LIST OF APPROVED PRODUCTS for use in Public Water Supply in the United Kingdom

December 2011

guardians of drinking water quality

DOCUMENT CONTROL

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Errors and corrections:
Please email us if you find any errors or if corrections are needed

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BACKGROUND

GENERAL DEFINITIONS

The relevant regulations (for public drinking water suppliers)
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 2000 (Statutory Instruments 2000 No 3184) – http://www.dwi.gov.uk/stakeholders/legislation/ws_wqregs2000.pdf
b) ***Wales*** – Regulation 31 of The Water Supply (Water Quality) Regulations 2001 (Welsh Statutory Instrument 2001 No 3911 (W.323) – http://www.opsi.gov.uk/legislation/wales/wsi2001/20013911.htm
c) ***Scotland*** – Regulation 27 of The Water Supply (Water Quality) (Scotland) Regulations 2001 – http://www.opsi.gov.uk/legislation/scotland/ssi2001/20010207.htm
d) ***Northern Ireland*** – Regulation 30 of The Water Supply (Water Quality) (Amendment) Regulations) (Northern Ireland) 2009 (Statutory Rules of Northern Ireland 2009 No.246) - http://www.opsi.gov.uk/sr/sr2009/nisr_20090246_en_1

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 National Assembly for Wales (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; this list (the List of Products for use in Public Water supply in the United Kingdom) is posted on the DWI website:** http://www.dwi.gov.uk/drinking-water-products/approved-products/soslistcurrent.pdf
- ***Scotland*** – a list is published annually by the Scottish Government on their website: http://www.scotland.gov.uk/Publications/
- ***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. (http://www.dwi.gov.uk/drinking-water-products/advice-and-approval/Advicesheet1.pdf). Relevant deviations from this process are set out in the appropriate Advice Sheets.

Water suppliers
These include water undertakers, inset appointees, and combined licensees - see The Water Act 2003 (Consequential and Supplementary Provisions) Regulations 2005, together with private drinking water suppliers.

INTRODUCTION

The products in this list have only been assessed for safety for use in water supplies; they have not been assessed for fitness for purpose, or for use in buildings. The Water Regulations Advisory Scheme (WRAS) operates a specific approval scheme for products used in buildings - http://www.wras.co.uk/Directory/

Section 69 of the Water Industry Act 1991, as amended by the Water Act 2003, gave the Secretary of State for the Environment, Food and Rural Affairs and the National Assembly for Wales powers to make regulations controlling substances, processes and/or products that are used in the treatment and provision of public water supplies. Section 76B of the Water (Scotland) Act 1980 gives Scottish Ministers similar powers.

The Drinking Water Inspectorate (DWI) carries out the approval process for the Authorities for the whole of the United Kingdom, under the relevant Regulations. DWI accepts applications for approval of products used both before the treatment works, and in water distribution systems up to the point of delivery to premises.

The relevant regulations concern the introduction of substances and products (including construction products) and processes for use in the treatment and provision of drinking water supplies. They implement the requirements of Article 10 of the European Union Directive 98/83/EC on the quality of water intended for human consumption, in respect to substances and materials used in the preparation and distribution of water up to the point of delivery to premises. They do not transpose the requirements of the Directive with regard to the premises (water supply systems within buildings). In England and Wales these requirements are dealt with by the water industry Water Regulations Advisory Scheme (WRAS) under the Water Supply (Water Fittings) Regulations 1999. In Scotland these are dealt with by Scottish Water's Water Byelaws 2004.

Under the relevant regulations drinking water suppliers shall not apply or introduce any substance or product into public drinking water supplies unless the requirements of the relevant regulations are met.

Processes coming under these requirements are NOT included in this publication. For further details please see Regulation 32.

Further information on how applications for approval are dealt with by the DWI are given in Advice Sheet 1 http://www.dwi.gov.uk/drinking-water-products/advice-and-approval/Advicesheet1.pdf

When assessing applications for approval, DWI relies on the expertise of its Inspectors and expert advisers who are experienced in toxicology, chemistry, engineering, water treatment, water distribution and public health.

Basis of approval

DWI cannot advise on approval of products that will not be placed on the United Kingdom market.

When considering an application for approval, DWI considers only 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; assessment of fitness for purpose is not covered.

Applications are considered for all construction products used in contact with water in water treatment processes, water supply pipelines (including raw water pipelines) and drinking and water storage, and in water installations of raw water intended for human consumption. In addition DWI considers water treatment chemicals and filtration media that are not covered by a published BS EN standard[1]; products (individual chemicals or filter media) that conform to a BS EN standard may be used without the approval of the Authorities in accordance with any appropriate additional National conditions of use.

It is important to note that approval of products does not give any indication as to the effectiveness or merits of the products in relation to any use.

Approved products have not been assessed for suitability for use with regeneration chemicals associated with some water treatment processes; for such applications, specific testing after exposure to the appropriate aggressive chemicals should be undertaken.

Products Approved Under Previous Regulations[2]

Approvals given under what are revoked Regulations are continued in effect by the combination of sections 17(2)(b) and 23 of the Interpretation Act 1978. So far as relevant, the effect of these provisions is that anything (including the approval of a substance or product) done under the previous Regulations that could have been done under present Regulations is taken to have been done under the latter Regulations.

For advice on Natural or Traditional products please refer to Advice Sheet 10 - http://www.dwi.gov.uk/drinking-water-products/advice-and-approval/Advicesheet10.pdf

Review of Approved Products

New toxicological information - From time to time the DWI is made aware of new toxicological information on specific substances, usually from other recognised national or international bodies. DWI will review this information, and where necessary seek expert toxicological advice concerning the impact of this data on currently approved products containing those substances. If it is found that this information indicates that some approved products could pose a potential risk to human health, DWI may require some retesting of them. This process is set out in Advice Sheet 1, Section 7.2 and 9.2 - http://www.dwi.gov.uk/drinking-water-products/advice-and-approval/Advicesheet1.pdf

Changes to approved products - Approval holders are advised to keep changes to a minimum, but it is recognised that sometimes changes are necessary. If the approval holder makes any change to an approved product, this must be notified to DWI as soon as possible so that an assessment of the implications of the change can be made. Major changes may mean that DWI will require further information and/or testing to determine whether the approval of the product can be maintained. It is for DWI to assess the significance of the change; some minor changes may require no further action. Further details are given in Advice Sheet 4 - http://www.dwi.gov.uk/drinking-water-products/advice-and-approval/Advicesheet4.pdf

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[1] See Annex 2.

[2] Or the 15th Statement of the Committee on Chemicals and Materials of Constructions for use in Public Water Supply and Swimming Pools (Department of the Environment) March 1989 – issued before implementation of the previous Regulations.

In some cases either of the above could lead to revocation of approval of the product.

Breaches of any condition of approval would be grounds for revocation of that approval.

The Annual List of Approved Products

The relevant Regulations require that a list of all the substances and products approved or refused and all approvals revoked or modified, shall be published, at least once a year.

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 is posted on the DWI website: http://www.dwi.gov.uk/drinking-water-products/approved-products/soslistcurrent.pdf .

IMPORTANT NOTE
Please see the DWI website for the most up-to-date list. Printed copies of this list may not be up-to-date.

INTRODUCTION TO THE LIST OF APPROVED PRODUCTS

All approved products must be used in accordance with the specific conditions of approval, listed against the product names in Parts A-E. In addition, the following general conditions of approval apply to all approved products:

(1) That use is in accordance with an Instructions for Use document. Approval holders must provide drinking water suppliers with copies of the Instructions for Use Document that was considered by the Drinking Water Inspectorate (DWI) when approval was recommended.

(2) That the approval of the Authorities is obtained on condition that there shall be:

- *no change in the formulation of the approved product, including change in the source or identity of raw materials*
- *no change in the manufacturing process, including location of manufacture*
- *no change in designation of the approved product*
- *no change in name or ownership of the organisation holding the approval*

(3) That the producer shall ensure that the product is tested for conformity with its formulation, and the source or identity of its raw materials, at such intervals and by such persons, as may be determined by the Authorities. The results of such testing shall be sent to the Authorities.

