

WRAS WFR UPDATE

Water Regulations Advisory Scheme

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WFR UPDATE

What's this then....? A quarterly newsletter to publicise issues relating to the Water Fittings Regulations and Byelaws, Water Supply Industry interpretations and work done by WRAS.

Who's it for.....? intended for anyone with an interest in the Water Fittings Regulations and Scottish Byelaws,

To receive a copy directly or to send feedback comments, contact newsletter@wras.co.uk.

INTERPRETATIONS

Meeting in May, the WRAS Technical Committee agreed some interpretations of the Regulations on topics raised by the Water Suppliers, their customers or others.

Supply pipes in cemeteries and graveyards:

To minimise the risk of ingress, a supply pipe in a cemetery or graveyard should have as few joints or connections as possible and should be located away from graves. Whole-site backflow protection is not required unless a specific risk assessment shows a need.

Backup supplies for grey-water systems:

A method was accepted of supplying back-up mains water to a WC running on grey-water or rainwater, without a separate header cistern (Fig 1), by using two float valves to create a Type AB air gap in the cistern.

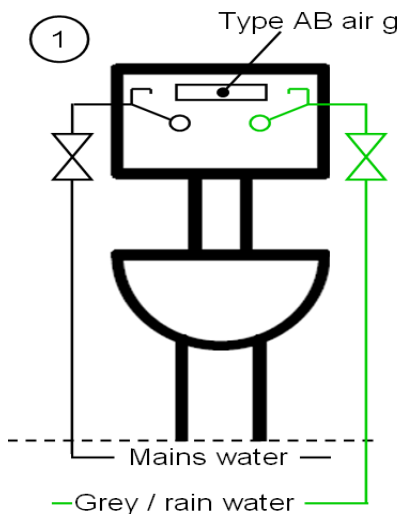


Fig 1: Arrangement for back-up mains supply to WC receiving grey-water or rainwater

Use of Type DC devices (pipe interrupters) and air breaks-to-drain on laboratory taps:

Air break-to-drain and DC devices are permitted on laboratory taps for point-of-use backflow protection to fluid category 5. However users should be made aware that these devices cannot have a restriction which causes back pressure on the outlet hose, and that the hose outlet should not be raised above the level of the air vent in the device, otherwise the backflow protection will be compromised.

There were some concerns that because compromise of these devices is widespread, they shouldn't be permitted anywhere in laboratories. The Committee decided if these devices are found being used in individual premises in a manner which doesn't comply, the Water Supplier can require alternative means of backflow protection at the point of use in those premises.

Where the consequence of a backflow incident would be especially serious because of the nature of the substances handled in specific laboratories, a risk assessment should be made to decide whether zone or whole-site protection is required in addition to point-of-use protection of the lab taps.

Urinals and the "Hygienic flush"

Some automatic urinal flushing controllers incorporate a flushing cycle which operates 'out-of-hours' when the toilets are not being used. This is supposedly to keep the urinal trap filled and to maintain hygienic conditions (reduce odour and blockage of the waste trap), but the Technical Committee didn't accept the need for a hygienic flush. It was agreed that the Water Industry should ask Defra to prohibit the hygienic flush when the Regulations were reviewed. In the mean time it was recommended that the water industry should discourage the practice.

REPAIRS TO LEAD PIPES

Repairs to leaking lead supply pipes made by cutting in **new** lead pipe are prohibited under Schedule 2(2) of the Regulations and Guidance G2.1. Customers are encouraged to replace their lead services, in line with recommendations of the Department of Health to lower the general exposure of people to lead from any source. However, Water Suppliers cannot use enforcement of the Water Fittings Regulations to demand lead pipe replacement unless the lead concentration in drinking water is so high that the water is considered to be contaminated.

If the pipes were originally legally installed in accordance with the byelaws in force at the time, repairs are permitted. The Technical Committee agreed that lead pipe could be repaired using lead free solder, but this would only be acceptable where the damage was restricted to a small area on pipes above ground inside buildings.

An alternative repair method, where appropriate, is to use a pipe repair clamp with suitable approved material in contact with the water.

For more extensive damage, the leaking pipe-work could be cut out and replaced with a different pipe material such as polythene, giving due regard to continuity of electrical earthing if the supply pipe has been used for this purpose. Customers should be made aware that repairs, especially those exposing the water to a fresh-cut lead surface, may temporarily give raised lead concentrations if water stands in the pipe for more than a few minutes. So, before each use for drawing water for drinking or cooking, repaired pipes should be flushed to remove the standing water. This needs to be kept up for several months after the repair, until the lead surface exposed to the water has had time to form a coating which reduces the amount of lead which dissolves.

WATER INDUSTRY PROSECUTIONS

'Case law: 'likely to contaminate'

In April 2009 **Bristol Water** prosecuted a Somerset farmer for lack of fluid category 5 backflow prevention devices on hose taps and an udder washer in his dairy farm. The farmer claimed that as he didn't currently use hoses attached to the taps, they complied because there was an adequate air-gap beneath them. Magistrates agreed with Bristol Water that as they were hose union taps designed to take hoses, the taps were likely to be used that way and they fined him £500 on each of 6 counts, with £6000 costs.



The farmer appealed to the High Court about the Magistrates' interpretation of Regulation 3(2)(i),:

"No water fitting shall be installed, connected, arranged or used in such a manner that it causes or is likely to cause waste, misuse, undue consumption or contamination of water supplied by a water undertaker" claiming that the word 'likely' meant 'probable' and not 'a real possibility'.

