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Agrément Certificate
88/2107
Product Sheet 1

MULTIKWIK SEWER SYSTEMS

MULTIKWIK WC PAN CONNECTORS

This Agrément Certificate Product Sheet⁽¹⁾ relates to a range of Multikwik WC Pan Connectors, for use with British and European Standard WC pans and pipes.

(1) Hereinafter referred to as 'Certificate'.

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

Gas and watertightness — the products will have adequate gas and watertightness (see section 6).

Resistance to chemicals — the products will have adequate resistance to chemicals (see section 7).

Durability — the products will have a life expectancy in excess of 30 years (see section 9).

The BBA has awarded this 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

A handwritten signature in black ink that reads 'B Chamberlain'.

Brian Chamberlain

Head of Approvals — Engineering

A handwritten signature in black ink that reads 'Claire'.

Claire Curtis-Thomas

Chief Executive

Date of Second issue: 4 September 2013

Originally certificated on 31 October 1988

The BBA is a UKAS accredited certification body — Number 113. 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 installed, used and maintained in accordance with this Certificate, will meet or contribute to meeting the relevant requirements of the following Building Regulations (the presence of a UK map indicates that the subject is related to the Building Regulations in the region or regions of the UK depicted):



The Building Regulations 2010 (England and Wales) (as amended)

Requirement:	H1	Foul water drainage
Comment:		The products will meet this Requirement. See sections 6 to 8 of this Certificate.
Regulation:	7	Materials and workmanship
Comment:		The products are acceptable. See section 9 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 8 and 9 and the <i>Installation</i> part of this Certificate.
Regulation:	9	Building standards applicable to 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 6 to 8 of this Certificate.
Standard:	7.1(a)(b)	Statement of sustainability
Comment:		The products can contribute to meeting the relevant Requirements of Regulation 9, Standards 1 to 6 and therefore will contribute to a construction meeting a bronze level of sustainability as defined in this Standard. (1) Technical Handbook (Domestic). (2) Technical Handbook (Non-Domestic).



The Building Regulations (Northern Ireland) 2012

Regulation:	23(a)(i)(b)(i)(ii)	Fitness of materials and workmanship
Comment:		The products are acceptable. See section 9 and the <i>Installation</i> part of this Certificate.
Regulation:	80(a)(i)(b)	Sanitary pipework
Comment:		The products will meet the requirements of this Regulation. See sections 6 to 8 of this Certificate.

Construction (Design and Management) Regulations 2007

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

Information in this Certificate may assist the client, CDM co-ordinator, designer and contractors to address their obligations under these Regulations.

See section: 3 *Delivery and site handling* (3.1) of this Certificate.

Additional Information

NHBC Standards 2013

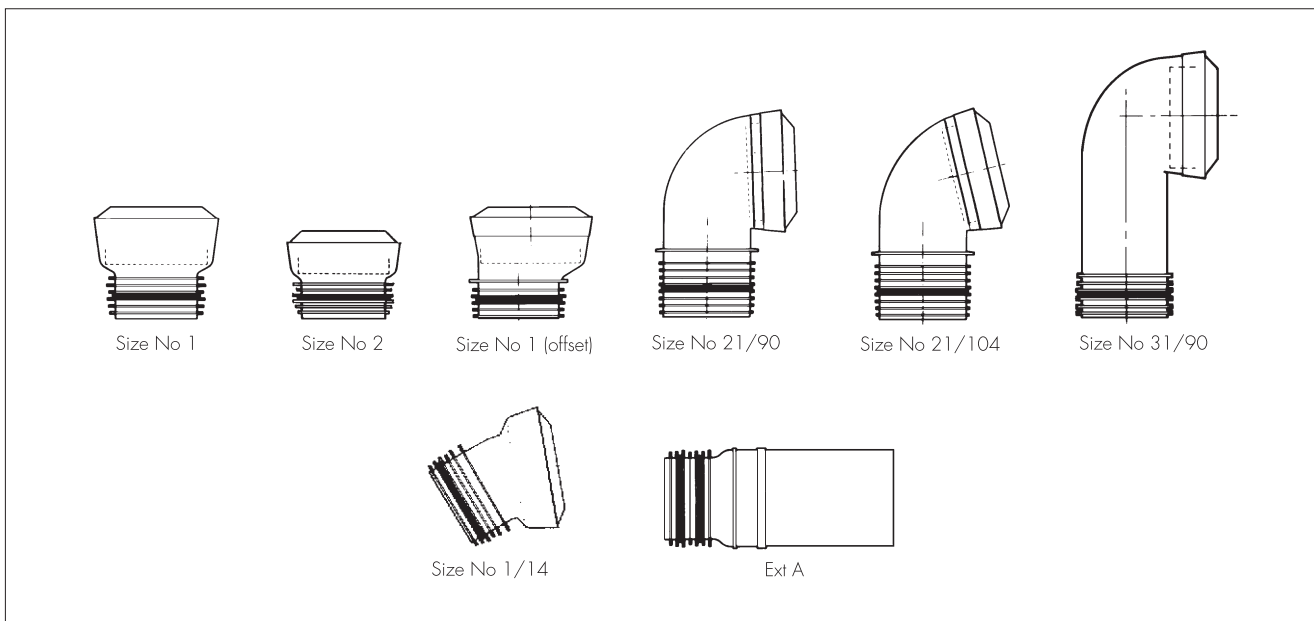
NHBC accepts the use of Multikwik WC Pan Connectors, when installed and used in accordance with this Certificate, in relation to *NHBC Standards*, Chapter 8.1 *Internal services*.