(4) If there is suspicion that any of the above is not being followed or has been changed then notify DWI Regulation 31 team who will investigate (reg31.enquiries@defra.gsi.gov.uk)

PART A: CHEMICALS AND FILTER MEDIA

INTRODUCTION

The products listed in this section are for use by drinking water suppliers, and cover:-

- Chemicals that can be used for the treatment and disinfection of water intended for human consumption;
- Chemicals that can be used for the treatment of assets, eg surface disinfection; and
- Filter media used in the large scale filtration of water, but not part of specific units, eg cartridge filters, membrane filtration units etc.

Two series of relevant European Standards (EN) have been published -

- Chemicals used for treatment of water intended for human consumption
- Products used for treatment of water intended for human consumption

As a consequence of the introduction of these EN standards treatment chemicals or products that conform with an appropriate EN standard, and that are used in accordance with any specific national condition of use (see Annex 2, sections 2.1 and 2.2 respectively) may be used without the approval of the Authorities. These standards are published by the British Standards Institute(BSi) as BS EN Standards and are available through BSi.

Products that conform to an appropriate EN standard are not subject to the approval process and are no longer listed in this publication. When new appropriate EN standards are published, products currently listed and conform to the appropriate new EN standard, will be removed from this section and temporarily listed in Annex 1 table 1.6.2.

The products listed in this section have only been assessed for their safety for use in drinking water supplies, when used in accordance with the relevant Instructions for Use. These products have NOT been assessed for –

a) their efficacy or fitness for purpose in respect of any use; or
b) their suitability for use in building water systems, including in terms of their safety when used in such systems.

IMPORTANT NOTE
Where a product based on a treatment chemical meeting the requirements of a relevant EN standard also contains other ingredients, whether or not these other ingredients meet the requirements of relevant EN standards, a formal review of the product by DWI is required before use – see Sections 1.4 and 3 of Advice Sheet 3 – http://www.dwi.gov.uk/drinking-water-products/advice-and-approval/Advicesheet3.pdf

The following chemicals and products are either, not covered by a relevant EN standard, or do not conform fully to the scope and/or requirements of a published EN. For all of the chemicals and products listed, the following general condition of approval applies:

It is the responsibility of the drinking water suppliers to ensure that
(a) the method and manner of use; and
(b) the purity of these chemicals and products
are such that the water treated meets the requirements of the relevant regulations. Where appropriate, additional specific conditions of approval are listed against the chemical or product.

A.1 FLOCCULANTS AND COAGULANTS

A.1.1 Products based on tannin

The dose used must not exceed 10 mg l^{-1} of active material.

GE Betz Ltd
WS 330/132/2 Klaraid PC 4000

A.1.2 Products based on aluminium and iron

For these products the dose must not exceed 150 mg l^{-1} of the product as supplied.

Clinty Chemicals Ltd
DWI 56/4/151 Ferric Aluminium Sulfate

A.1.3 Products based on iron

A.1.4 Products based on polyacrylamide

For the products listed below the following conditions apply:-

(i) no batch must contain more than 0.020% of free acrylamide monomer based on the active polymer content

(ii) the dose must average no more than 0.25mg/l and never exceed 0.50 mg/l of the active polymer

(iii) an upper limit for the content of free acrylamide monomer must be stated by the supplier for every batch

(iv) the method used for the analysis for free acrylamide monomer is that published in the series "Methods for the Examination of Waters and Associated Materials" entitled "Determination of Acrylamide Monomer in Waters and Polymers 1987" (HMSO 1988)Method number 115. ISBN 01175 2039X

BASF Performance Products plc
DWI 56/4/885 Magnafloc LT20
DWI 56/4/883 Magnafloc LT22-DWI
DWI 56/4/884 Magnafloc LT22S-DWI
DWI 56/4/886 Magnafloc LT25
DWI 56/4/887 Magnafloc LT27

Goldcrest Chemicals Ltd
DWI 56/4/914 Golkem 124
DWI 56/4/915 Golkem N17
DWI 56/4/916 Golkem N184
DWI 56/4/917 Golkem A169
DWI 56/4/918 Golkem A24
DWI 56/4/919 Golkem A170
DWI 56/4/920 Golkem A225
DWI 56/4/921 Golkem A155
DWI 56/4/922 Golkem A28
DWI 56/4/923 Golkem A165
DWI 56/4/924 Golkem C575S
DWI 56/4/930 Golkem C570S
DWI 56/4/949 Golkem A219

Goldcrest Chemicals Ltd
DWI 56/4/950 Golkem A230
DWI 56/4/951 Golkem C565S

Kemira Chemicals b.v
DWI 56/4/893 Superfloc A100 PWG
DWI 56/4/894 Superfloc A110 PWG
DWI 56/4/895 Superfloc A120 PWG
DWI 56/4/896 Superfloc A130 PWG
DWI 56/4/897 Superfloc A137 PWG
DWI 56/4/898 Superfloc A150 PWG
DWI 56/4/899 Superfloc C-492 PWG
DWI 56/4/900 Superfloc N100 PWG
DWI 56/4/901 Superfloc N300 PWG

A.1.5 Products based on polyamine

For the products listed below the following conditions apply:-

(i) the dose must average no more than 2.5 mg/l and never exceed 5.0 mg/l as the active polymer

(ii) no batch must contain more than 40 mg/kg 3-monochloro propane 1,2-diol

(iii) the analytical system used for determining the batch content must have a limit of detection no greater than 4mg/kg. Both estimates must have at least 10 degrees of freedom and have been determined from batches of analyses carried out on not less than five separate days

(iv) the supplier must state for every batch an upper limit for the content of 3-monochloro propane 1,2-diol

BASF Performance Products plc
DWI 56/4/888 Magnafloc LT31
DWI 56/4/889 Magnafloc LT32

Goldcrest Chemicals Ltd
DWI 56/4/925 Golkem CL118
DWI 56/4/926 Golkem CL287
DWI 56/4/931 Golkem CL289

Kemira Chemicals b.v
DWI 56/4/902 Superfloc C573

Nalco Europe b.v
DWI 56/4/905 [1]Nalco 71223
DWI 56/4/906 [1]Nalco 71225
[1] *indicates products which also contain a coagulant based on aluminium*

A.1.6 Products based on polyDADMAC (Polydiallyldimethyl ammonium chloride)

For the products listed below the following conditions apply:-

(i) the dose must not exceed 10 mg/l of active polymer

BASF Performance Products plc
DWI 56/4/890 Magnafloc LT35
DWI 56/4/891 Magnafloc LT37
DWI 56/4/892 Magnafloc LT38

Goldcrest Chemicals Ltd
DWI 56/4/927 Golkem CL488
DWI 56/4/928 Golkem CL489

Kemira Chemicals b.v
DWI 56/4/903 Superfloc C587
DWI 56/4/904 Superfloc C592

A.1.7 Products based on aluminium

W7TER Ltd
DWI 56/4/808 W7TER EC 1000 Series

A.2 ADSORBENTS

The contact bed containing the product must be adequately backwashed in accordance with the Instructions for Use document and then rinsed with 5 bed volumes of water passed downflow to waste.

Purolite International Ltd
DWI 56/4/421 Macronet - MN200

A.3 ION EXCHANGE RESINS SYSTEMS

A.3.1 Ion exchange resins

Orica Australia Pty Ltd
DWI 56/4/550 MIEX DOC Resin
DWI 56/4/550 MIEX DWII0I Resin

Purolite International Ltd
DWI 56/4/11 Purolite A520E nitrate selective anion exchange resin

Rohm and Haas (UK) Ltd
DWI 56/4/758 AMBERLITE PWA5
DWI 56/4/63 IMAC HP 336
DWI 56/4/63 IMAC HP 555

A.3.2 Ion exchange resin based processes

BOC
DWI 56/4/467 IXL Process

A.4 DISINFESTATION, DISINFECTION OR CLEANING AGENTS OF WATERWORKS APPARATUS AND DISTRIBUTION SYSTEMS

During the approval process there is no evaluation of a product's effectiveness, only of its safety in use. An approval given in this section does not certify that the Authorities are satisfied that that the product is effective, but only that it is safe for use in accordance with the Instructions for Use supplied.

The fact that a product is approved does not justify any claim about its effectiveness.

Permission or consent for disposal of any wastewater generated to a sewer or watercourse must be obtained from the relevant water Service Company, or Environment Agency in England and Wales or Scottish Environment Protection Agency (SEPA) in Scotland as appropriate.

