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Agrément Certificate
88/2107
Product Sheet 1

MULTIKWIK SEWER SYSTEMS

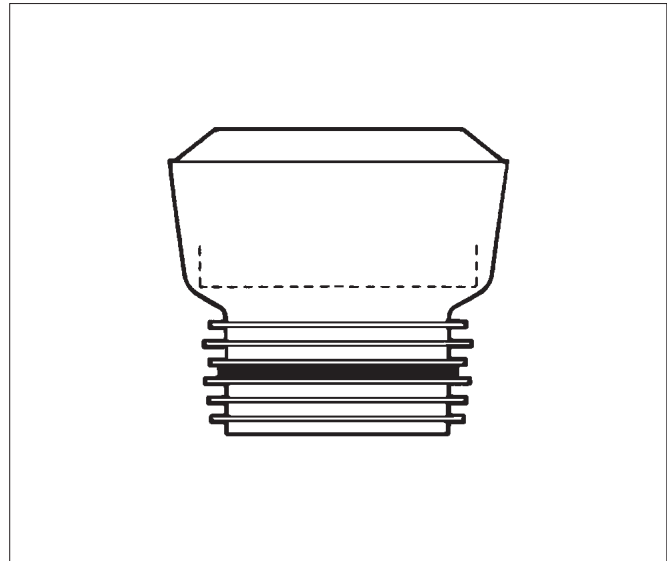
MULTIKWIK WC PAN CONNECTORS

PRODUCT SCOPE AND SUMMARY OF CERTIFICATE

This Certificate relates to Multikwik WC Pan Connectors, for use with British and European Standard WC pans and pipes.

AGRÉMENT CERTIFICATION INCLUDES:

- factors relating to compliance with Building Regulations where applicable
- factors relating to additional non-regulatory information where applicable
- independently verified technical specification
- assessment criteria and technical investigations
- design considerations
- installation guidance
- regular surveillance of production
- formal three-yearly review.



KEY FACTORS ASSESSED

Tightness — the products will have adequate gas and watertightness (see section 5).

Resistance to chemicals — the products will have adequate resistance to chemicals (see section 6).

Durability — the products will have a life expectancy in excess of 30 years (see section 8).

The BBA has awarded this Agrément Certificate to the company named above for the products described herein. These products have been assessed by the BBA as being fit for their intended use provided they are installed, used and maintained as set out in this Certificate.

On behalf of the British Board of Agrément

Date of First issue: 9 March 2010

Originally certificated on 31 October 1988

Handwritten signature of Brian Chamberlain in black ink.

Brian Chamberlain

Head of Approvals — Engineering

Handwritten signature of Greg Cooper in black ink.

Greg Cooper

Chief Executive

The BBA is a UKAS accredited certification body — Number 1113. The schedule of the current scope of accreditation for product certification is available in pdf format via the UKAS link on the BBA website at www.bbacerts.co.uk

Readers are advised to check the validity and latest issue number of this Agrément Certificate by either referring to the BBA website or contacting the BBA direct.

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Regulations

In the opinion of the BBA, Multikwik WC Pan Connectors, if used in accordance with the provisions of this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations:



The Building Regulations 2000 (as amended) (England and Wales)

Requirement:	H1	Foul water drainage
Comment:		The products will meet this Requirement. See sections 5 to 7 of this Certificate.
Requirement:	Regulation 7	Materials and workmanship
Comment:		The products are acceptable. See section 8 and the <i>Installation</i> part of this Certificate.



The Building (Scotland) Regulations 2004 (as amended)

Regulation:	8(1)(2)	Fitness and durability of materials and workmanship
Comment:		The products are acceptable. See sections 7 and 8 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards – construction
Standard:	3.7(b)	Wastewater drainage
Comment:		The products will meet the relevant requirements of this Standard, with reference to clause 3.7.1 ⁽¹⁾⁽²⁾ . See sections 5 to 7 of this Certificate. (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



The Building Regulations (Northern Ireland) 2000 (as amended)

Regulation:	B2	Fitness of materials and workmanship
Comment:		The products are acceptable. See section 8 and the <i>Installation</i> part of this Certificate.
Regulation:	B3(2)	Suitability of certain materials
Comment:		The products are acceptable. See section 7 of this Certificate.
Regulation:	N3(a)(i)(b)	Sanitary pipework
Comment:		The products will meet the requirements of this Regulation. See sections 5 to 7 of this Certificate.

