



**GUIDANCE TO
MANUFACTURERS, SUPPLIERS
AND TEST LABORATORIES ON
THE APPLICATION
REQUIREMENTS FOR
WRAS PRODUCT APPROVAL**

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APPENDICES**APPENDIX A GUIDANCE ON THE REQUIREMENTS FOR APPROVAL OF NON-METALLIC MATERIALS IN FITTINGS****APPENDIX B WRAS TEST REPORT****APPENDIX C SAMPLING MATRIX**

1. **PERFORMANCE CRITERIA FOR MECHANICAL TESTING**

1.1. **Requirements for Water Fittings**

The Water Fittings Regulations' requirements for water fittings (Regulation 4) are

1. *Every water fitting shall –*
 - (a) *be of an appropriate quality and standard; and*
 - (b) *be suitable for the circumstances in which it is used.*
2. *For the purposes of this Regulation, a water fitting is of an appropriate standard only if-*
 - (a) *it bears an appropriate CE marking in accordance with the Directive;*
 - (b) *it conforms to an appropriate harmonized standard or European technical approval;*
 - (c) *it conforms to an appropriate British Standard or some other national specification of an EEA State which provides an equivalent level of protection and performance; or*
 - (d) *it conforms to a specification approved by the regulator.*

For WRAS Approval, the following performance criteria are accepted.

1.2. **Regulators' Specification**

The Regulators' Specification provides performance criteria for many products in the form of Test Code Sheets, which are available on the WRAS website. (www.wras.co.uk/Regulators_Spec.asp).

Where no suitable Regulators' Specification exists for the WRAS Approval Scheme, in a very few cases additional criteria are given in WRAS Test Code Sheets which have been approved by the WRAS Test and Assessment Group (TAG) on behalf of the WRAS Technical Committee. These do not form part of the Regulators' Specification and are marked accordingly.

1.3. **British Standards**

Some British Standards have for some years been recognised by WRAS as providing an equivalent level of performance to the Regulators' Specification. These are listed in the Water Fittings and Materials Directory in the Kitemarked Products section.

Since the publication of the Regulators' Specification in 1999, new or revised British Standards have been published relating to water fittings. Some are known as BSENs - standards based upon European Norms (ENs), which are developed jointly by representatives of the EU members and when approved by the EU central standards body (CEN) are required to be introduced by Member States as national standards.

In deriving the ENs which become BSENs, the relevant current requirements of Member States are supposed to be accommodated, or are noted as additional requirements for that country. Some BSENs therefore include all the requirements of the UK as set out in the Regulators' Specification or elsewhere. However, there are some BSENs which have been published which do not achieve this and some British Standards do not include the current Regulations requirements. Regulation 4 refers to the use of a fitting if "it conforms to an appropriate British Standard". For WRAS Approval, the WRAS Technical Committee will decide whether or not a British Standard or BSEN is appropriate, based upon recommendations of the WRAS Test and Assessment Group. Assessments of appropriateness will take into account the relevant requirements of the Regulations, Schedules and Guidance, the Regulators' Specification and any other reasonable performance requirements to achieve the objectives of the Regulations.

Comparison of British Standards or BSENs to determine appropriateness is a specialist task and is time consuming. The comparison will be undertaken for WRAS by technically-competent specialists at the cost of the applicant who seeks to use the

standard for WRAS Approval. WRAS will maintain a publicly-available list of British Standards which have been assessed and accepted.

1.4. Other National Standards

Where a manufacturer has a product which has been assessed against the national standard of some other country, in order to minimise additional costs which would arise by requiring re-testing to UK criteria, WRAS will consider a comparison of the other national standard with the Regulators' Specification or an appropriate British Standard to assess whether it offers an equivalent level of protection and performance. WRAS will accept adequately accredited test reports for those parts of the other national standard which are equivalent. Where there are parts of the UK requirements which are not covered by the other national standard, additional testing to the UK requirements will be required.

The cost of comparison will be met by the applicant. WRAS will maintain a publicly available list of the 'other national standards' which have been assessed, showing where they will need additional tests, if necessary.