Aquabiotics Industrial Pty Ltd
DWI 56/4/642 BoreSaver Liquid
DWI 56/4/641 BoreSaver Ultra C
DWI 56/4/959 BoreSaver 1KL Pro
DWI 56/4/641 BoreSaver Ultra C Plus

Aquatreat Group Ltd
DWI 56/4/996 Peroxysil 50
For this product the following applies:
This product shall be rinsed until the concentration of Hydrogen Peroxide is 0.1mg/l or less.

Arch Chemicals S.A
DWI 56/4/845 Constant Chlor Plus Briquettes

BioBullets Ltd
DWI 56/4/852 Silver Bullets 1000
DWI 56/4/1000 Silver Bullets 2000
For these 2 products the following applies:
These products can only be used for raw water treatment.

Carus Chemical Company
DWI 56/4/631 Carusol 20 Liquid Permanganates
DWI 56/4/631 Carusol 40 Liquid Permanganates

Floran Technologies Inc
DWI 56/4/754 Floran Biogrowth Remover/Floran Catalyst
DWI 56/4/754 Media Master/Floran Catalyst
DWI 56/4/843 Floran Top Ultra/Floran Catalyst

Panton McLeod Ltd
DWI 56/4/212 PM33
DWI 56/4/212 PM55
DWI 56/4/212 PM88

Permacare - Membrane Separations Group
DWI 56/4/385 Resintreat

Roam Chemie NV
DWI 56/4/573 Huwa-San TR50
For this product the following applies:
Flush the apparatus or distribution system before putting into service. Flushing shall be sufficient to ensure that all residual silver is flushed from the system such that the elevation of silver content in the final flush water is not greater than 1µg/l.

R. Spane GmbH
DWI 56/4/730 Carela FIX & DES

Tevan BV
DWI 56/4/844 TEVAN Panox
For this product the following applies:
This product shall be rinsed until the concentration of Hydrogen Peroxide is 0.1mg/l or less.
DWI 56/4/381 TEVAN SIL
For this product the following applies:
Flush the apparatus or distribution system before putting into service. Flushing shall be sufficient to ensure that all residual silver is flushed from the system such that the elevation of silver content in the final flush water is not greater than 1µg/l.

Water Treatment Products Ltd
DWI 56/4/211 Sanosil Super 25
For this product the following applies:
Flush the apparatus or distribution system before putting into service. Flushing shall be sufficient to ensure that all residual silver is flushed from the system such that the elevation of silver content in the final flush water is not greater than 1µg/l.

A.5 DISINFECTION OR CLEANING AGENTS OF MEMBRANES

During the approval process there is no evaluation of a product's effectiveness, only of its safety in use. An approval given in this section does not certify that the Authorities are satisfied that that the product is effective, but only that it is safe for use in accordance with the Instructions for Use supplied.

The fact that a product is approved does not justify any claim about its effectiveness.

Ashland Drew Industrial Division
DWI 56/4/473 AmeROyal 363

Atkinson Chemicals Ltd
DWI 56/4/495 Kinro 1020
DWI 56/4/495 Kinro 1020D
DWI 56/4/524 Kinro 1406
DWI 56/4/524 Kinro 1406N
DWI 56/4/375 Kintrol 556
DWI 56/4/375 Kintrol 556C

BWA Water Additives UK Ltd
DWI 56/4/839 Flocon 135

Avista Technologies (UK) Ltd
DWI 56/4/458 Delro 35
DWI 56/4/582 Delro 40
DWI 56/4/964 RoCide DB20
DWI 56/4/737 RoClean 111
DWI 56/4/945 RoClean L211
DWI 56/4/855 RoClean L403
DWI 56/4/800 RoClean L404
DWI 56/4/824 RoClean L607
DWI 56/4/746 RoClean P303
DWI 56/4/868 Vitec 2000
DWI 56/4/457 Vitec 3000
DWI 56/4/582 Vitec 4000
DWI 56/4/458 Vitec 5000
DWI 56/4/801 Vitec 7000
DWI 56/4/869 Vitec 7000a

GE Betz Ltd
DWI 56/4/388 Hypersperse MDC150
DWI 56/4/388 Hypersperse MDC220

Genesys International Ltd
DWI 56/4/664 Genesol 38
DWI 56/4/665 Genesol 40
DWI 56/4/577 Genesys HR
DWI 56/4/495 Genesys LF
DWI 56/4/783 Genesys LF60
DWI 56/4/781 Genesys LS
DWI 56/4/610 Genesys MG
DWI 56/4/593 Genesys SI
DWI 56/4/524 Genesys SW

Gulf Specialized Water Services Company
DWI 56/4/534 GulfChem GS300
DWI 56/4/534 GulfChem GS500
DWI 56/4/534 GulfChem GS510
DWI 56/4/534 GulfChem GS520
DWI 56/4/534 GulfChem GS530

Permacare - Membrane Separations Group
DWI 56/4/326 Permaclean 77
DWI 56/4/326 Permaclean 99
DWI 56/4/463 PermaTreat 191
DWI 56/4/385 Resintreat

Professional Water Technologies Inc
DWI 56/4/854 Spectraguard SC

Rohm and Haas (UK) Ltd
DWI 56/4/481 Acumer 1100
DWI 56/4/481 Acumer 4035
DWI 56/4/481 Acumer 4450
DWI 56/4/481 Acumer 4800

Water Treatment Products Ltd
DWI 56/4/821 WTP RO 411
DWI 56/4/822 WTP RO 413

A.6 DISINFECTANTS FOR EMERGENCY USE

Disinfectants for emergency use are no longer approved and listed under the requirements of relevant regulations. Guidance upon the choice and use of disinfectants in an emergency is provided in Advice Sheet 9 (http://www.dwi.gov.uk/drinking-water-products/advice-and-approval/Advicesheet9.pdf).

Approvals of previously listed disinfectants for emergency use have been revoked – see Information Letter 08/2008 (http://www.dwi.gov.uk/stakeholders/information-letters/2008/08_2008.pdf)

A.7 PRODUCTS BASED ON TRADITIONAL CHEMICALS

A.7.1 Traditional Chemicals

The following traditional chemicals (not currently covered by a specific appropriate BS EN) are considered by DWI to meet the requirements of the relevant regulations subject to the following condition -
The method of use and the purity of these products shall be such that, when used in the treatment of water intended for human consumption, the water so treated shall meet the appropriate requirements of the Water Supply (Water Quality) Regulations. .

Calcium chloride
Calcium sulphate
Citric acid (food grade) - for use only in cleaning of membranes
Crushed flint (e.g. Flintag)
Ferrous chloride
Magnesium carbonate
Magnesium hydroxide
Magnesium sulphate - use only for re-mineralisation with RO membrane systems
Magnetite (Iron oxide (Fe_3O_4))
Products supplied as mixture of magnesium hydroxide and magnesium oxide
Sodium chloride
Sodium sulphate
Lithium Salts
For this product the following additional condition applies:
The use of lithium salts for meter calibration in water mains is acceptable providing that the maximum concentration of lithium in water supplied to consumers does not exceed 0.10 mg l^{-1} at any time (the analytical method used for lithium determination should have an accuracy better than ±0.01 mg l^{-1} at 0.10 mg l^{-1})

A.7.2 On-site electrolytic generation of chlorine

Products in this section are not fully covered by EN 901 (Sodium Hypochlorite) and must conform to the following conditions of use:
(i) the method of use and the purity of the output of these products shall be such that, in the case of water for public supply, the water so treated meets the requirements of the relevant Regulations, and
(ii) the treated water must not contain more than 700 µg/l chlorate.

Aztec Environmental Controls
WS 34/1/82 Sodium hypochlorite generated by the ElectroCell Process

Grundfos Water Treatment
DWI 56/4/864 Selcoperm

Severn Trent Services Ltd
DWI 56/4/549 Clortec cell

Wallace and Tiernan Ltd
DWI 56/4/775 Sodium hypochlorite generated by the OSEC system

Waterman Environmental Services Ltd
DWI 56/4/545 MIOX Electrolytic Sodium Hypochlorite Generators

A.7.3 On-site generation of chlorine dioxide

Products in this section are not fully covered by EN 12671 (Chlorine dioxide) or introduce chlorine dioxide directly into supply once generated. The following products must conform to the following conditions of use:
(i) the method of use and the purity of the output of these products shall be such that, in the case of water for public supply, the water so treated meets the requirements of the relevant Regulations, and
(ii) the combined concentration of chlorine dioxide, chlorite and chlorate shall not exceed 0.5mg/l as chlorine dioxide in the water entering supply.

