



guardians of drinking water quality

**APPROVAL OF PRODUCTS
FOR
USE WITH DRINKING WATER**

Advice Sheet 5

Products made from Recognised Grades of Materials

DOCUMENT CONTROL

The only controlled version of this document can be accessed on the [DWI Website](#). Printed copies of this document, together with electronic copies held on local computers and other storage devices are uncontrolled.

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Preface

This series of advice sheets has been prepared by the Drinking Water Inspectorate (DWI) to provide guidance on the approval process for products for use in contact with water intended for human consumption.

The following advice sheets are currently available:

| Advice Sheet | Title |
|--------------|--|
| 1. | Overview of the Application Process |
| 2. | Instructions for Use (IFU) Requirements |
| 3. | Treatment Chemicals, Filter Media & Ion Exchange Resins |
| 4. | Changes to Approved Products |
| 5. | Products made from Recognised Grades of Materials |
| 6. | Approval of Membrane Filtration Systems & Associated Equipment |
| 7. | Construction Products for Water Retaining Structures |
| 8. | Small Surface Area Products (Regulation 31(4)(b)) |
| 9. | Emergencies – Use of Equipment and Disinfectants |
| 10. | Natural and Traditional Products |
| 11. | Product Re-approval Process |

Availability

Copies of the most up-to-date versions of these advice sheets can be freely downloaded from the [DWI website](#).

Application Forms

A series of product type related applications forms are available from the [DWI website](#).

Laboratory Test Protocols

A series of product type related laboratory test procedures are available from the [DWI website](#).

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Glossary

The Regulations

The following regulations apply to the approval of substances and products used in the provision of public water supplies within the United Kingdom:

- a) England - regulation 31 of [The Water Supply \(Water Quality\) Regulations 2016](#) (Statutory Instruments 2016 No 614).
- b) Wales – Regulation 31 of The Water Supply (Water Quality) Regulations 2018 (Welsh Statutory Instrument 2018 No 647 (W. 121)): <http://www.legislation.gov.uk/wsi/2018/647/contents/made>
- c) Scotland – regulation 33 of [The Public Water Supplies \(Scotland\) Regulations 2014](#)
- d) Northern Ireland – Regulation 33 of The Water Supply (Water Quality) Regulations (Northern Ireland) 2017 (Statutory Rules of Northern Ireland 2017 No.212) - <http://www.legislation.gov.uk/nisr/2017/212/contents/made>

Where reference is required to specific regulatory requirements, these are given in footnotes.

The Authorities

Under the relevant regulations water suppliers shall not apply or introduce any substance or product into public water supplies unless the requirements of the relevant regulations are met. One of these requirements is that the substance or product has been **approved** by either the Secretary of State for the Environment Food and Rural Affairs (England), the Welsh Ministers (Wales), the Northern Ireland Assembly (Northern Ireland) or the Scottish Ministers (Scotland); collectively referred to as “the Authorities”.

The List

Under the relevant regulations lists of all the substances and products approved or refused, and of all approvals revoked or modified are published at least once a year:

England and Wales: this list is regularly updated by DWI throughout the year, and includes details of changes to approved products and additions to the List; the list (the [List of Products for use in Public Water supply in the United Kingdom](#)) is posted on the DWI website. Reference to “the List” throughout this publication refers to the most up-to-date version available from the website.

Scotland: a list is published annually by the Scottish Government on their [website](#).

Northern Ireland: in due course the Department for Regional Development (Northern Ireland) will also publish a list.

The Approval of a Product

Approval is based upon consideration as to whether the use of a substance or product will adversely affect the quality of the water supplied, or cause a risk to the health of consumers; no consideration is given to fitness for purpose and approval by the Authorities must not be taken as a favourable assessment of the performance or merits of any substance or product. It is the responsibility of the end user to ensure fitness for purpose.

The approval process for general products used with water intended for human consumption is set out in [Advice Sheet 1](#). Relevant deviations from this process are set out in the appropriate Advice Sheets.

Water Suppliers

These include water undertakers, inset appointees, and water supply licensees; see The Water Act 2003 (Consequential and Supplementary Provisions) Regulations 2005.

