pipes may require the installation point areas to be cleaned of any irregular surfaces to ensure a good seal. If necessary, due to some concrete surfaces being porous, the area should be painted to create a good seal

## Method of Installation

- a) Wash the cleaned area of the pipe with clean water
- b) Ensure the stopper is inserted square to the pipe wall
- c) Connect the air supply, either the stirrup pump/footpump or compressor controller to the tyre inflator valve "A" on the outer inflatable rim of the stopper
- d) Partially inflate the stopper until it has taken shape
- e) Re-check the stopper is square to the pipe
- f) Inflate the stopper until it is a tight fit inside the pipe. This is normally achieved at between 10 – 15 p.s.i, *NEVER inflate stoppers in excess of 15 p.s.i. TAKE GREAT CARE WHEN USING THE COMPRESSOR CONTROLLER NOT TO INFLATE STOPPERS IN EXCESS OF 15 p.s.i*
- g) Disconnect the air supply and using soapy water check the valve does not leak air
- h) Repeat these operations for the other stopper

## Air Test Procedure to a pressure of 100mm water gauge (0.14 p.s.i)

*Note: A water test cannot be carried out using the Milltest Stoppers*

- a) When all stoppers are in position and the ends of the pipes and any junction pipes are sealed, fit the rubber hose from the U Gauge with water to the zero level
- b) Fill the U Gauge with water to the zero level
- c) Connect the air supply, either the stirrup pump/footpump or compressor controller to the tyre valve connector "C" in the centre of the test stopper and carefully pump air into the system until the water reaches slightly more than 100mm on the open side of the gauge. **TAKE GREAT CARE WHEN USING THE COMPRESSOR CONTROLLER TO PRESSURE THE SYSTEM.** Allow 5 minutes for stabilization of air temperature. Adjust the air pressure to 100mm of water. Disconnect the air supply from valve "C"
- d) Using soapy water check that valve "C" does not leak

*Note: In order to pass the air test, the air pressure should not fall to less than 75mm (3") during a period of 5 minutes without further pumping allowing a suitable time for stabilization of the air temperature*

## Removal of a stopper

- a) Remove rubber hose from valve "B"
- b) Deflate outer rim of stopper by depressing centre of valve "A"
- c) When the stopper is loose in the pipe remove it carefully taking care not to damage the inflatable rim
- d) Repeat steps b) and c) for the other stopper



## Factors affecting the test

There are several contributory factors that could affect the apparent failure of the air test. These include:

- a) Temperature changes of the air in the pipe due to direct sunshine or cold wind acting on the pipe barrel
- b) Dryness of the pipe wall
- c) Leaking stoppers or other apparatus. If there is a dramatic fall in the pressure then either the pipe is faulty or the stoppers or other apparatus are leaking. Check all pipe joints, pipe to stopper rim, stopper valves and tube connections with a soap sud solution applied by brush to pin-point any leaks

## Do's and Don'ts

Do:

- ✓ Take great care when using the compressor controller to inflate the stoppers or pressurize the pipeline
- ✓ Clean the area of pipe to receive the stoppers
- ✓ Check valves do not leak by using soapy water
- ✓ Use and store stoppers out of direct sunlight
- ✓ Use valve caps to prevent dirt entering valves

Don't:

- ✗ Inflate stoppers in excess of 15 p.s.i
- ✗ Inflate stoppers over sharp protrusions
- ✗ Use in direct strong sunlight
- ✗ Try to use stoppers for high pressure tests