Scotmas Ltd
DWI 56/4/999 Scotmas Purate CDDS (Chlorine Dioxide Dosing System)
DWI 56/4/1018 Scotmas Zulu WXC (Chlorine Dioxide Dosing System)

Ximax Water Solutions
DWI 56/4/998 Xziox Chlorine Dioxide

A.8 DISINFESTATION AGENTS

During the approval process there is no evaluation of a product's effectiveness, only of its safety in use. An approval given in this section does not certify that the Authorities are satisfied that that the product is effective, but only that it is safe for use in accordance with the Instructions for Use supplied.
The fact that a product is approved does not justify any claim about its effectiveness.

Bournemouth and West Hampshire Water Plc
DWI 56/4/720 Permasect WT for use in disinfestation of mains
For this product the following conditions apply:
(i) the dose applied must not cause the average and maximum concentration of permethrin or pyrethrins in water to exceed 10 and 20 $\mu g\ l^{-1}$ respectively;
(ii) the period of dosing should be kept to a minimum and must never exceed 7 days;
(iii) adequate account shall be taken of those water uses likely to be affected by the presence of permethrin or pyrethrins in water;
(iv) any water company proposing to use the product must give prior notification to the Authorities in accordance with agreed procedures; and
(v) permission or consent for disposal of any wastewater generated to a sewer or water course must be obtained from the relevant water service company or Environment Agency in England and Wales or Scottish Environment Protection Agency (SEPA) in Scotland , as appropriate.

DWI 56/4/720 Permasect WT for use in application to slow sand filters

For this product the following conditions apply:

(i) the dose must not exceed 100µg/l and the residual must not exceed 0.1µg/l in the treated water;

(ii) the period of dosing should be kept to a minimum and must never exceed more than once in a 28 day period;

(iii) prior to dosing, the water undertaker must establish that the filter bed to be dosed is intact and free from defects that would permit short-circuiting of normal flow pattern;

(iv) monitoring of permethrin in the final treated water entering supply must be carried out at daily intervals during the first 7 days following commencement of dosing; and

(v) permission or consent for disposal of any wastewater generated to a sewer or water course must be obtained from the relevant water service company or Environment Agency in England and Wales or Scottish Environment Protection Agency (SEPA) in Scotland , as appropriate.

A.9 OTHER CHEMICALS

Airedale Chemical Company Ltd
DWI 56/4/960 Airophos 750PWG

Brenntag UK & Ireland Ltd
DWI 56/4/979 TP Chlor

Industrial Chemicals Ltd
DWI 56/4/1025 Thycal

A.10 FILTER MEDIA

Dryden Aqua Ltd
DWI 56/4/382 Advance Filtration Media (AFM)

PART B: PRODUCTS USED FOR THE CONVEYANCE OF WATER

B.1 PIPES

B.1.1 Polyethylene (PE) pipes

Asset International Ltd
DWI 56/4/513 Weholite Pipe

Centraltubi S.P.A
DWI 56/4/913 Centraltubi

Dyka B.V.
DWI 56/4/535 Dyka Blue HDPE -100 Pressure Pipes
DWI 56/4/535 Dyka Blue HDPE -80 Pressure Pipes

Dyka Plastics NV
DWI 56/4/575 Dyka Blue PE80 Pressure Pipes

EBERO Pipe Systems Ltd
DWI 56/4/829 Gerodur PE100 Blue Polyethylene Pipe

Egeplast Werner Strumann GmbH &Co
DWI 56/4/436 Egelen PE 100 Blue
DWI 56/4/436 Egelen PE100 Black

Fusion Provida
DWI 56/4/548 Fusion Black 100

George Fischer Sales Ltd
DWI 56/4/957 GF PE100 Black Pipe

GPS
DWI 56/4/871 GPS Excel 3c (Black)
DWI 56/4/853 GPS Excel 3c (Blue)
DWI 56/4/850 GPS Excel (Blue)
DWI 56/4/851 GPS Excel (Black)
DWI 56/4/651 GPS N Blue PE80 Pipe
DWI 56/4/242 GPS B Light Blue Polyethylene Pipe
DWI 56/4/345 GPS B Black Polyethylene PipeDWI 56/4/980 GPS F Black Polyethylene Pipe
DWI 56/4/946 GPS Excel CR *For this product the following condition of use applies: Approval applies to pipe diameters of 250mm or greater*
DWI 56/4/961 GPS Excel (Black) Type F *For this product the following condition of use applies: Approval applies to pipe diameters of 200mm or greater*
DWI 56/4/1026 GPS Excel NB

Hepworth Building Products
DWI 56/4 239 Black MDPE Pipe
DWI 56/4/239 Blue MDPE Pipe

KWH Pipe (UK) Ltd
DWI 56/4/551 KWH Hostalen CRP 100 Black
DWI 56/4/551 KWH Hostalen CRP100 Blue

NKT Flexibles
DWI 56/4/644 AQFLEX
Pipelife Norge AS
DWI 56/4/811 Pipelife PE100 Pipes Black
DWI 56/4/778 Pipelife PE100 pipes Blue

Polypipe (Ulster) Ltd
DWI 56/4/241 Polypipe MDPE Pipe

Polypipe Building Products Ltd
DWI 56/4/635 Polypipe HDPE Pipe
DWI 56/4/635 Polypipe MDPE Pipe
DWI 56/4/635 TUB121
DWI 56/4/635 TUB124
DWI 56/4/968 Black PE80 Polyethylene Pipes
DWI 56/4/970 Blue PE80 Polyethylene Pipes
DWI 56/4/986 Black PE80 Polyethylene Pipes (ME3440)

Quality Plastics Ltd
DWI 56/4/240 Qualplast Polyethylene Pipe
DWI 56/4/997 Qual-plast HDPE Pipe

Radius Systems Ltd
DWI 56/4/939 Factory Sealed PE100 High Performance Dark Blue Pipe
DWI 56/4/940 PE100 High Performance Black Pipe
DWI 56/4/941 PE80 Medium Density Light Blue Pipe
DWI 56/4/942 PE80 Medium Density Black Pipe
DWI 56/4/943 Factory Sealed PE100 High Performance Profuse Pipe

Simona UK Ltd
DWI 56/4/526 Simona PE100 Pressure Pipe (type TRST RO) blue
DWI 56/4/570 Simona PE100 SPS-Drinking Water Pipes (type TRST-SPC RO)
DWI 56/4/875 Simona PE100 Black pipe, manufactured using Hostalen CRP100 black or ELTEX TUB 121 N3000

Subterra - a division of Daniel Contractors Ltd
DWI 56/4/461 Subcoil

Wavin Plastics Ltd
DWI 56/4/244 SupaSure Polyethylene Pipe
DWI 56/4/478 Wavin TS
DWI 56/4/489 Wavin TS3
DWI 56/4/379 WavinBlack Pipe
DWI 56/4/750 WavinJet Pipe
DWI 56/4/244 WavinSure Polyethylene Pipe

B.1.2 Barrier and laminated pipes

Egeplast Werner Strumann GmbH &Co
DWI 56/4/589 Barrier pipes egeplast SLA 2.0
DWI 56/4/589 Laminated pipes egeplast SLM 2.0

GPS
DWI 56/4/872 GPS Protecta-Line
DWI 56/4 873 GPS Protecta-Line 3c
DWI 56/4/675 GPS Secura-Line Pipe Type S
DWI 56/4/700 GPS Secura-Line Pipe Type S Black
DWI 56/4/671 GPS Secura-Line Pipe Type N
DWI 56/4/676 GPS Secura-Line Pipe Type B
DWI 56/4/701 GPS Secura-Line Pipe Type B Black

Polypipe Building Products Ltd
DWI 56/4/857 Polyguard: Polyethylene/Aluminium/Polyethylene barrier pipes

Radius Systems Ltd
DWI 56/4/508 Puriton (BPRB)
DWI 56/4/882 Puriton DB
DWI 56/4/780 Radius 003
DWI 56/4/528 Radius 007
DWI 56/4/492 Radius 012

Wavin Plastics Ltd
DWI 56/4/474 Trigon

B.1.3 Polyvinylchloride (PVC) pipes

Please note that all approved PVC pipes are made with non-lead stabilisers.

