TERRAIN

Air Pressure Test to comply with BS EN 12056-2

Technical Bulletin

Bulletin 6 2017 P1

We are frequently asked about the test procedure for testing a drainage system post installation in preparation of commissioning. There may be requests from project designers to go beyond the requirements set out within BS EN 12056-2:2000.

This document however, will look at the ways of performing an air test to the information stated within this British Standard.

Testing an installation is important to ensure that the Terrain drainage system you have installed is going to perform for the lifetime of the building. These test procedures are the same for Terrain Solvent, Terrain Push-Fit, Terrain FUZE HDPE and Terrain Acoustic dB12.

Terrain Push-fit

Terrain Acoustic dB12

Terrain Solvent

Terrain FUZE HDPE

The illustrations within the next two pages show the equipment required and how this is set up for testing a drainage stack. This document illustrates a single floor being tested, however it is also possible to test multiple floors of the same stack in one go. Whilst performing this test with appliances attached it is important to ensure that any traps connected to the system are filled with water.

Polypipe Terrain, New Hythe Business Park, College Road, Aylesford, Kent ME20 7PJ
Tel: +44 (0)1622 795200 Fax: +44 (0)1622 795263 Email: commercialenquiries@polypipe.com
www.polypipe.com/terrain

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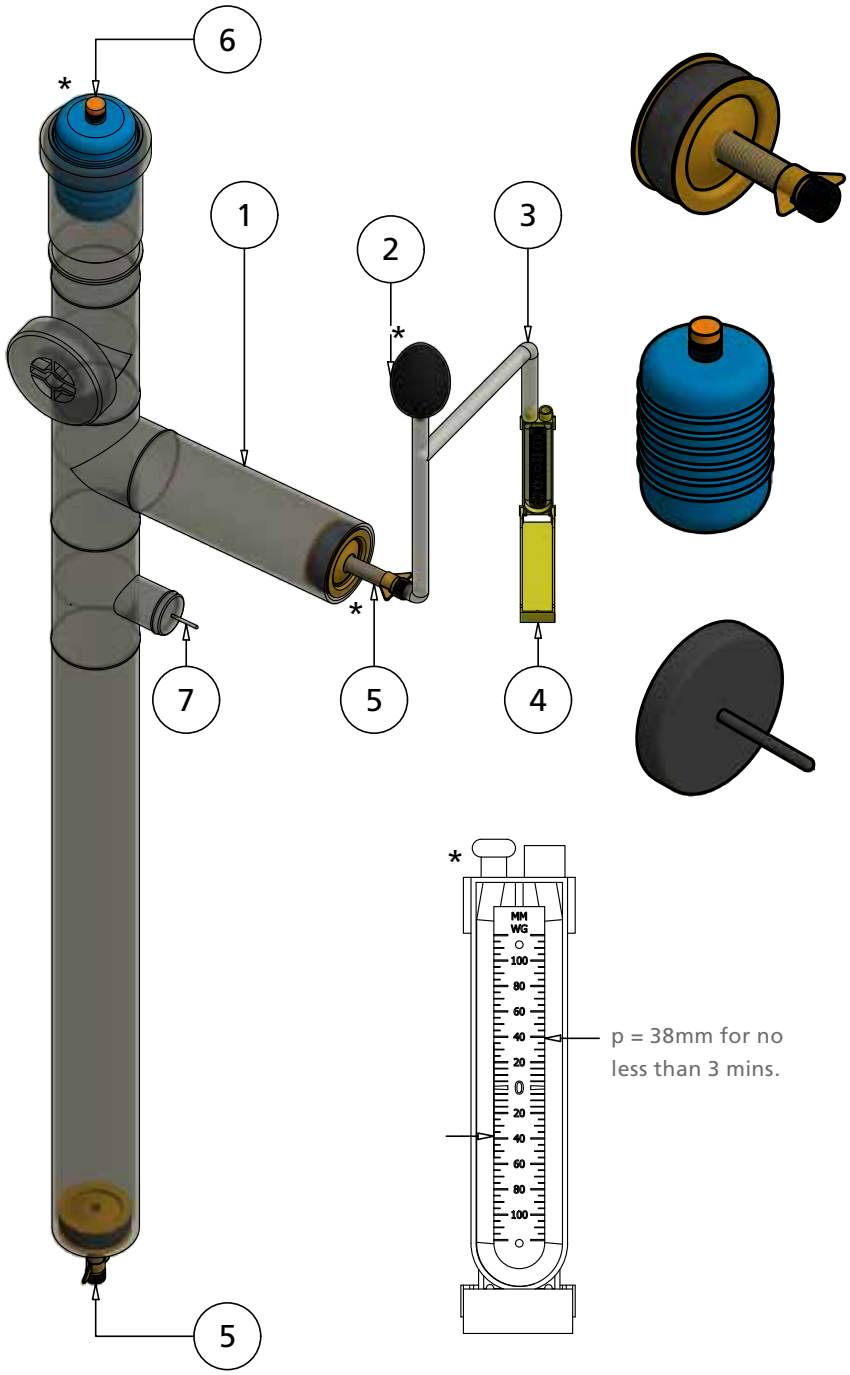
For testing a stack without any connections