Construction (Design and Management) Regulations 2007

Construction (Design and Management) Regulations (Northern Ireland) 2007

In the opinion of the BBA, there is no information in this Certificate which relates to the obligations of the client, CDM co-ordinator, designer and contractors under these Regulations.

Non-regulatory Information

NHBC Standards 2008

NHBC accepts the use of Multikwik WC Pan Connectors, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 8.1 *Internal services*.

General

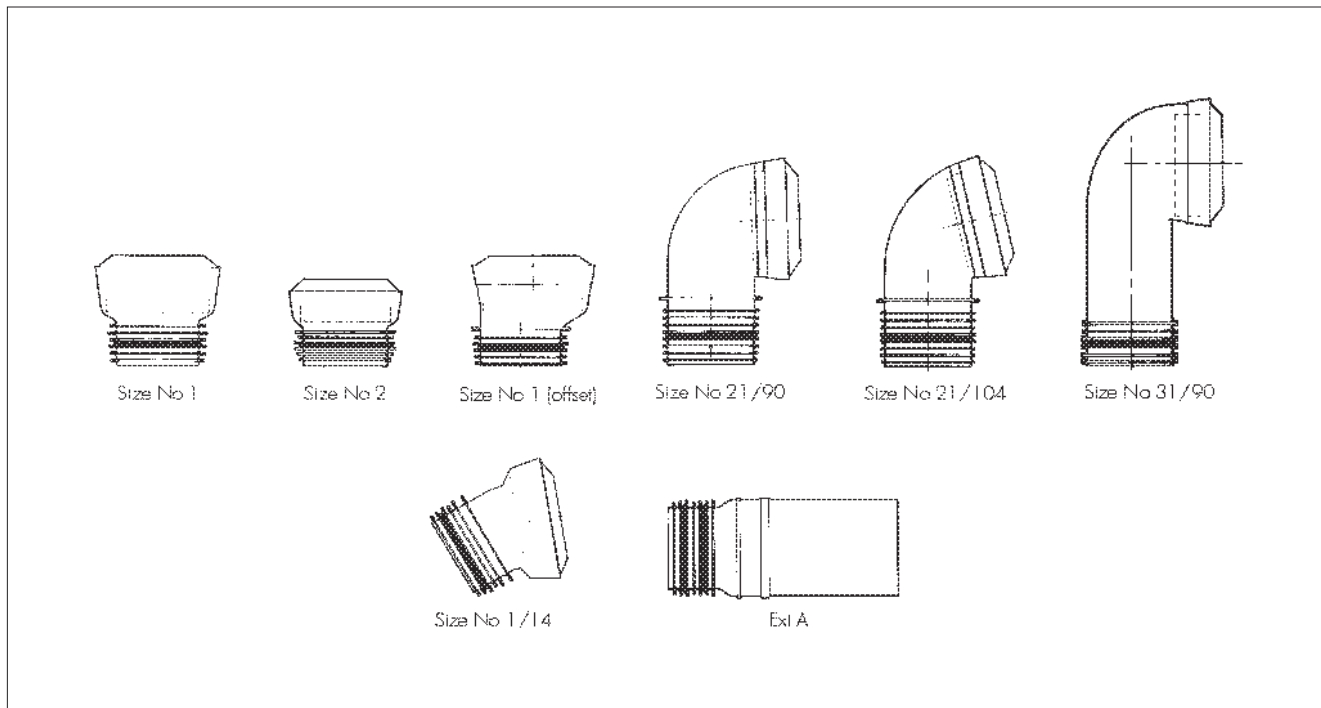
This Certificate relates to Multikwik WC Pan Connectors, for use with British and European Standard WC pans and pipes.

Technical Specification

1 Description

1.1 Multikwik WC Pan Connectors (see Figure 1) are moulded from white EVA (ethylene vinyl acetate) copolymer. The socket and spigot on connectors, Size Nos 1, 2, 1 (offset), 1/14, 21/90, 31/90 and 21/104, are fitted with elastomeric sealing rings.