1. Introduction

1.1 Recognised Materials

The Authorities do not approve individual materials only products that will be supplied directly to drinking water suppliers for use in contact with water intended for human consumption.

However, particular grades of materials for use in the:

- extrusion of thermoplastics pipes;
- factory coatings of products;
- Products made from other approved materials; and
- fabrication of stainless steel items

have been assessed for their effects on drinking water quality. These materials, known as recognised grades, can be used to manufacture products without the need to provide full formulation details or to carry out full testing. Recognised grades have not been approved by the Authorities and cannot be used in contact with drinking water by water companies unless as part of an approved product. Recognised grades of these materials are listed in [Annex 3](#) of the List.

This Advice Sheet explains how applications for approval of products made from these recognised grades of specific material types are handled.

1.2 Metals

The last section of this Advice Sheet discusses the requirements for metals, other than recognised grades of stainless steel.

2. Plastic Pipes

2.1 Pipes made from Recognised Grades of Plastic Listed in Annex 3 of the List.

The following requirements apply to pipes made from the previously assessed and recognised grades of plastic listed in Annex 3 of the List:

- a. The application must be made by the supplier of pipes to the water industry on the Pipes Systems Application Form in [Word format](#). Full disclosure of the formulation of the recognised grade is not required.
- b. The applicant must provide an “Instructions for Use” document for its pipe. Guidance on producing this document is given in [Advice Sheet 2](#).
- c. The applicant must provide a copy of an odour and flavour test (BS 6920-2.2.2 or equivalent European test) carried out on test samples, taken at random from three different production batches of the smallest diameter pipe for which approval is sought. Each test must have been undertaken by filling test lengths of pipe incorporating appropriate heat weld or solvent weld joints (as outlined in the IFU).

2.2 Approval of Pipes made from a Grade of Plastic not on the Recognised Grades List

Applications should be made in the normal way as described in [Advice Sheet 1](#).

2.3 Applications to add a New Grade of Plastic to the Recognised Grades List

This may be undertaken in two ways, either:

1. The plastic grade manufacturer may make an application in the normal way but adding a covering letter explaining that the grade of material is to be added to the recognised grade list only. Testing on extruded pipe will be required to assess the grade for inclusion on the list.
2. A pipe manufacturer may get approval for a pipe made from a grade of plastic not on the recognised grades list (as described above) and then, after approval and with the agreement of both the pipe and material manufacturer, the grade may be added to the recognised grades list.