Screwed Test Plug

- Blank or open
- For use in pipe ends
- Manufactured and supplied by others

Air Bag

- Blank
- For use in access pipe/ expansion socket/pipe ends
- Manufactured and supplied by others

930 Weld on Cap

- Blank or open
- For use in pipe ends

p = 38mm for no less than 3 mins.

KEY	
NO.	PART
1	Pipework to test
2	Bellow
3	Hose
4	U-Gauge (should read 38mm)
5	Screwed Test Plug
6	Air Bag
7	930 weld on caps

Note: *For accurate readings, please ensure equipment is regularly checked.

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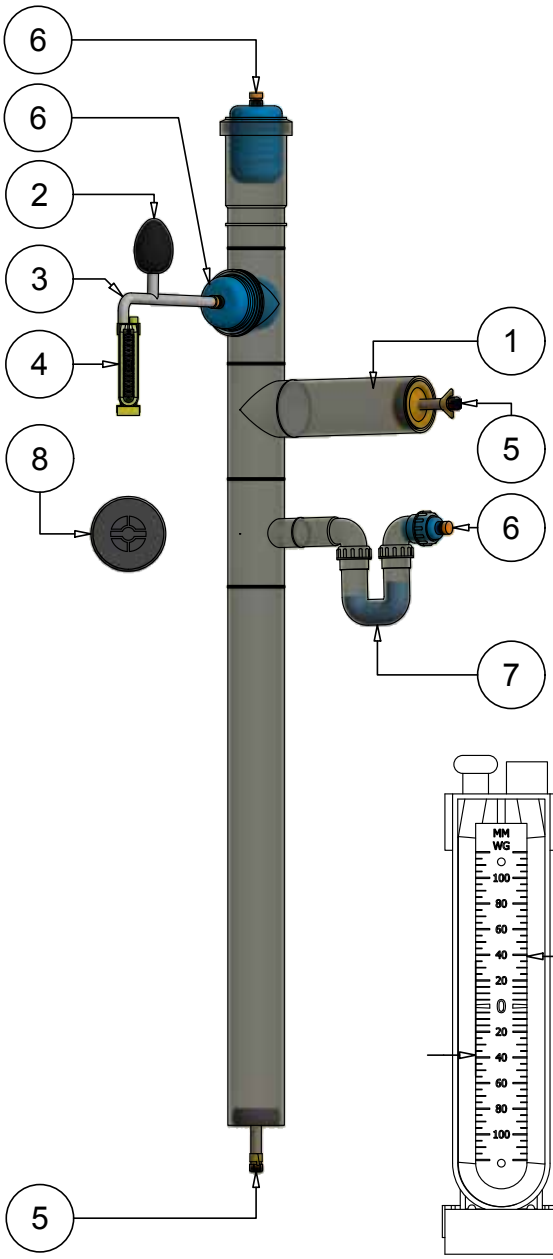
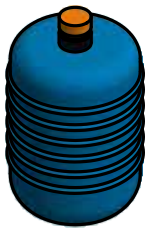
For testing a stack with connections



p = 38mm for no less than 3 mins.