1.5. Harmonised European Standards, European Technical Approvals and CE Marking

Harmonised European Standards and European Technical Approvals specifying performance have yet to be made for most water fittings. CE marking of products relies upon appropriate harmonised European standards. Scheme requirements for WRAS Approval for products based upon these types of performance criteria will be considered if an appropriate application is made to the Scheme.

1.6. Product Certification

The WRAS Technical Committee has accepted that WRAS Approval can be granted for products certified by Kiwa under its ISO 45011 Product Certification Scheme as complying with given product standards provided:

- The WRAS Test and Assessment Group accepts that a comparison of the standard used in the product certification shows it is no less stringent than the UK requirements (the Regulators' Specification and other requirements of the Regulations) for that type of water fitting; and
- Other requirements of the WRAS Approval Scheme which do not form part of the Regulators' Specification (e.g. product identification) are complied with.

1.7. Accreditation of Test Laboratories

Accreditation is required to provide assurance to the Scheme that the test laboratory is competent at carrying out, in an accurate and reproducible manner, the tests which are to be used for WRAS Approval. Test laboratories therefore need to show accreditation to the specific performance tests which WRAS Approval will rely upon i.e. the Regulators' Specification Test Code Sheets, appropriate British Standards or other national standards.

Accreditation in accordance with ISO 17025 is required for the specific tests. Accreditation should be by the United Kingdom Accreditation Service (UKAS), or by an equivalent overseas body which is subject to the multilateral agreement accepted by the European co-operation for Accreditation (EA), the International Accreditation Forum (IAF), or the International Laboratory Accreditation Co-operation (ILAC).

In the case of manufacturers' testing of WCs where results are to be used for self-certification and WRAS Approval, accreditation can be carried out directly by the Scheme.

Test laboratories which regularly submit applications should provide WRAS with a copy of their accreditation on an annual basis. For other test laboratories a copy of the relevant laboratory accreditation must be provided to WRAS with each application.

2. APPLICATION PROCESS

2.1. Application File

The application file will include, where available, the following:

- A draft description provided by the test house to be used as the directory entry.
- Installation guides and manuals where applicable.
- A photograph of the product suitable for inclusion in the on-line Directory.
- Photograph(s) of the product markings suitable for inclusion in the on-line Directory.

2.2. Application Form

All applications for WRAS Approval must be submitted using the official WRAS Application form. When the application is presented to the TAG the information provided must be current, with the application form having been completed no more than 12 months prior to the date of the meeting.

2.3. Schedule of Materials

All the component parts of a fitting which come into contact with water which is required to be wholesome must be listed in the schedule of materials in the application file:

- Where there is uncertainty as to whether there is direct contact between water which is required to be wholesome and materials or components, the matter should be drawn to the attention of WRAS for clarification.
- At the time when the application is presented to the Test and Assessment Group, all the non-metallic components in contact with water (which must be listed in the schedule of materials) must have a current WRAS Approval or a valid test report to BS 6920 or other equivalent standards accepted by WRAS. Test reports must be no more than five years old and if more than two years old must be accompanied by a declaration from the manufacturer that the material being currently manufactured has not been altered from that tested. *[This requirement was agreed in September 2006 but its introduction was postponed until April 2007. However, as a result of representations, the deadline for implementation of this requirement has been temporarily extended by the WRAS Technical Committee. The new deadline is October 2007; for all meetings up to and including the October TAG meeting the Scheme will accept test reports and WRAS Approvals no more than six years old at the time of presentation to the TAG]*
- Some non-metallic materials have a WRAS Approval based upon testing of a prepared sample of the formulated 'raw' material. These are listed in the WRAS Water Fittings and Materials Directory in sections which are headed as "Material Only" approvals. Where component parts are made from these materials by processes which could alter their compliance with BS6920, the components require additional testing and where successfully done, they are listed in separate sections headed "Components".
- Non-metallic components which rely upon a 'Material Only' WRAS Approval can only be accepted provided that the component has been manufactured using a process which WRAS accepts will not have affected its properties. (Acceptable processes are listed in Appendix A). In other cases, a test report or WRAS Approval for the manufactured component is required. [This requirement will be phased in fully by September 2007].