Durapipe UK
DWI 56/4/937 Durapipe Grey PVC-U Pipe NGS

Dyka (UK) Ltd
DWI 56/4/374 Dyka BiOroc Pipe

Dyka B.V.
DWI 56/4/637 Dyka Grey PVC-U Pipe NGS

Hepworth Building Products
DWI 56/4/556 Hepworth PVC-A Hep3O (blue) - 16 mm to 710 mm
DWI 56/4/556 Hepworth PVC-U Watermain (grey) - 3/8th to 24 inches

Uponor Ltd
DWI 56/4/325 Mondial MOPVC pipe
DWI 56/4/658 Mondial PVC-O (NGS) Polyvinyl Chloride Pipe
DWI 56/4/810 Mondial PVC-O (GS2) Molecular Oriented Polyvinyl Chloride Pipe
DWI 56/4/723 Uponor A-Tech (PVC-A) Pipe

Wavin Ireland Ltd
DWI 56/4/600 Aquaforce (with non-lead stabiliser)
DWI 56/4/731 Wavinmain EN 1452 NGS

Wavin Plastics Ltd
DWI 56/4/581 Wavin Apollo (with Calcium Zinc Stabilisation)

B.1.4 Acrylonitrile-butadiene-styrene copolymer (ABS)

Durapipe UK
WS 330/181 Durapipe ABS Pipe
DWI 56/4/590 Durapipe ABS Pipe Type F
DWI 56/4/660 Durapipe ABS Pipe Type S

George Fischer Sales Ltd
DWI 56/4/753 GF ABS pressure pipe

B.1.5 Polyethylene terephthalate (PET)

Wavin Plastics Ltd
DWI 56/4/435 Neofit

B.1.6 Glass reinforced plastic (GRP) pipes

Future Pipe Industries B.V.
DWI 56/4/656 Wavistrong Series - for use upstream of a Reverse Osmosis unit only

Iniziative Industriali SpA (Sarplast)
DWI 56/4/666 Plastiwind - for use upstream of a Reverse Osmosis unit only

B.1.7 Cement mortar lined pipes

For Products in this section, the following conditions applies:
Before connection to the supply, the water undertaker or their appointed agent, must carry out tests to establish that migration from the cement mortar lining will not cause a contravention of the upper prescribed concentration for hydrogen ion in the relevant Regulations.

B.1.7.1 Cement Mortar Lined Pipes without seal coat

Duktus
DWI 56/4/948 Duktus Ductile iron pipes with cement mortar lining for the carriage of Drinking Water

Electrosteel Castings Ltd
DWI 56/4/992 Electrofresh Ductile Iron Pipe

FT Pipeline Systems Ltd
DWI 56/4/713 FT Pipelines Cement Lined Pipes

Fuchs Rohr GmbH
DWI 56/4/434 CSP Water Pipes

Jindal Saw Limited
DWI 56/4/933 JSAW-JAL-1A
DWI 56/4/935 JSAW-JAL-11A
DWI 56/4/493 Sertubi Ductile Iron Pipe with Internal Lining in Blast Furnace Cement Mortar

OAO Lipetsk Iron Works "Svobodny Sokd"
DWI 56/4/1003 Ductile Iron Pipes

Saint-Gobain PAM UK Ltd
DWI 56/4/283 System CL

B.1.7.2 Cement Mortar Lined Pipes with seal coat

Buderus Giesserei Wetzlar GmbH
DWI 56/4/625 Cement Mortar Lining coated with Hunting Waterline sealcoat

Electrosteel Castings Ltd
DWI 56/4/537 Electrofresh Plus Pipe lined with 3M Scotchkote Epoxy coating 162 PWX

Jindal Saw Ltd
DWI 56/4/934 JSAW-JAL-1B
DWI 56/4/936 JSAW-JAL-11B

Process Plant Networks Ltd
DWI 56/4/952 Cement Mortar Lining Sealed with Scotchkote 162 PWX

FT Pipeline Systems Ltd
DWI 56/4/559 CSP water pipe lined with Scotchkote 162 PWX

Saint-Gobain PAM UK Ltd
DWI 56/4/283 System XL

B.1.8 Pipes coated with factory applied nylon resin

Leyfos Plastics Limited
DWI 56/4/615 Rilsan Nylon Green Coated Pipes and Fittings

B.1.9 Pipes coated with factory applied epoxy resin

Barnard Ltd
DWI 56/4/710 Pipes lined with RESICOAT R4-FB HKC71R
DWI 56/4/597 Pipes lined with Scotchkote 206N

Barrier Limited
DWI 56/4/757 Barrier Pipeline lined with Copon Hycote 162 PWX

BSR Pipeline Services Ltd
DWI 56/4/661 BSR/EPW/003 - Pipegard P300
DWI 56/4/772 BSR/EPW/004 - Copon Hycote PWX

Conline Coatings B.V.
DWI 56/4/749 Conline Coatings Pipes lined with Copon Hycote 162 PWX

Erciyas Celik Boru Sanayi A.S.
DWI 56/4/989 Erciyas Steel Water Pipes

EUPEC
DWI 56/4/907 Frazer and Tabberer - EUPEC

Freeflow Pipesystems
DWI 56/4/601 Pipes Lined with Scotchkote 206N
DWI 56/4/817 Pipes Lined with Resicoat R4-FB HKC71R

Process Plant Networks Ltd
DWI 56/4/944 PPN Pipe Lined with Scotchkote 162PWX

Noksel Steel Pipe Co Inc
DWI 56/4/832 Steel pipes coated with Copon Hycote 162PWX

Northpoint Ltd
DWI 56/4/602 Pipes lined with Scotchkote 206N
DWI 56/4/659 Pipes lined with Resicoat R4-FB HKCO4R

Orrmac Coatings Limited
DWI 56/4/771 Pipes and Fittings lined with Resicoat R4-FB HKC71R
DWI 56/4/985 Pipes lined with Scotchkote 162PWX

Plastic Coatings Ltd
DWI 56/4/606 Pipes lined with Scotchkote 206N

Saint-Gobain PAM UK Ltd
DWI 56/4/618 PaM Natural Pipeline Components

STS Tubular Group
DWI 56/4/993 Steel pipe coated with 3M Scotchkote Epoxy Coating 162PWX

B.1.10 Stainless steel pipes

ABC Stainless Ltd
DWI 56/4/542 Q Pipe System

Acciona Agua
DWI 56/4/965 Prep-Tec Stainless Steel Products
DWI 56/4/966 Mainser Duplex Stainless Steel Pipework

AJ Engineering & Construction Services Ltd
DWI 56/4/561 AJE Stainless Steel Pipe Systems

Alpha Plus Ltd
DWI 56/4/692 Stainless Steel Pipework

Amari Metals Ltd
DWI 56/4/738 AAlco Stainless Steel Tubes

ASD Metal Services
DWI 56/4/876 ASD Stainless Steel tubes and pipes

BSS Industrial
DWI 56/4/1017 Stainless Steel Tubings and Fittings

Damstahl Stainless Ltd
DWI 56/4/715 Damstahl FF
DWI 56/4/715 Damstahl PT
DWI 56/4/719 Damstahl SE
DWI 56/4/719 Damstahl SP

DH Stainless Ltd
DWI 56/4/773 Stainless Steel Metric Bore and ANSI welded Pipes

Dustacco Engineering Ltd
DWI 56/4/647 DE Stainless Steel Systems

Gallagher & McKinney Ltd
DWI 56/4/616 Stainless Steel Pipe & Fittings grades

GB Filters Ltd
DWI 56/4/820 Aries Managed Air System

George Green (Keighley) Ltd
DWI 56/4/699 Stainless Steel Pipework & Fittings - Flanged/Screwed - All diameters & Grades

J.K. Fabrications Limited
DWI 56/4/574 JKF 304 and 316 Stainless Steel Pipelines

Lancashire Fittings Ltd
DWI 56/4/523 Lancashire Fittings Stainless Steel Pipe
DWI 56/4/523 Lancashire Fittings Stainless Steel Tube

L.E.S Engineering Ltd
DWI 56/4/830 Pipework / Tanks / Vessels

MMP Fabrications Ltd
DWI 56/4/784 Stainless Steel Pipework

Outokumpu Stainless Ltd
DWI 56/4/516 Outokumpu Stainless Steel Pipes

Powerrun Project Management Ltd
DWI 56/4/782 Powerrun Fabricated 304L Stainless Steel Pipework
DWI 56/4/769 Powerrun fabricated stainless steel pipework