The High Court said the term has to be interpreted taking account of the purpose and context of the Regulations, and upheld the Magistrates interpretation. The High Court's decision helps to clarify the interpretation of the term "likely" in the context of a number of laws.

Leaking WC overflow

A Water Supplier successfully prosecuted a householder under the Water Industry Act (S73) and the Water Fittings Regulations for waste of water and failure to maintain water fittings, as a result of persistent leakage from a WC overflow. Fines of £350 and costs of £355 were imposed - an expensive float valve washer!

WRAS APPROVALS

So far in 2010 WRAS has approved 275 water fittings and over 100 non-metallic materials. The on-line Water Fittings and Materials Directory (www.wras.co.uk/directory) is updated with details of the latest products within two weeks of each meeting of the Product Assessment Group (PAG).

Delays in WRAS Approval

Usually it's only in the few hectic days before each Product Assessment Group meeting that WRAS Approvals staff receive the F2 Application forms for Fittings Approval from the test laboratories. They have to check the details are complete and correct. Anything which is missing or wrong has to be queried with the test laboratory or the Applicant and sorted out before the meeting, otherwise the application is deferred to a later meeting.

The most common reasons for queries are:

- Items shown in schematic diagrams of the product don't match those in the schedule of materials;
- Expired WRAS approval numbers are quoted for components or materials;
- Details of materials in contact with water are not declared;
- The Manufacturer is declared as the Factor and vice versa;
- Details prepared for the entry in the Water Fittings and Materials Directory are not consistent with those in the F2 application form;
- Incorrect description of the product.

Test laboratories are working with WRAS to improve the quality of the F2 Approval forms they submit. Applicants

can help to speed up the approval process by ensuring the information they provide is complete, accurate and up-to-date, and by responding as quickly as possible to any queries raised before the PAG meetings.

NHS ACTION ON EPDM FLEXIBLE HOSES

Advice already issued in Scotland was extended to England and Wales by the Department of Health when NHS Trusts were advised that flexible hoses in wholesome water supply systems in healthcare buildings should be risk assessed for the possibility of contamination with harmful micro-organisms. The concern is that in some circumstances EPDM synthetic rubber (ethylene propylene diene monomer) which is widely used in flexible connectors like tap tails, can support growth of bio-film (a 'slime' or growth of micro-organisms on the inside of the hose). The biofilm can include *legionella*, the bacterium which causes Legionnaires Disease.

Where risk assessment indicates the need, Trusts are advised to replace EPDM hoses with bendable metallic pipes or flexible ones made of different plastics such as polyethylene (PE), cross-linked polyethylene (PEX), linear low density polyethylene (LLDPE) or post-chlorinated PVC (PVC C) which are believed to be less susceptible to biofilm growth (although further evidence of long-term performance is required).

WRAS will continue to approve products made of EPDM that have passed BS 6920 (a test of its effects on drinking water quality). This test eliminates plastic materials which readily support microbial growth, but it doesn't guarantee that bacteria won't grow on materials which pass the test. Bacteria, being extremely adaptable, are very good at finding conditions which enable them to grow.

Traditionally, biofilm in plumbing systems has been controlled by eliminating the conditions for growth by

- avoiding local warming of cold water;
- maintaining flow rates and reducing stagnation;
- eliminating dead legs;
- keeping good disinfectant residual concentrations and
- preventing ingress & build-up of debris to limit potential food for the micro-organisms in the water.

If in some premises (such as hospitals) these conditions cannot be completely eliminated, it is appropriate to take this into account when selecting materials for the plumbing system. This doesn't mean that WRAS Approved EPDM hoses are unsuitable for installations elsewhere.

FLUID CATEGORIES

Humidifiers

The WRAS Technical Committee agreed with the Product Assessment Group that humidifiers which introduce water into air streams either as steam or by spraying were in **fluid category 2**. Some humidifiers used pre-treatment by reverse osmosis. Where these used replaceable membrane cartridges and did not use chemicals for cleaning or conditioning the membrane, they were in **fluid category 3**.

For the larger industrial scale humidifiers, the nature of chemicals used to clean or condition reverse osmosis membranes needs to be taken into account and possibly fluid category 4 backflow protection will be required.

THE WRAS WEBSITE

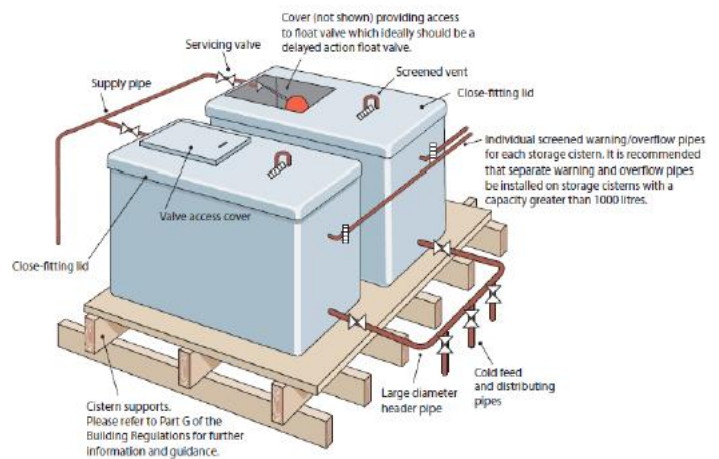
Recent Guidance

Endorsed by the Technical Support Groups and Technical Committee, advice has been added to the WRAS website (www.wras.co.uk) **Publications** section on:

Guidance on installing and using DC devices on hose union taps at caravan sites

and

Guidance on connecting cold water storage cisterns



Check it out!!

CONTACTING WRAS

Technical enquiries, Publications, Information or advice

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