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.

2 Manufacture

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

2.2 As part of the assessment and ongoing surveillance of product quality, the BBA has:

- agreed with the manufacturer the quality control procedures and product testing to be undertaken
- assessed and agreed the quality control operated over batches of incoming materials
- monitored the production process and verified that it is in accordance with the documented process
- evaluated the process for management of nonconformities
- checked that equipment has been properly tested and calibrated
- undertaken to carry out the above measures on a regular basis through a surveillance process, to verify that the specifications and quality control operated by the manufacturer are being maintained.

2.3 The management system of DHM Plastics Ltd has been assessed and registered as meeting the requirements of BS EN ISO 9001 : 2008 by BSI (Certificate FM 30637).

3 Delivery and site handling

3.1 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.

3.2 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.

4 General

4.1 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 : 2012, BS EN 33 : 2011 and BS EN 37 : 1999
- Size Nos 1/14, 2, 21/90 and 31/90 — for use with WC pans to BS EN 33 : 2011, BS EN 37 : 1999, BS 5504-1 : 1977 and BS 5504-2 : 1977.

Table 1 Application details

Size No	Description	Outside diameter of WC pan spigot (mm)	Part No
1	Straight connector	108–114 ⁽¹⁾	MKS1
2	Straight connector	97–108 ⁽²⁾	MKS2
1	18 mm Offset	108–114 ⁽¹⁾	MK01
21/90	Short 90° bend	97–108 ⁽²⁾	MKB2190
31/90	Long 90° bend	97–108 ⁽²⁾	MKB3190
21/104	104° bend	97–108 ⁽²⁾	MKB21104
1/14	14° bend	97–108 ⁽²⁾	MKB114
Ext A	Extension piece	–	MKEA

(1) WC pans to BS EN 33 : 2011, BS EN 37 : 1999 and BS EN 997 : 2012.

(2) WC pans to BS EN 33 : 2011 and BS EN 37 : 1999.

(3) WC pans to BS EN 33 : 2011, BS EN 37 : 1999 and BS EN 997 : 2012 up to 111 mm outside diameter pan spigot and BS EN 33 : 2011 and BS EN 37 : 1999.

4.2 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 EN 1401-1 : 2009 and BS EN 1329-1 : 2000, 102 mm clay to BS 65 : 1991 and 102 mm cast iron to BS EN 877 : 1999 + A1 : 2006 and BS 437 : 2008.

4.3 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 WC pan.

5 Practicability of installation

The products are designed to be installed by a competent general builder, or a contractor, experienced with this type of system.

6 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.

7 Resistance to chemicals



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

8 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.

9 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.

10 Procedure

10.1 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.