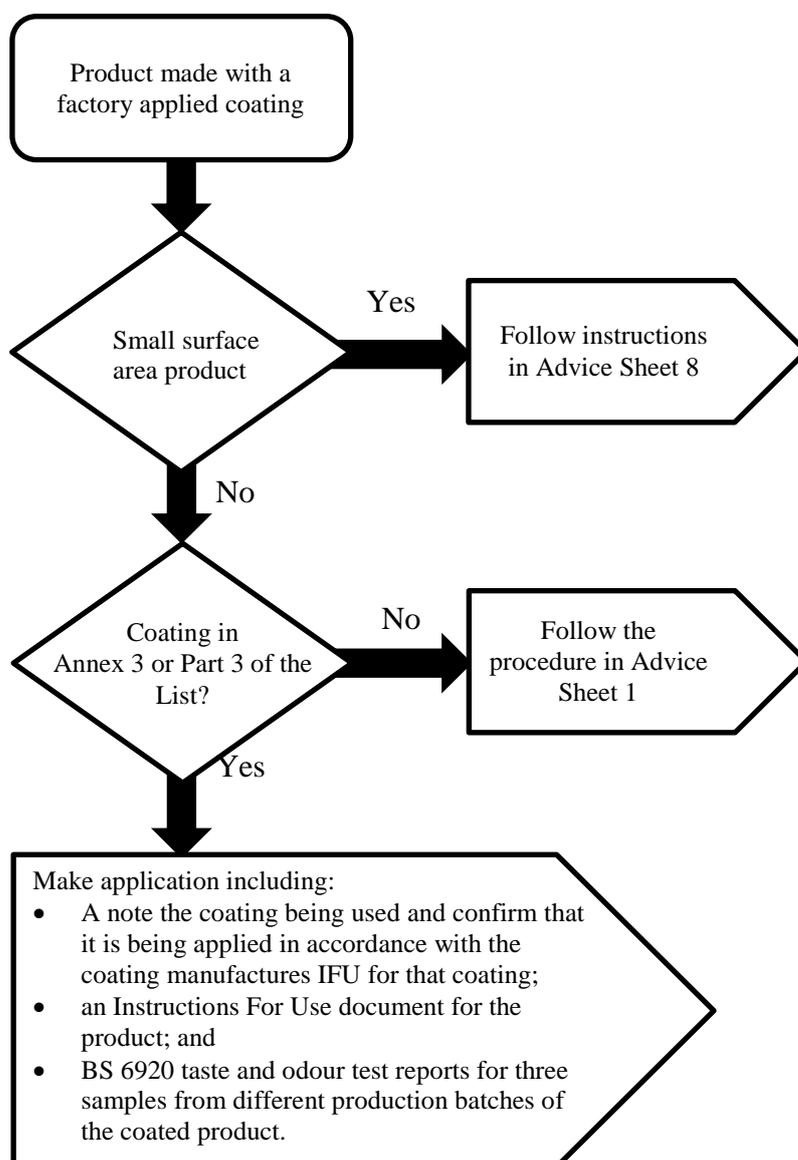
3. Factory Applied Coating

Products incorporating factory applied coatings are subject to the Regulations. Many items with factory applied coating are small surface area (see [Advice Sheet 8](#)); for those that are not small surface area approval is required. Products incorporating coatings which are in Part C or Annex 3 of the List of Approved Product can be approved after limited testing. Products which have coatings which are not on the List will require full testing.

Limited testing applications can be made on the appropriate application form but do not require a full formulation declaration. The application should:

- i. note the coating being used and confirm that it is being applied in accordance with the coating manufactures IFU for that coating;
- ii. provide an Instructions For Use document for the product; and
- iii. include BS 6920 taste and odour test reports for three samples from different production batches of the coated product.

The requirements are also shown in the flow diagram below.



3.1 Applications to add a New Coating to the Recognised Grade List

This may be undertaken in two ways, either:

1. The coating manufacturer may make an application in the normal way but adding a covering letter explaining that the coating material is to be added to the recognised grade list only. Testing on coated item will be required to assess the coating for inclusion on the list.
2. A product manufacturer may get approval for a product coated with a coating not on the list of recognised coating (as described above). If the test results are suitable (e.g. there are no other materials present in the product and the surface to volume ratio of the tested piece was suitable) then, with the agreement of both the product and material manufacturer, the coating may be added to the recognised grades list.

4. Other Products made from recognised materials

4.1 Products made from Recognised Grades of Plastic Listed in Annex 3 of the List.

The following requirements apply to products made from the previously assessed and recognised grades of plastic listed in Annex 3 of the List:

- a. The application must be made by the supplier of final product to the water industry on the Non-metallic product Application Form in [Word format](#). Full disclosure of the formulation of the recognised grade is not required.
- b. The applicant must provide an “Instructions for Use” document for its product, incorporating the recognised grade requirements for disinfection. Guidance on producing this document is given in [Advice Sheet 2](#).
- c. The applicant must provide a copy of an odour and flavour test (BS 6920-2.2.1 or equivalent European test) carried out on test samples, taken at random from three different production batches of the product for which approval is sought. Each test must have been undertaken by incorporating appropriate heat weld or solvent weld joints as required for the product (as outlined in the IFU).

4.2 Approval of Products made from a Grade of Plastic not on the Recognised Grades List

Applications should be made in the normal way as described in [Advice Sheet 1](#).

4.3 Applications to add a New Grade of Plastic to the Recognised Grades List

This may be undertaken in two ways, either:

1. The plastic grade manufacturer may make an application in the normal way but adding a covering letter explaining that the grade of material is to be added to the recognised grade list only. Testing on the plastic material will be required to assess the grade for inclusion on the list.
2. A product manufacturer may get approval for a product made from a grade of plastic not on the recognised grades list (as described above) and then, after approval and with

the agreement of both the product and material manufacturer, the grade may be added to the recognised grades list.