2.4. Prototype Products

WRAS Approval will only be granted to production samples. A prototype or pre-production sample may only be submitted for 'approval in principle', and will require retesting when submitted as a production sample.

3. MECHANICAL TESTS

3.1. **Validity Period**

Mechanical testing of products must have been completed no more than two years before the date when the report is presented to the TAG.

3.2. **Regulators' Specification Test Code Sheets**

WRAS maintains on its website a matrix showing which Test Code Sheets (TCS) of the Regulators' Specification are required for WRAS Approval of different types of fittings. The testing requirements for all directory sections is identified in the TCS matrix and all test laboratories are to make use of this facility to ensure standardization. Only WRAS will authorise and publicise amendments or alterations to the matrix of required Test Code Sheets (TCS).

For each type of fitting, the required Test Code Sheets are included in standardised Test Report Form, available from WRAS. All test reports submitted to the Scheme must be made in accordance with the WRAS test report format and be in accordance with ISO 17025 requirements. (Documentation Appendix B)

3.3. **Selection of Individual Test Criteria**

All test laboratories will adhere to the testing indicated for that product designation in the TCS matrix. In the case of non-standard fittings clarification of the testing required should be sought from WRAS in advance.

Where a fitting is an assembly of components, the testing needs to satisfy the TCS requirements for all individual components, and this testing to be applied as indicated in the TCS matrix for that type of product.

In the cases where there are several sub divisions relating to different types of fittings within a Test Code Sheet the choice of test must be noted.

3.4. **Testing of Product Ranges**

Refer to the matrix for product sampling (Appendix C)

3.5. **Site Visits**

Testing of fittings other than at the site of the accredited test laboratory (site visits) will only be permissible in extraordinary circumstances, that is, when it would be impracticable to test in an accredited lab. Impracticability would include where:

- (i) due to its size or weight, a fitting can not reasonably be transported to an accredited test laboratory; or
- (ii) there were no adequate test facilities for the fittings in any suitably accredited laboratory; or
- (iii) by reason of its unique character, the fitting could only be tested on site (e.g. The inlet air gap in a very large sectional cistern).

An on-site assessment of a range of products will only be permitted where:

- (iv) at least one item in the range must qualify for on-site testing (criteria (1) to (3) above); and
- (v) if one item in the range is capable of being tested in an accredited laboratory, it should be so assessed and be available for inspection by the TAG when the application for approval is being considered; and
- (vi) whenever the testing is done, the correct number and type of samples of the product range must be assessed in accordance with the usual requirements for that product.

Where meeting these conditions could be borderline, to avoid risk of refusal of an approval by the TAG, the test laboratory is recommended to check with either the WRAS Manager or Technical Officer, in advance of the site visit, that product testing by the proposed site visit will be acceptable.

In all cases where site testing is permitted, the test criteria to be used for assessing a given fitting are the same as those which would be used in an accredited laboratory. Where testing is carried out on site it shall be undertaken to a standard of quality assurance no less than that which would apply had it been done at the accredited laboratory.

3.6. Experience and Accreditation for Site Visits

The test engineer who is undertaking or witnessing on-site testing must have been trained in, and have experience of, the relevant tests, gained in an organisation having accreditation under ISO 17025 for those tests. At the time of each test the test engineer must be employed by an organisation which is currently accredited to ISO 17025 for the relevant test.

3.7. Photographic Evidence from Site Visits

All site visit reports must be accompanied by photographic images of sufficient quality to demonstrate

- An overview of each test setup, including any ancillary equipment related to the tests being conducted.
- Any significant features of the product.
- Images of the fitting(s) being tested.
- Images of the markings on fittings.
- Detailed photographs where possible of all the calibration equipment used showing all identification numbers and serial numbers where applicable.

The TAG will not accept photographs that are blurred or fail to show sufficient detail of the feature being photographed.