RA Materials
DWI 56/4/652 ZERON 100 super duplex stainless steel pipe work and components

Ross-shire Engineering Ltd
DWI 56/4/1034 Stainless steel process pipework systems

Sandvik Materials Technology Ltd
DWI 56/4/704 Sandvik 3R12
DWI 56/4/704 Sandvik 3R60
DWI 56/4/704 Sandvik 3R64
DWI 56/4/704 Sandvik 3R65
DWI 56/4/704 Sandvik 3R66
DWI 56/4/704 Sandvik SAF2205
DWI 56/4/704 Sandvik SAF2507

Scottish Water Solutions
DWI 56/4/722 Stainless Steel Borehole Riser Pipework

Sitemech Utilities Ltd
DWI 56/4/909 SMU Stainless Steel Pipework System

Stainless Metric Stock Ltd
DWI 56/4/569 Stainless Metric Stock - SMS100

Staptina Engineering Services Ltd
DWI 56/4/567 Staptina 316L Pipework

Varis Engineering Ltd
DWI 56/4/956 Process Pipework Systems

Vexamus Water Ltd
DWI 56/4/726 304 Stainless Steel Thin Wall Pipework 50NB to 1000NB
DWI 56/4/727 316 Stainless Steel Thin Wall Pipework 50NB to 1000NB

Wolseley UK Ltd
DWI 56/4/819 Wolseley Stainless Steel Pipes and Tubes

B.1.11 Coated pipes suitable for total immersion in water

Saint-Gobain PAM UK Ltd
DWI 56/4/604 System XL
For the following product, the following condition applies:
Before connection to the supply, the water undertaker or their appointed agent, must carry out tests to establish that migration from the cement mortar lining will not cause a contravention of the upper prescribed concentration for hydrogen ion in the relevant Regulations .
DWI 56/4/604 System CL

B.1.12 Pipes coated with a factory applied Polyolefin

Saint-Gobain PAM UK Ltd
DWI 56/4/823 Blutop

B.2 WELL CASINGS, SCREENS AND RISING MAINS

Angus Flexible Pipelines
DWI 56/4/1020 Angus Wellmaster Flexible Rising Main
For the above product, the following condition applies:
Prior to use the water supplier carries out a risk assessment to provide for a suitable flushing regime validated, where appropriate, by monitoring when the product has been out of supply for a period of time.

Boode UK Ltd
DWI 56/4/958 Boode Waterwell Systems PVC Screen and Casing

Johnson Filtration Systems
DWI 56/4/653 Screens, Casing and Accessories for Water Wells

B.3 PRODUCTS FOR CONVEYANCE OF WATER - EMERGENCY USE

For products in this section the following condition applies:
These products are primarily intended for emergency use and are approved for limited use only and may not be permanently installed in, or used in conjunction with any system for treating or distributing public water supplies. If the proposed use will extend beyond a 90 day period of use on any one occasion, then advice from the DWI should be sought before installation and use.

NOTE: some of these products may be suitable for limited use during planned maintenance. In this case it is the responsibility of the water supplier to undertake a thorough risk assessment of the proposed use, including fitness-for-purpose and why other products, already fully approved under the relevant regulations cannot be used. Use of any of these products during planned maintenance shall be in accordance with the condition set out above.

B.3.1 Hoses

Angus Flexible Pipelines
DWI 56/4/1005 Super Aquaduct
For the above product, the following conditions apply:
(i) after disinfection the product is flushed for its entire length before being brought into service, and
(ii) when in use the main is kept continually in flow.

Snap-Tite Europe. B.V.
DWI 56/4/62 Snap-Tite TE Range – Blue Hose

B.3.2 Bowsers/tanks

JFC Manufacturing (Europe) Ltd
DWI 56/4/765 Emergency Water Tank

Kingspan Environmental Containers
DWI 56/4/736 Emergency Potable Water Storage Tanks

Trailer Engineering
DWI 56/4/707 Emergency Drinking Water Bowsers

Western
DWI 56/4/825 Aquastax and Polytank Emergency bowsers/tanks
DWI 56/4/693 Mobile bowsers/tanks

Whale Tankers Ltd
DWI 56/4/694 Medium Capacity Whale Drinking Water Bowser
DWI 56/4/662 Whale Drinking Water Bowser

B.3.3 Liner bag

Arlington Packaging (Rental) Ltd
DWI 56/4/796 Arlington 1000 Litre Bag-in-Box Combo Liner

Rapak
DWI 56/4/849 1100LLA956

PART C: LINING /COATINGS AND SEALANT & REPAIR MATERIALS

C.1 IN-SITU INSTALLED (TUBULAR) PIPE LININGS

C.2 IN-SITU APPLIED PIPE COATINGS

In-situ applied lining products approved for use by the Authorities for the relining of existing water mains/pipes must be applied in accordance with strict operational requirements as documented in the Water Industry Information & Guidance Note IGN 4-02-02 http://www.water.org.uk/home/member-services/wis-and-ign/archived-documents/ign-4-02-02.pdf *"Code of Practice: In-situ resin lining of water mains" and the Water Industry Specification WIS 4-02-01* http://www.water.org.uk/home/member-services/wis-and-ign/archived-documents/wis-4-02-01-v2.1---march-2009.pdf *"Operational Requirements: In situ resin lining of water mains".*

The coatings listed in this section have been subject to review by DWI (including testing), on the basis of their proposed use with inert substrates such as metallic or cement based structures (or as specified in the manufacturer's Instructions for Use (IFU)), and upon the detailed application and curing requirements set out in the IFU. They have not been evaluated for any other aspect, such as fitness for purpose.

For use with other non-metallic non-cementitious materials, such as plastics, other coatings/linings, and rubbers, a specific application for approval would be required for use of the coating with a specific substrate.

C.2.1 Coatings based on Epoxy Resins

These products must be applied by a certified contractor.

Corrosion Protection Products
DWI 56/4/760 3M Scotchkote Geopox GX 014

Leighs Paints
DWI 56/4/253 Pipegard P300

Subterra - a division of Daniels Contractors Ltd
WS 34/1/124 ELC 173/90

C.2.2 Coatings based on Polyurethane

These products must be applied by a certified contractor.

Corrosion Protection Products
DWI 56/4/336 3M Scotchkote Rapid Setting Polymeric Lining169
DWI 56/4/657 3M Scotchkote Rapid Setting Polymeric Lining 169HB
DWI 56/4/645 3M Scotchkote Rapid Setting Polymeric Lining 169LV

Subterra - a division of Daniels Contractors Ltd
DWI 56/4/579 Fast-Line
DWI 56/4/698 Fast-Line plus

C.3 SITE APPLIED COATINGS FOR WATER RETAINING STRUCTURES

The products listed below in this section, in addition to being approved for site applied coatings for water retaining structures, are suitable for use in large diameter mains where they can be applied by hand e.g. brush or spray.
The coatings listed in this section have been subject to review by DWI (including testing), on the basis of their proposed use with inert substrates such as metallic or cement based structures (or as specified in the manufacturer's Instructions for Use (IFU)), and upon the detailed application and curing requirements set out in the IFU. They have not been evaluated for any other aspect, such as fitness for purpose.

For use with other non-metallic non-cementitious materials, such as plastics, other coatings/linings, and rubbers, a specific application for approval would be required for use of the coating with a specific substrate.

C.3.1 Coatings based on Epoxy Resins

The following conditions apply unless otherwise indicated:
(i) the minimum cure time is 16 hours; and
(ii) the minimum cure temperature is 3°C.

Corroless Corrosion Control
DWI 56/4/305 Corroguard 595

Corrosion Protection Products
WS 34/1/75 3M Scotchkote Epoxy Coating 162 PW
The above product is also suitable for brush application of large diameter mains pipes when used in conjunction with the IFU associated to this product.
DWI 56/4/300 3M Scotchkote Epoxy Coating 162PWX plus 3M Scotchkote Epoxy Coating 162PW Stripe Coat
DWI 56/4/760 3M Scotchkote Geopox GX014

Leighs Paints
DWI 56/4/253 Leighs Waterline P300
DWI 56/4/253 Pipegard P300

Sika Ltd
DWI 56/4/197 Sikagard 62
For this product the following condition applies:
The product must be cured in accordance with the cure curves provided in the Instructions for Use. The required cure time can be calculated by the user from the minimum daily temperature at the site of application. If the temperature cannot be measured and recorded then a minimum cure period of 21 days must be used.