5 Stainless Steel

All stainless steel products used in contact with water for public supply must be approved under the relevant regulations, unless considered to be a low-risk product; see [Advice Sheet 8](#).

A number of grades of stainless steel specifications have been tested by The British Stainless Steel Association and accepted as recognised grades. The recognised grades of stainless steel are given in [Annex 3](#) of the List.

The fabrication method can potentially affect the stainless steel and all stainless steel items must be manufactured in accordance with The British Stainless Steel Association's Operational Guidance and Code of Practice, available from the [BSSA Website](#).

Fabricators can apply for approval of their products made from recognised grades of stainless steel. The application should be made on the appropriate form and include an undertaking that all products manufactured for use in contact with drinking water for water company installations will be made from recognised grades and in accordance with The British Stainless Steel Association's Operational Guidance and Code of Practice. If DWI is satisfied with the evidence provided, it will recommend approval of the product (or range of products).

Products fabricated by manufacturers on the lists are approved provided they comply with the following conditions. Products must be:

- a. made from stainless steel materials on the list of recognised stainless steels;
- b. fabricated in accordance with Operational Guidance and Code of Practice for Stainless Steel Products in Drinking Water Supply, published by the British Stainless Steel Association;
- c. use other water contact materials (seals, gaskets etc.) in accordance with regulation 31¹ (either 31(4)(a) or 31(4)(b)). These should be agreed with the water company at the point of specification; and
- d. supplied with documentation to the water company, for their records, to confirm which items supplied are covered by the approval.

5.1 Communication Pipes made from Stainless Steel

Stainless steel communication pipes can be used under regulation 31(4)(b)1 provided the product meets the requirements in [Advice Sheet 8](#) and would not require regulation 31(4)(a)1 approval so long as:

- a. the pipe is made from grades of stainless steel already considered and recognised by the DWI as unlikely to cause a problem in contact with water, and
- b. drinking water suppliers adhere to "Operational Guidance and Code of Practice for Stainless Steel Products in Drinking Water Supply", published by the [British Stainless Steel Association](#).

¹regulation 31 of the Water Supply (Water Quality) Regulations 2018 in Wales, regulation 33 of the Water Supply (Water Quality)(Scotland) Regulations 2014, and regulation 33 of the Water Supply (Water Quality Regulations) (Northern Ireland) 2017

6. Other Metallic Products (Including Metallic Coatings)

Notwithstanding the information given below it is the responsibility of the end user (water supplier) to ensure that any metallic component used in contact with water intended for human consumption will not result in leaching that would have an adverse effect on water quality, including taking into account the chemical properties of the water that will be in contact with the metallic product, e.g. chlorine content, dissolved oxygen, pH value, hardness, alkalinity and naturally occurring organic matter.

6.1 Pipes made from Copper

Copper pipes can be used under regulation 31(4)(b) provided the product meets the requirements in [Advice Sheet 8](#) and would not require regulation 31(4)(a)² approval so long as:

- a. The copper pipes conforming to BS EN 1057 “Copper and copper alloys. Seamless, round copper tubes for water and gas in sanitary and heating applications”; and
- b. The pipe is installed in accordance with the relevant sections of “Copper Tube in Domestic Water Services: Design and Installation” published by the [Copper Development Association](#).

6.2 Galvanised Steel

Unrestricted use of galvanised steel pipes is not permitted. However, galvanised steel may be suitable for use in certain water compositions. Any supplier seeking to install galvanised steel for use in public water supplies should make an application to DWI for approval.

6.3 Other Metallic Products and Coatings

Fittings and ancillaries with small surface areas are not exempt from approval requirements under the relevant regulations. For more information see [Advice Sheet 8](#).

Products which do not fall into the category of small surface area as defined in Advice Sheet 8 will normally fall under the full requirements of the relevant regulations. Such products are considered, on a case-by-case basis, by the DWI.

² regulation 31 of the Water Supply (Water Quality) Regulations 2018 in Wales, regulation 33 of the Water Supply (Water Quality)(Scotland) Regulations 2014, and regulation 33 of the Water Supply (Water Quality Regulations) (Northern Ireland) 2017