Figure 1 Multikwik connectors assessed (showing normal seal positions)



1.2 The spigot ends of these fittings, and of the extension piece (Ext A), are multi-finned. The latter does not have a socket end, connection being made with a suitable connector.

Manufacture

1.3 The connector bodies are produced by injection moulding and the sealing rings by injection moulding or by heated compression moulding.

1.4 Quality control includes visual and dimensional checks and airtightness, watertightness and wall thickness tests in accordance with BS 5627 : 1984.

2 Delivery and site handling

2.1 Connectors are packed in polythene bags, with a sachet of lubricant and a leaflet or label bearing the connector size number, fitting instructions and the BBA identification mark incorporating the number of this Certificate.

2.2 Connectors should not be allowed to come into contact with mineral oil, grease, putty or any compound containing mineral oil or grease, and should be protected from direct sunlight and naked flames.

Assessment and Technical Investigations

The following is a summary of the assessment and technical investigations carried out on Multikwik WC Pan Connectors.

Design Considerations

3 General

3.1 The Multikwik WC Pan Connectors covered by this Certificate are satisfactory for the following purposes (see also Table 1):

- Size Nos 1, 1 (offset) and 21/104 — for use with WC pans with 'S' or 'P' traps to BS EN 997 : 2003, BS EN 33 : 2003 and BS EN 37 : 1999
- Size Nos 1/14, 2, 21/90 and 31/90 — for use with WC pans to BS EN 33 : 2003, BS EN 37 : 1999, BS 5504-1 : 1977 and BS 5504-2 : 1977.

Table 1 Application details

Description	Size No	Outside diameter of WC pan spigot (mm)	Part No
Straight connector	1	108-114 ⁽¹⁾	MKS1
Straight connector	2	97-108 ⁽²⁾	MKS2
Offset	1	108-114 ⁽¹⁾	MKO1
Short 92.5° bend	21/90	97-108 ⁽³⁾	MKB2190
Long 90° bend	31/90	97-108 ⁽²⁾	MKB3190
104° bend	21/104	97-108 ⁽³⁾	MKB21104
14° bend	1/14	97-108 ⁽³⁾	MKB114
Extension piece	Ext A	-	MKEA

(1) WC pans to BS EN 33 : 2003, BS EN 37 : 1999 and BS EN 997 : 2003.

(2) WC pans to BS EN 33 : 2003 and BS EN 37 : 1999.

(3) WC pans to BS EN 33 : 2003, BS EN 37 : 1999 and BS EN 997 : 2003 up to 111 mm outside diameter pan spigot and BS EN 33 : 2003 and BS EN 37 : 1999.