Subterra - a division of Daniels Contractors Ltd
DWI 56/4/71 ELC 173/90

C.3.2 Coatings based on Polyurethane

Corrosion Protection Products
WS 34/1/75 3M Scotchkote Urethane Coating165PW
For this product the following condition applies: *The product must be cured for a minimum period of 7 days at a minimum temperature of 7° C.*
DWI 56/4/613 3M Scotchkote Urethane Sealer 165CS/3M Scotchkote Urethane Coating 165PW-PR
For this product the following condition applies: *The product must be cured for a minimum period of 7 days at a minimum temperature of 7° C.*

Irathanefutura A Division of ITW Ltd
DWI 56/4/276 Aqualine 650 with Irabond BC50
For the above product the following condition applies: *The product must be cured for a minimum of 21 days at a minimum temperature of 7°C*

Linex Protective Coatings
DWI 56/4/874 Aquaurethane Extreme
For the above product the following condition applies: *i) The product must be cured for a minimum of 5days at a minimum substrate temperature of 10°C and ii) this product is for use on water retaining structures only.*

C.3.3 Coatings based on Ebonite

IQL Ltd
DWI 56/4/748 IQL 136 DW Hard Ebonite
For this product the following condition applies:
This company has been granted approval to apply and cure this product on or within water retaining structures

C.4 FLEXIBLE COVERS AND LININGS FOR WATER RETAINING STRUCTURES

DRC Polymer Products Ltd
DWI 56/4/337 Hylam FPA

BASF Polyurethanes GmbH
DWI 56/4/880 Elastocoast 6551/100
DWI 56/4/954 Elastocoast 6551/102
For the above products the following conditions apply:
(i) this product is for use on raw water reservoirs only
(ii) this product must be cured for a minimum period of 7 days at a minimum cure temperature of 7°C
DWI 56/4/953 Elastocoast 6551/103
For the above product the following conditions apply:
(i) this product is for use on raw water reservoirs only
(ii) this product must be cured for a minimum period of 48 hours at a minimum cure temperature of 7°C

Stevens Geomembranes - JPS Elastomerics
DWI 56/4/278 Stevens Polypropylene Geomembrane

TBS Elastomers
DWI 56/4/278 Ecoseal PP - DW

Note: Laminated flexible covers and linings for water retaining structures may not necessarily have been assessed for uses totally immersed in water, e.g. as baffles.

C.5 CEMENTITIOUS COATINGS

BASF Construction Chemicals (UK) Ltd
DWI 56/4/156 Mainline
For this product the following condition applies:
This product has been approved for use only in contact with water of alkalinity greater than 40 mg l^{-1} CaCO3.
DWI 56/4/86 Thoroseal FX 100
DWI 56/4/86 Thoroseal Plaster Mix/Acryl 60
DWI 56/4/86 Thoroseal/Acryl 60

British Cement Association
DWI 56/4/453 Cemline I
DWI 56/4/465 Cemline II
For these products the following condition applies:
Use of these generic products must conform to the In-situ cement mortar lining-Operational Guidelines and Codes of Practice published by Water Research Centre plc,1990 (ISBN 0902156 84 5).

Flexcrete
DWI 56/4/95 Flexcrete Cementitious Coating 851 Grey
DWI 56/4/95 Flexcrete Cementitious Coating 851 White
DWI 56/4/95 Monolevel 844SP

Fosroc Ltd
WS 34/1/109 Nitocote CM 210
For this product the following condition applies:
The minimum cure time is 7 days.

Xypex (UK) LLP
DWI 56/4/487 Xypex Admix C-1000 NF
DWI 56/4/487 Xypex Concentrate
DWI 56/4/487 Xypex Modified

Irathanefutura- Division of ITW Ltd
DWI 56/4/293 Irathane CR 94

MorganEST
DWI 56/4/881 UltraShell SX

Natural Cement Distribution Ltd
DWI 56/4/840 NATCEM AC

Sika Ltd
DWI 56/4/94 Sikatop-Seal 107
For this product the following condition applies:
The product must be cured for a minimum 7 days at a minimum temperature of 7ºC.
Vandex International Ltd
DWI 56/4/48 Vandex BB 75
DWI 56/4/48 Vandex BB White
DWI 56/4/48 Vandex Concrete Grey
DWI 56/4/48 Vandex Mineralit
DWI 56/4/48 Vandex Premix
DWI 56/4/48 Vandex Pure
DWI 56/4/48 Vandex Super
DWI 56/4/48 Vandex Uni Mortar 1

C.6 SEALANT & REPAIR MATERIALS

BASF Construction Chemicals (UK) Ltd
DWI 56/4/156 Dryjoint/Acryl 60
DWI 56/4/156 Structurite/Acryl 60
DWI 56/4/144 Thoroflex 200 expansion joint system
For this product the following condition applies:
This product must be cured for a minimum of 21 days at a minimum temperature of 7ºC

Flexcrete
DWI 56/4/95 Fastfill
DWI 56/4/95 Monomix
DWI 56/4/397 Monomix WS
DWI 56/4/95 Steel Reinforcement Protector 841

Fosroc Ltd
DWI 56/4/297 Renderoc Plug 20

Xypex (UK) LLP
DWI 56/4/487 Xypex Patch'n Plug

Natural Cement Distribution Ltd
DWI 56/4/483 NATCEM 35
DWI 56/4/840 NATCEM AC
DWI 56/4/483 Shotcrete 513

Samuel Cooke & Co Ltd
DWI 56/4/718 Fastplug Cement

Sika Ltd
DWI 56/4/94 Plastocrete OC
DWI 56/4/94 Sika 1
For these products the following condition applies:
This product is approved for use with Portland BS12 cement.
DWI 56/4/217 Sika 101 HD
For this product the following condition applies:
The minimum cure time is 21 days.
DWI 56/4/94 Sika 4a
DWI 56/4/94 Sika AER
For these products the following condition applies:
This product is approved for use with Portland BS12 cement.
DWI 56/4/216 Sika Monotop 610/612
For this product the following condition applies:
The product must be cured in accordance with the cure curves provided in the Instructions for Use. The required cure time can be calculated by the user from the minimum daily temperature at the site of application. If the temperature cannot be measured and recorded then a minimum cure period of 21 days must be used. (The approval for this product applies solely to this product and does not include primer materials.)
DWI 56/4/94 Sikacem 133 Gunite
For this product the following condition applies:
The minimum cure time is 21 days.
DWI 56/4/94 Sikadur Combiflex SG jointing system using Sikadur 31 DW
For this product the following condition applies:
This product must be cured for a minimum cure period of 21days at a minimum temperature of 7^0C.
DWI 56/4/94 Sikatop 121
DWI 56/4/94 Sikatop 122
DWI 56/4/94 Sikatop 122HB
For these products the following condition applies:
The minimum cure time is 21 days.

Vandex International Ltd
DWI 56/4/48 Vandex Plug

PART D: MEMBRANE AND FILTRATION SYSTEMS

For products in this section the following general condition applies:
Products must be installed upstream of any final point of disinfection.

Note: A list of membranes considered by the Drinking Water Inspectorate to be capable of continuously removing or retaining particles greater than 1-micron diameter was available on the DWI website. This list is now no longer available as membranes used must be fit for intended use.