3.8. Documentary Evidence from Site Visit

Regardless of who provides the test equipment for site visits, the calibration of test equipment used must be no less stringent than that employed for testing in the accredited laboratory. Typically this means that the calibration must have been completed no more than 12 months prior to the date of the test on site. The application for approval must be accompanied by evidence of accredited calibration certificates for all the relevant test equipment used. Where original documents are written in a language other than English, a copy of the original must be accompanied by a translation into English, signed by the person who has translated it as being an accurate translation.

3.9. Products Manufactured or Assembled at More than One Site

WRAS Approval may be granted to fittings that have been assembled or manufactured at more than one site on receipt of a manufacturer's formal declaration confirming that the same product specifications, processes and quality assurance systems are in place at all sites.

Samples submitted for mechanical testing must include fittings produced at all the sites to be included in the approval.

A single approval number will be issued to include products produced at all identified sites.

4. APPROVAL

4.1. Deferred Approvals

If the TAG agrees and providing that the reasons for deferral are not related to the schedule of materials, then the information provided in the schedule of materials of a deferred application remains valid for up to four months following its deferral.

4.2. Certificates

WRAS will issue a certificate within a fortnight of a fitting gaining approval. In normal circumstances only one certificate per directory entry will be released. However, if both the factor and manufacturer are identified and named in the entry, and the approval holder grants consent, two certificates may be issued.

4.3. Changes to Certificates

The WRAS Approval certificate is sometimes required as proof of compliance and certificates need to be safeguarded and their duplication avoided. A replacement certificate will only be issued on return of the original, unless there is a genuine reason why this cannot be done.

4.4. Directory Entries

Duplicate directory entries for fittings are not allowed.

All recently approved WRAS listings will be added to the on line directory within a fortnight of them gaining approval.

All expired approvals will be deleted within a month of their expiry date. (With effect from April 2007).

4.5. Alterations and Additions to an Existing Approval

In the case of additions/alterations to an existing approval only the WRAS Manager or Technical Officer can authorise WRAS approval certificates.

The procedure for requesting revisions to an approval is for the test house to present the completed paperwork to the WRAS Technical Officer, who will confirm that all the preconditions have been satisfied. The TAG will determine any controversial applications for revisions.

Additions to an existing approval without additional testing of the product would only be permitted where:

- the products are identical, in that they are manufactured using the same components, have identical water pathways and any difference is purely cosmetic and
- the addition falls within the size range of the original testing. If it falls outside the existing approved product size range, the additional product will require testing and
- a formal statement from the manufacturer has been received confirming that the products have been manufactured using the same components and have identical water pathways, and any difference is purely cosmetic and
- evidence of the markings to be used to identify the products has been received and
- installation instructions and any other manuals, where available, have been supplied and
- the approval holder is aware of any restrictions or limitations imposed on this approval and has agreed to these conditions.

4.6. Restrictions to Additions

There are no restrictions to the number of revisions that can be made to an approval provided that the conditions of the scheme are satisfied.

Revisions to an existing approval can be made at any time during the lifetime of a valid approval.

4.7. Renewal of Approvals

All approval holders will be notified by the scheme of their need to seek re-approval when one year remains of their current listing.

Any renewal made during the last nine months of the original approval can run consecutively provided that this does not conflict with the guidelines for processing applications.