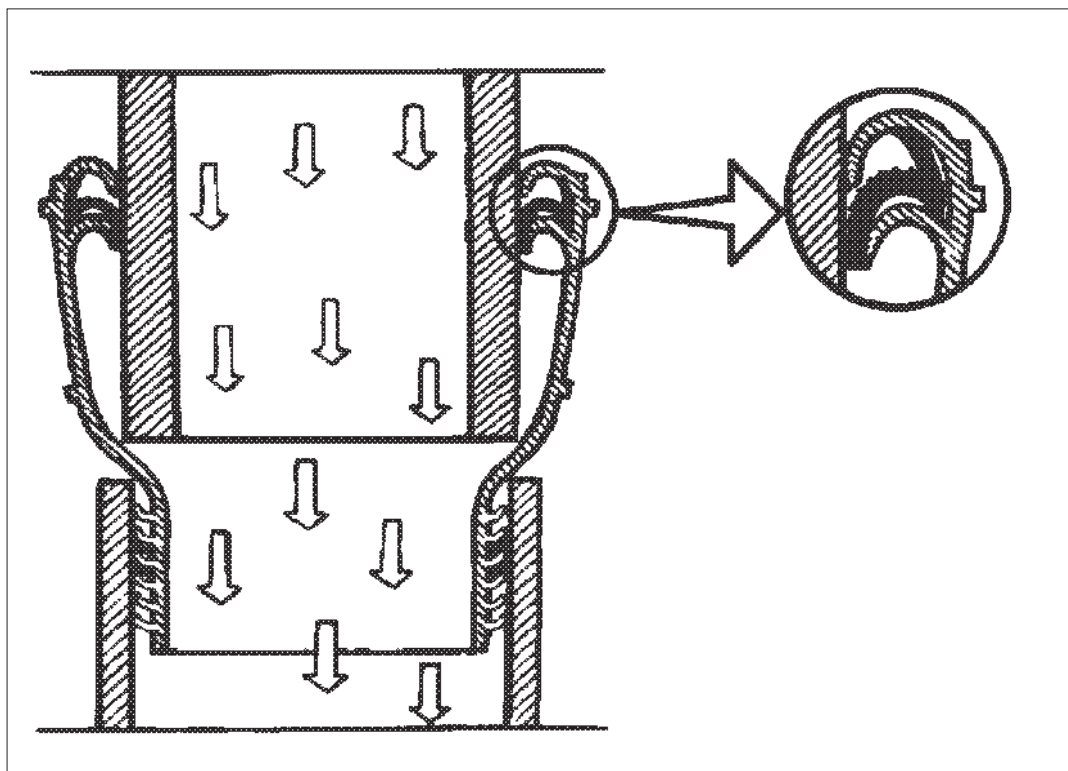
3.2 All the connectors are for use in providing a flexible link from the spigot, within the tolerance range of outside diameters given in Table 1, to soil pipes 110 mm PVC-U to BS 1401-1 : 2009 and BS EN 1329 : 2000, 102 mm clay to BS 65 : 1991 and 102 mm cast iron to BS EN 877 : 1999 + A1 : 2006 and BS 437 : 2008.

3.3 The extension piece (Ext A), when used with connectors covered by this Certificate, provides a suitable means of bridging a gap of up to 200 mm between the appropriate connectors and the soil pipe. Under no circumstances should the extension piece (Ext A) be connected directly to the soil pipe.

4 Practicability of installation

4.1 Installation is easily achieved under normal conditions. Care must be taken to ensure that sealing rings take up the correct positions when installed (see Figure 2).

Figure 2 Position of seals when correctly installed



Clay and cast-iron pipes

4.2 The connection between the WC pan connectors and soil pipes of up to 102 mm internal diameter has been assessed. Where the internal diameters of these pipes are still within the relevant British Standard range of tolerances, but greater than 102 mm or significantly less than 102 mm such that the connections will be difficult to make, other fittings are available from the manufacturer, but these have not been assessed by the BBA.

PVC-U pipes

4.3 The connectors are suitable for all soil pipe internal diameters within the relevant British Standard range of tolerances.

5 Gas and watertightness



Joints from WC pans to connectors and from connectors to soil pipes will remain watertight and gastight under conditions of deflection, partial withdrawal and thermal movement in excess of those likely to occur in practice.

6 Resistance to chemicals



The effluent and cleaners normal to WC systems will not affect the materials used for the connectors or the sealing rings.

7 Maintenance



The WC pan can be removed, without damage to pan or connector, to enable pipe blockages to be cleared or the pan to be renewed.

8 Durability



There will be no significant deterioration of the connectors or sealing rings under normal service conditions. In the opinion of the BBA, the connectors will have a life expectancy in excess of 30 years.

Installation

9 Procedure

9.1 Installation must be in accordance with the manufacturer's fitting instructions, supplied with every connector. Only the recommended lubricant, supplied with the product, should be used.

9.2 The soil pipe must be reasonably clean and smooth on the inner surface. The connector socket is pushed fully home onto the pan spigot. If necessary, the soil pipe is lubricated and the connector spigot pushed into it. Lubricant must never be applied to the pan spigot.

9.3 If difficulty is encountered in fitting the connector, it may be immersed in hot water (maximum 60°C) to soften the material.

9.4 It is essential that the sealing rings are in the positions shown in Figure 1 and that the fins take up the positions shown in Figure 2, to produce a good seal between connector and soil pipe.

