

WC flush mechanisms with integrated overflows as part of a type AG air gap

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Introduction

The WRAS approvals guidance and conditions set out below have been developed to be used when assessing products submitted for WRAS approval only.

Ambiguity

WRAS Approvals considers that there is an ambiguity for in TCS 2213.2 for Type AG air gaps. In particular it is not clear:

- (a) *if an overflow pipe is considered to be circular if the spillover point is circular, but the entire length of the overflow pipe is not circular;*
- (b) *If an overflow pipe at the spillover level of the pipe could be considered circular, if the spillover point is equal to or greater than 19mm in any axis;*
- (c) *if the overflow pipe is considered compliant if the spillover level of the pipe is 19mm, but the entire length of overflow pipe is not 19mm in diameter.*

*and what is permitted under the terms of the specification (the **Ambiguity**). For the purposes of obtaining a WRAS Approval, WRAS Approvals will want to see evidence that the assessors' recommendations have been met (the **Approach**)*

The Suggested Approach has not been endorsed by the water companies or the courts, and they could adopt a different approach to the Ambiguity. For this reason, WRAS cannot guarantee that enforcement action will not be taken by water companies under the water fittings regulations, or that the courts will hold that your product is compliant in this regard. No reliance should be placed on the Approach for the purposes of designing or producing any product, and you should rely on your own legal advice. WRAS, accordingly, accepts no liability for loss of goodwill, business, revenue or profits, anticipated savings or wasted expenditure (whether reasonably foreseeable or not) or indirect or consequential loss arising from or in connection with the Ambiguity or the Approach.

The Water Supply (Water Fittings) Regulations

Schedule 2 Paragraph 15 states “...every water system shall contain an adequate device or devices for preventing backflow of fluid from any appliance, fitting or process from occurring.”

The Regulators Specification for the Prevention of backflow

S15.2 states “Type AG – Airgap arrangement with minimum size circular overflow”

The Test Code Sheet Requirements

The test code sheet 2212.3 for AG airgaps in section v.iii.i states

“The overflow shall be capable of draining the maximum inlet flow,” and v.iii.ii “Shall be not less than 19mm internal diameter”.

For reference only, the BS standard for air gap with minimum circular overflow BS EN 14623 states:

“The overflow arrangements shall not be less than 19mm internal diameter” and

BS EN14623 may be used as evidence of an air gap for a cistern but cannot be used as evidence as part of an AUK1 backflow arrangement.

Intention

WRAS approvals have assumed that the intention of the requirements is to prevent contamination and ensure that in failure mode, the overflow pipe is designed to ensure that the air gap is maintained in failure conditions.

Approach

Scope: WRAS approvals shall apply this **clarification** to all applications for approvals that claim to incorporate a type AG air gap arrangement.

WRAS approvals have developed the following recommendations for assessors to follow when reviewing applications.

1. The product must pass the AG airgap performance test.
2. Evidence that the spillover point is circular and not less than 19mm in diameter or that the spillover point is equal to or greater than 19mm in any axis.
3. Evidence that after the spillover point, the cross-sectional area of the overflow pipe is no less than the cross-sectional area of a circular pipe with a 19mm internal diameter.

4. Evidence will need to be provided by either:
 - a. A declaration of compliance provided by the applicant and supported by drawings that identify the smallest cross-sectional area of the overflow pipe and calculation to demonstrate the cross-sectional area, or
 - b. The tightest restriction should be measured by a recognised test laboratory and the cross-sectional area reported. The recognised test laboratories' test procedure must be submitted and accepted by WRAS approvals.

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Appendix A: Record of Amendments

WC flush mechanisms with integrated overflows as part of a type AG air gap clarification document - Version Control		
Version	Issue Date	Summary of change(s)
WRAS.WAP-19002 Ver 1.0	23/10/2019	WRAS.WAP-19002 issued: WC flush mechanisms with integrated overflows as part of a type AG air gap
WRAS.WCD-1002 Ver 2.0	25/08/2021	Document re-issued in the name of the new legal entity: Water Regulations Approval Scheme Limited
WRAS.WCD-1002 Ver 3.0	12/11/2021	Change of "Suggested Approach" to "Approach" In the Scope change of "Guidance and conditions" to "Clarification"