5. GLOSSARY

Accreditation	An independent assessment of an organisation's ability to undertake measurement and observation in an accurate and reproducible manner for assessing a product.
BS 6920	A British Standard in four parts, last updated in 2000, entitled "Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water". Sets out test methods and criteria for materials to limit their adverse effects upon water quality such as odour, flavour, microbial growth and cyto-toxicity.
BS EN	A British Standard based upon European Norms which, having been developed jointly by representatives of the EU members and approved by the EU central standards body (CEN), are required to be introduced by Member States as national standards.
CE Marking	An EU mark indicating a product has been assessed by the required method and complies with a specified harmonised European Standard.
Certificate	When a fitting or appliance is WRAS Approved, a certificate is issued confirming that the product has been approved and giving details of the fitting or appliance, the approval period and the name of the approval holder.
"Component" WRAS Approval	Approval by WRAS of a non-metallic component such as a pipe, an elbow or seal. Where the component is made from a 'raw' material which has a 'Material-only' WRAS Approval, by a process which could alter the properties of the raw material, additional testing will be required. (see "Material-only" Approval).
Deferred approvals	Where there are matters on which the Test and Assessment Group requires additional information or assurance, or where the fitting fails to comply with the Scheme requirements in some minor respect, approval may be deferred pending resolution of the matter.
EEA State	A state which is a contracting party to the EEA Agreement – the agreement on the European Economic Area signed at Oporto on 2 May 1992.
European Technical Approval (ETA)	A favourable technical assessment of the fitness for use of a construction product under the provisions of the EU Construction Products Directive, issued by a body approved for that purpose.
Harmonised European Standards	Standards approved by the European standards organisation (CEN) and adopted for products throughout the EU Member States.
ISO 45011	ISO 45011 is an international standard for product certification.
Kitemarked Products	The 'Kitemark' is a product certification granted by the British Standards Institution endorsing the compliance of the product with a specified British Standard.
Kiwa	A Dutch company which undertakes testing and certification of products including water fittings.

“Material-only” WRAS Approval	Approval by WRAS of a non-metallic material which has been assessed using BS6920. Used as a ‘raw’ material, items made from it may require no further testing if the production method doesn’t alter their properties, but in many cases some limited further testing is required to permit WRAS Approval of the component so formed.
Materials Section	The section of the Water Fittings and Materials Directory for WRAS Approved non-metallic materials. Other sections give approvals for Water Fittings and for Related Products.
On-line Directory	The WRAS Water Fittings and Materials Directory lists products (materials and fittings) which have been assessed and found to comply with the requirements of the Regulations. It is available on the WRAS website at www.wras.co.uk/directory .
Product Certification Scheme	A method of demonstrating the compliance of a product with a specified standard, involving the assessment of the production methods, quality assurance control measures and product performance.
Regulators’ Specification	A specification approved by the Regulator for the performance of water fittings in accordance with the Water Fittings Regulations.
Site visit	Where it is impracticable to test a product in an accredited laboratory, WRAS may accept the results of testing by qualified personnel at another site (e.g. the manufacturer’s factory or a building development site), where there are adequate quality assurance safeguards.
Technical Officer	The WRAS Technical Officer, who acts as Secretary of the Test and Assessment Group.
Test and Assessment Group (TAG)	A sub-committee of the WRAS Technical Committee, comprising representatives of Water Suppliers, which decides whether or not a water fitting complies with the Regulations and can be granted WRAS Approval.
Test Code Sheets	Performance specifications which set out the requirements for complying with the Regulators’ Specification for water fittings. (See Regulation 4 (2)(d))
Test laboratory	A suitably accredited laboratory which undertakes testing of fittings or materials. WRAS requires materials test laboratories to achieve satisfactory results in inter-laboratory test sample comparisons and recognises only those who achieve this.
Test Report Form	A form for reporting the results of tests carried out for WRAS Approval on each type of fitting, which sets out the tests required, the performance criteria and gives space for the results and any comments.
The Regulator	In England – the Secretary of State for the Environment. For Water Suppliers whose area of appointment is wholly or mainly in Wales – the National Assembly of Wales.
United Kingdom Accreditation Service (UKAS)	The United Kingdom Accreditation Service is the sole national accreditation body recognised by government to assess, against internationally agreed standards, organisations that provide certification, testing, inspection and calibration services.

Water Fittings Regulations	Statutory Instrument (SI) 1999 No. 1148 and amended by SI 1999 No. 1506. The Water Supply (Water Fittings) Regulations 1999 - legislation applying to England and Wales approved by the UK Parliament which sets out requirements for any plumbing fitting installed or used in premises to which water is supplied by a statutory water undertaker. Similar requirements apply in Scotland and Northern Ireland.
WRAS Test Code Sheets	Test criteria which have been agreed by the WRAS Test and Assessment Group on behalf of the Technical Committee for some fittings for which there is no suitable performance criteria in the Regulators' Specification.