Technical Investigations

10 Tests

Tests were carried out to determine:

- wall thickness to BS 5627 : 1984
- ease of installation
- air and watertightness when correctly installed in accordance with BS 5627 : 1984, Appendices
- degree of misalignment to cause leakage
- air and watertightness after maximum compression set, likely to occur in use, had been induced in the sealing ring.

11 Investigations

11.1 Regular factory inspections have been carried out to ensure that quality is being maintained.

11.2 A user survey was carried out to evaluate performance in use.

11.3 An examination was made of data relating to:

- material properties
- dimensional accuracy
- chemical resistance
- practicability of installation
- durability.

Bibliography

- BS 65 : 1991 *Specification for vitrified clay pipes, fittings and ducts, also flexible mechanical joints for use solely with surface water pipes and fittings*
- BS 437 : 2008 *Specification for cast iron drain pipes, fittings and their joints for socketed and socketless systems*
- BS 5504-1 : 1977 *Specification for wall hung WC pan — Wall hung WC pan with close coupled cistern — Connecting dimensions*
- BS 5504-2 : 1977 *Specification for wall hung WC pan — Wall hung WC pan with independent water supply — Connecting dimensions*
- BS 5627 : 1984 *Specification for plastics connectors for use with horizontal outlet vitreous china WC pans*
- BS EN 33 : 2003 *Pedestal W.C. pans with close-coupled flushing cistern — Connecting dimensions*
- BS EN 37 : 1999 *Pedestal W.C. pans with independent water supply — Connecting dimensions*
- BS EN 877 : 1999 *Cast iron pipes and fittings, their joints and accessories for the evacuation of water from buildings — Requirements, test methods and quality assurance*
- BS EN 997 : 2003 *W.C. pans and W.C. suites with integral trap*
- BS EN 1329-1 : 2000 *Plastics piping systems for soil and waste discharge (low and high temperature) within the building structure — Unplasticized poly(vinyl chloride) (PVC-U)*
- BS EN 1401-1 : 2009 *Plastics piping systems for non-pressure underground drainage and sewerage. Unplasticized poly(vinylchloride) (PVC-U) — Specifications for pipes, fittings and the system*

12 Conditions

12.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is granted only to the company, firm or person named on the front page — no other company, firm or person may hold or claim any entitlement to this Certificate
- is valid only within the UK
- has to be read, considered and used as a whole document — it may be misleading and will be incomplete to be selective
- is copyright of the BBA
- is subject to English law.

12.2 Publications and documents referred to in this Certificate are those that the BBA deems to be relevant at the date of issue or re-issue of this Certificate and include any: Act of Parliament; Statutory Instrument; Directive; Regulation; British, European or International Standard; Code of Practice; manufacturers' instructions; or any other publication or document similar or related to the aforementioned.

12.3 This Certificate will remain valid for an unlimited period provided that the product/system and the manufacture and/or fabrication including all related and relevant processes thereof:

- are maintained at or above the levels which have been assessed and found to be satisfactory by the BBA
- continue to be checked as and when deemed appropriate by the BBA under arrangements that it will determine
- are reviewed by the BBA as and when it considers appropriate.

12.4 In granting this Certificate, the BBA is not responsible for:

- the presence or absence of any patent, intellectual property or similar rights subsisting in the product/system or any other product/system
- the right of the Certificate holder to manufacture, supply, install, maintain or market the product/system
- individual installations of the product/system, including the nature, design, methods and workmanship of or related to the installation
- the actual works in which the product/system is installed, used and maintained, including the nature, design, methods and workmanship of such works.

12.5 Any information relating to the manufacture, supply, installation, use and maintenance of this product/system which is contained or referred to in this Certificate is the minimum required to be met when the product/system is manufactured, supplied, installed, used and maintained. It does not purport in any way to restate the requirements of the Health & Safety at Work etc Act 1974, or of any other statutory, common law or other duty which may exist at the date of this Certificate; nor is conformity with such information to be taken as satisfying the requirements of the 1974 Act or of any statutory, common law or other duty of care. In granting this Certificate, the BBA does not accept responsibility to any person or body for any loss or damage, including personal injury, arising as a direct or indirect result of the manufacture, supply, installation, use and maintenance of this product/system.

