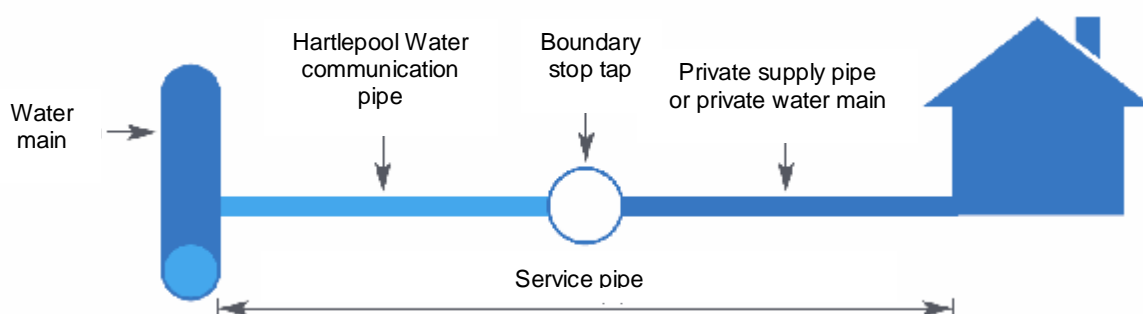


Disinfection, pressure testing and commissioning of private supply pipes and private mains

In order to safeguard water quality and public health, it is a requirement that all private supply pipes and private mains falling into any of the following categories are disinfected and tested as detailed below, before a connections is allowed to the existing public water supply.

- Service pipes between 32mm outside diameter and 63mm outside diameter and greater than 100m in length.
- Any pipe greater than 63mm outside diameter.
- Any pipe where there has been any ingress such as flood water, sewage, etc., either during the laying or storage of pipework.

1. Schematic



2. Definitions

Private supply pipe	The pipe between the boundary of the property or boundary stop tap and the property. This pipe is not part of Hartlepool Water's infrastructure and is the responsibility of the customer.
Private main	A water main supplying premises beyond the boundary or beyond the water meter or stop-tap. This pipe is not part of Hartlepool Water's infrastructure and is the responsibility of the customer.
Hartlepool Water communication pipe	The pipe between the boundary of the property or boundary stop tap and the water main. This pipe is part of Hartlepool Water's infrastructure and is often referred to as the communication pipe.
Service pipe	The service pipe is the complete length between the water main and the property and incorporates both the communication pipe and the supply pipe.

3. Procedures required prior to connection

Description of installation	Method of commissioning
Pipes are greater than or equal to 25mm internal diameter (greater than or equal to 32mm OD) and less than or equal to 50mm internal diameter (less than or equal to 63mm OD) and are greater than 100m in length.	Flush/swab, disinfect, bacteriological test. (Swabbing is not appropriate for pipes less than 50mm bore)
Any pipe greater than 50mm internal diameter (greater than 63 mm OD).	Flush/swab, disinfect, pressure test (if jointed in any way), bacteriological test.

4. Procedure descriptions

Name of procedure	Description of procedure
Flush/swab	All debris and dirt must be removed from the pipe. Flushing at least two pipe volumes to waste, at sufficient flow to lift all sediment, can do this. Heavy sediment/dirt may require mechanical cleaning by forcing chlorinated swabs through the pipe before flushing.
Disinfect	The pipe should be dosed to 50mg/l of free chlorine and then held for one hour. The residual at the end of this period should be at least 45mg/l. The pipe should then be flushed clear of all highly chlorinated water as above. All highly chlorinated water must be de-chlorinated before discharge. The flushing point must be left for subsequent Hartlepool Water use during connections. The chlorinated pipe must be capped (fusion or compression) at both ends after testing. The date of disinfection must be recorded with the Bacteriological Test results (see below). If a disinfectant other than chlorine is used it must be listed in the Drinking Water Inspectorate's List of approved Products and Processes. Disinfection will be in accordance with the manufacturer's specifications and flushing must ensure removal of the disinfecting chemical.
Bacteriological test	This is a sample of water taken from a clean sample tap at the end of the pipe, the diameter and length of which must be recorded . A pre-prepared sample bottle, specifically designed for this purpose, must be used. Dated chlorine residuals (free and total) must be recorded at the time of sampling and should be numeric mg/l values, to at least one decimal place. The use of 'greater than' or 'less than' approximations will not be accepted. The sample tap must be left for subsequent Hartlepool Water use during connections. The bacteriological sample should be analysed and reported for total coliforms per 100ml, total E. coli per 100ml and 48-hour plate count (also known as total visible count or TVC) at 37°C . The analysis should be carried out at laboratory accredited for these tests. Unsatisfactory result for any of these tests will need the installation to be flushed, re-disinfected and further samples taken.
Pressure test	The test procedure for any MDPE/HPPE pipe should be 1.5 times the working pressure of the pipe. For example, if the pipe the customer has laid is SDR 17, rated at 8 bar, the test pressure should be 12 bar. If the pipe is rated at 10 bar the test pressure will need to be 15 bar. This applies to both water mains and service pipes. The pressure test must be in accordance with the Water Research Council test method Type 2 or Type 1. All necessary safety precautions must be taken when pressure testing pipes.

It is important to be aware of the restrictions faced when undergoing disinfecting and testing procedures. **Once a pipe has had a bacteriological sample taken (which subsequently passes and is approved by Hartlepool Water) it must be either connected to the mains system, or flushed within seven days.** If only flushing is carried out, the pipe must then be connected in a further seven days or it must be re-chlorinated, sampled and the time period restarts.

For this reason it is essential that Developers liaise with Hartlepool Water to plan these processes, otherwise the connection may not be available before the sample results expire. Hartlepool Water will not connect a supply pipe until Hartlepool Water has approved all test results.

5. Information required by Hartlepool Water

The following table details the minimum information required by Hartlepool Water in order to progress your connection. It is important that laboratory reports and test certificates are sent to Hartlepool Water and not a 'Certificate of Conformance'.

Disinfect	Bacteriological test	Pressure test
<ul style="list-style-type: none"> • Pipe length (m) • Pipe diameter (mm) • Flush time (mins) • Flush rate (litres/minute) • Disinfection dose (mg/l) • Standing time (hr) • Residual at end of disinfection time (mg/l) • Flush time to clear chlorinated water (hr) • Residual after flushing (mg/l) • Date of disinfection • Disinfectant used • Confirmation that pipe was capped after disinfection • Company who carried out disinfection 	<ul style="list-style-type: none"> • Total chlorine (mg/l) recorded at time of sampling • Free chlorine (mg/l) recorded at time of sampling • Total coliforms per 100ml • Total E. coli per 100ml • 48-hour plate count at 37°C (also known as total viable count or TVC) • Name of laboratory carrying out test 	<ul style="list-style-type: none"> • Rating of pipe (bar) • Test pressure (bar) • Length of test (hr) • Pressure lost during test (bar) • Company who carried out pressure test

The tests referred to should be in accordance with this leaflet, BS 6700:2006 and the Water Supply (Water Fittings) Regulations 1999.

Hartlepool Water reserves the right to ask for additional samples and testing prior to a connection being completed if circumstances relating to a connection are identified that could impact future water quality and public health.

If you have any further queries or require further information, please email enquiries@hartlepoolwater.co.uk