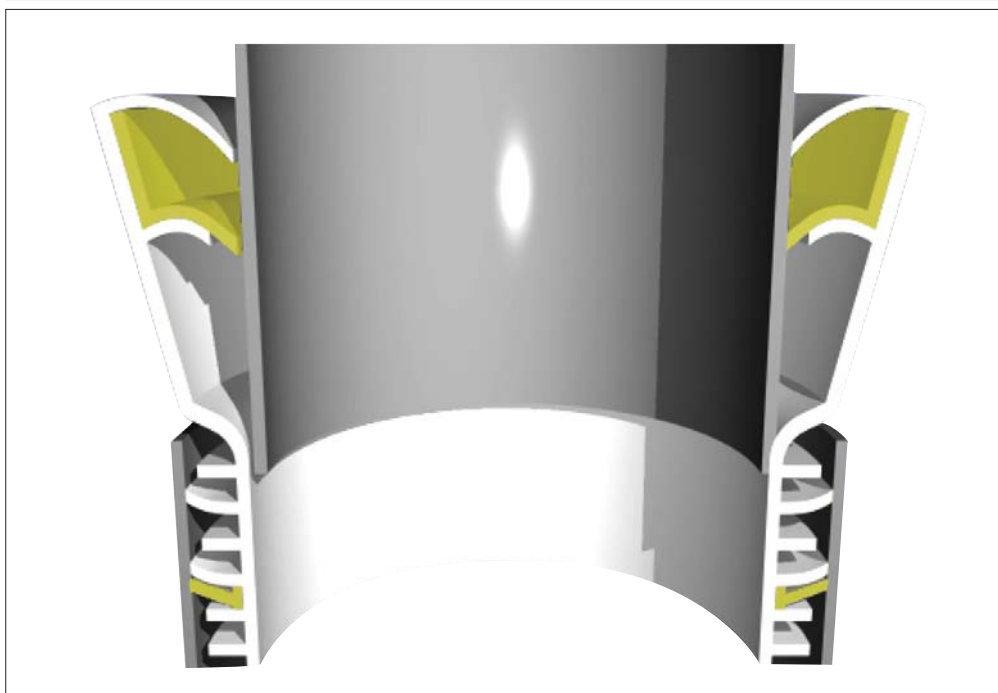
10.2 The soil pipe must be reasonably clean and smooth on the inner surface. The connector socket is pushed fully home onto the pan spigot. If necessary, the soil pipe is lubricated and the connector spigot pushed into it. Lubricant must never be applied to the pan spigot.

10.3 For clay and cast-iron pipes, 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.

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

10.5 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.

Figure 2 Position of seals when correctly installed



Technical Investigations

11 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
- 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.

12 Investigations

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

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

12.3 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 *Wall hung WC pan — Wall hung WC pan with close coupled cistern — Connecting dimensions*
- BS 5504-2 : 1977 *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 : 2011 *WC pans and WC suites — Connecting dimensions*
- BS EN 37 : 1999 *Pedestal WC 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 : 2012 *WC pans and WC 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) — Specifications for pipes, fittings and the system*
- BS EN 1401-1 : 2009 *Plastic piping systems for non-pressure underground drainage and sewerage — Unplasticized poly(vinyl chloride) (PVC-U) — Specifications for pipes, fittings and the system*

13 Conditions

13.1 This Certificate:

- relates only to the product/system that is named and described on the front page
- is issued only to the company, firm, organisation or person named on the front page — no other company, firm, organisation or person may hold or claim that this Certificate has been issued to them
- 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.

13.2 Publications, documents, specifications, legislation, regulations, standards and the like referenced in this Certificate are those that were current and/or deemed relevant by the BBA at the date of issue or reissue of this Certificate.

13.3 This Certificate will remain valid for an unlimited period provided that the product/system and its manufacture and/or fabrication, including all related and relevant parts and 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.

13.4 The BBA has used due skill, care and diligence in preparing this Certificate, but no warranty is provided.

13.5 In issuing this Certificate, the BBA is not responsible and is excluded from any liability to any company, firm, organisation or person, for any matters arising directly or indirectly from:

- 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
- actual installations of the product/system, including their nature, design, methods, performance, workmanship and maintenance
- any works and constructions in which the product/system is installed, including their nature, design, methods, performance, workmanship and maintenance
- any loss or damage, including personal injury, howsoever caused by the product/system, including its manufacture, supply, installation, use, maintenance and removal
- any claims by the manufacturer relating to CE marking.

13.6 Any information relating to the manufacture, supply, installation, use, maintenance and removal 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, maintained and removed. It does not purport in any way to restate the requirements of the Health and Safety at Work etc. Act 1974, or of any other statutory, common law or other duty which may exist at the date of issue or reissue 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.