Screwed Test Plug

- Blank or open
- For use in pipe ends
- Manufactured and supplied by others



Air Bag

- Blank
- For use in access pipe/ expansion socket/pipe ends
- Manufactured and supplied by others

Traps must be filled with water to ensure there is positive pressure within the system to seal the waste inlet.

KEY	
NO.	PART
1	Pipework to test
2	Bellow
3	Hose
4	U-Gauge (should read 38mm)
5	Screwed Test Plug
6	Air Bag
7	Trap (must be filled with water)
8	Screwed End Cap (for access door)

Note: *For accurate readings, please ensure equipment is regularly checked.

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What it states in BS EN 12056-2: 2000 (Annex NG.3.1)

NG.3 Testing

NG.3.1 Air test

Note: Normally this test is carried out to confirm that all pipes and fittings are airtight. It should be completed in one operation but for large multi-storey systems testing in sections may be necessary.

NG.3.1.1 Preparation

The water seals of sanitary appliances should be fully charged and test plugs or bags inserted into the open ends of the pipework to be tested. To ensure that there is a satisfactory air seal at the base of the stack, or at the lowest plug or bag in the stack if only a section of the pipework is to be tested, a small quantity of water sufficient to cover the plug or bag can be allowed to enter the system. One of the remaining test plugs should be fitted with a tee piece, with a cock on each branch, and one branch being connected by means of a flexible tube to a manometer.

Alternatively, a flexible tube from a tee piece fitted with cocks on its other two branches can be passed through the water seal of a sanitary appliance. Any water trapped in this tube should be removed and then a manometer can be connected to one of the branches.

NG.3.1.2 Application

Air is pumped into the system through the other branch of the tee piece until a pressure equal to 38 mm water gauge is obtained. The air inlet cock is then closed and pressure in the system should remain constant for a period of not less than 3 min.

NG.3.1.3 Leak location

Note: Defects revealed by an air test may be located by the methods given in NG.3.1.3.1, NG.3.1.3.2 and NG.3.1.3.3.

NG.3.1.3.1 Smoke

A smoke producing machine may be used which will introduce smoke under any pressure into the defective pipework.

Leakage may be observed as the smoke escapes. Smoke cartridges containing special chemicals should be used with caution, taking care that the ignited cartridge is not in direct contact with the pipework and that the products of combustion do not have a harmful effect upon the materials used for the discharge pipe system. Smoke testing of plastics pipework should be avoided due to naphtha having a detrimental effect, particularly on ABS, PVCu and MUPVC. Rubber jointing components can also be adversely affected.

NG.3.1.3.2 Soap solution

With the pipework subject to an internal pressure using the smoke machine method as described in NG.3.1.3.1, a soap solution can be applied to the pipes and joints. Leakage can be detected by the formation of bubbles.

NG.3.1.3.3 Water test

There is no justification for a water test to be applied to the whole of the plumbing system. The part of the system mainly at risk is that below the lowest sanitary appliance, and this may be tested by inserting a test plug in the lower end of the pipe and filling the pipe with water up to the flood level of the lowest sanitary appliance, provided that the static head does not exceed 6 m.

Note: *For accurate readings, please ensure equipment is regularly checked.

TECHNICAL WORKSHOP

Contact Us
to find out about our Technical Workshop

Look out for our next bulletin coming in November

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