D.1 MEMBRANE AND FILTRATION ELEMENTS/SYSTEMS

Amazon Filters Ltd
DWI 56/4/702 Amazon SupaGard Cartridge Filters
DWI 56/4/702 Amazon SupaSpun II Cartridge Filters

Arkal Filtration Systems CS Ltd
DWI 56/4/425 Spinclean 3 SK 2-2 Filter

Amiad Filtration Systems Ltd
DWI 56/4/456 Filtomat Microcheck System
DWI 56/4/113 Filtomat Microfibre AMK 36K Filter Unit
DWI 56/4/113 Filtomat Microfibre AMK 370K Filter Unit
DWI 56/4/113 Filtomat Microfibre AMK93K Filter Unit

Hydranautics BV
DWI 56/4/680 CPA3 Range of Reverse Osmosis Membrane Systems
DWI 56/4/686 ESPA2 Range of Reverse Osmosis Membrane Systems
DWI 56/4/689 HYDRAcap
DWI 56/4/683 SWC Range of Membrane Filtration Elements

Kalsep UK Ltd
DWI 56/4/277 Fibrotex Aqua Filter Elements
DWI 56/4/277 Kalmem Polyethersulphone Hollow Fibre Element
DWI 56/4/277 PBT Fibrotex Filter Element

Koch Membrane Systems
DWI 56/4/269 ROGA 8060-UF-D Membrane Elements
DWI 56/4/204 Targa Modules V and H

Pall Europe Ltd
DWI 56/4/795 Pall Microza UNA-620C microfiltration module
DWI 56/4/793 Pall Microza UNV-6203 micro-filtration modules
DWI 56/4/396 Pall Microza USV-6203 micro-filtration modules
DWI 56/4/743 Pall 'Ultipor' 'GF Plus' filter type MWH27
DWI 56/4/743 Pall 'Ultipor' 'GFC

PCI Membranes
DWI 56/4/234 C10 Module
DWI 56/4/76 CA202 membrane
DWI 56/4/627 CA222 membrane
DWI 56/4/215 ES404 membrane

Pridesa Proyectos e Instalaciones de Desalación S.A.
DWI 56/4/696 Amazon Cartridge Filter PA-9B-1500

Siemens plc

DWI 56/4/972 Memcor CMF-L L10C Continuous Microfiltration Module (polypropylene membranes)
DWI 56/4/973 Memcor CMF- S S10V Range of Microfiltration submodules (submerged PVDF Membranes) with optional Memcor EF
DWI 56/4/974 Memcor CMF-M10V Continuous Microfiltration Module (PVDFMembranes)
DWI 56/4/975 Memcor CMF-M10C Continuous Microfiltration Module (Polypropylene Membranes)
DWI 56/4/976 Memcor CMF-S S10T Microfiltration Submodule (submerged Polypropylene Membranes) optional Memcor EF
DWI 56/4/977 Memcor CMF-L L10V Range of Microfiltration Submodules (PVDF Membranes)
DWI 56/4/977 Memcor CMF-L L20V Range of Microfiltration Submodules (PVDF Membranes)
DWI 56/4/53 Memcor Continuous Microfiltration (CMF) M1/M2 System

USFilter-Memcor, Microfloc and General Filter Products

DWI 56/4/761 MULTIBLOCK Filter Underdrains

X-FLOW B.V.

DWI 56/4/967 Aquaflex HP
DWI 56/4/324 S-150 FSFC Membrane Filtration Elements
DWI 56/4/324 S-225 FSFC Membrane Filtration Elements
DWI 56/4/324 SXL-150 FSFC Membrane Filtration Elements
DWI 56/4/324 SXL-225 FSFC Membrane Filtration Elements

Zenon Environmental Inc

DWI 56/4/756 ZeeWeed 1000 V3 Membrane Filtration Module
DWI 56/4/628 ZeeWeed 500c, Membrane Filtration Module

Zenon Europe Kft

DWI 56/4/835 ZeeWeed 500d Membrane Filtration Module
DWI 56/4/835 ZeeWeed 500d (440) Membrane Filtration Module

D.2 VESSELS AND CONTAINERS FOR MEMBRANE AND FILTRATION ELEMENTS

Amazon Filters Ltd

DWI 56/4/879 Cartridge and Bag Filter Housings

Fileder Filter Systems

DWI 56/4/848 SBH/PBH (Bag Housings)
DWI 56/4/848 EFH/SFH/PFM (Cartridge Housings)

PCI Membranes

DWI 56/4/410 Low Pressure uPVC Vessel

Pentair Water India Pvt Ltd

DWI 56/4/288 Codeline RO Membrane Housing Codeline 80S Series (Coded Vessels)
DWI 56/4/288 Codeline RO Membrane Housing Codeline 80S Series (Non-coded Vessels)

For these products the following condition applies:
The product may only be used upstream of reverse osmosis filtration

D.3 ELECTRODIALYSIS WATER TREATMENT UNITS

Ionics (UK) Ltd

DWI 56/4/480 Ionics Electrodialysis Reversal Water Treatment Unit

PART E: OTHER WATER TREATMENT WORKS INSTALLATIONS

E.1 TANKS

ABC Stainless Ltd
DWI 56/4/542 ABC Storage, process tanks and vessels
DWI 56/4/705 Replacement GAC Tank

AJ Engineering & Construction Services Ltd
DWI 56/4/561 AJE Stainless Steel Tank

AMT Systems Ltd
DWI 56/4/1019 AMT Filter tanks, Storage tanks, Process tanks and vessels

APT Marine Engineering Ltd
DWI 56/4/697 Replacement Water Clarifier Tank

Crossland Tankers (Burnley) Ltd
DWI 56/4/792 Tanks for transportation of drinking water

Forbes Technology Ltd
DWI 56/4/335 Cheetah tanks (polypropylene)
DWI 56/4/335 Lion Range (polypropylene inner surface backed with glassfibre laminate
DWI 56/4/299 Lynx tanks (PVC inner surface backed with glassfibre laminate)

J.K. Fabrications Limited
DWI 56/4/732 JKF 304 and 316 Stainless Steel Tanks

L.E.S Engineering Ltd
DWI 56/4/830 Pipework/Tanks/Vessels

MMP Fabrications Ltd
DWI 56/4/785 Stainless Steel Storage Tanks

Permastore Ltd
DWI 56/4/594 Isofusion (vitreous enamelled tank)

Powerrun Project Management Ltd
DWI 56/4/611 Stainless Steel Grade 316L Potable Water Reservoir Tanks

Sayer Road Tankers Ltd
DWI 56/4/1028 Stainless Steel Water Tanks

Silotank (Digestors, Silos & Tanks) Ltd
DWI 56/4/747 Connaught Range of Tanks
DWI 56/4/747 Connaught Range of Towers
DWI 56/4/498 Leinster Range of Thermoplastic Tanks
DWI 56/4/498 Leinster Range of Towers

Vulcan Tanks Ltd
DWI 56/4/621 Aquastore

E.2 UNDERDRAINS

AMT Systems Ltd
DWI 56/4/708 Lateral Filter Underdrain System
DWI 56/4/709 Monolithic Floor Filter Underdrain System

Black & Veatch
DWI 56/4/833 K Filter Floor

ITT Water and Wastewater Leopold Inc
DWI 56/4/371 HDPE Universal Underdrain and IMS Cap

Johnson Filtration Systems
DWI 56/4/908 Stainless Steel Triton Underdrain

Plasmor Ltd
DWI 56/4/988 Plasmor E Block

Severn Trent Services Ltd
DWI 56/4/522 Tetra LP Block System

USFilter-Memcor, Microfloc & General Filter Products
DWI 56/4/761 MULTIBLOCK Media Retaining Gravity Filter Underdrains

For some products, including underdrains, Section 3.4 of Advice Sheet 7 indicates that products constructed from clay can be used without approval subject to the water supplier carrying out a risk assessment for suitability of the product and its possible impact on drinking water quality.

E.3 PRESSURE VESSELS

Compressor & Power Engineers Ltd
DWI 56/4/560 CPE Pressure Vessels - 316L Stainless Steel
DWI 56/4/560 CPE Pressure Vessels-304 Stainless Steel

Midas Technologies (GB) Ltd
DWI 56/4/767 Aqua-HiLo

MMP Fabrications Ltd
DWI 56/4/786 Stainless Steel Pressure Vessels

Portobello Fabrications Ltd
DWI 56/4/788 Pressure Filter Vessel
DWI 56/4/646 Saturator/Degasser Vessel
The product listed below can only be used upstream of a Reverse Osmosis unit.
DWI 56/4/827 Pressure Filter Water Collector Pipework

Quantum Engineering Developments Ltd
DWI 56/4/558 Quantum Pressure Vessels- 304L
DWI 56/4/558 Quantum Pressure Vessels- 316L

E.4 OTHER PRODUCTS USED IN THE TREATMENT OF WATER

Celtic Vacuum Ltd
DWI 56/4/846 Stainless Steel Baffle Wall

Degremont UK Limited
DWI 56/4/695 Lamella Module DH50/DH80

Flo-dyne Limited
DWI 56/4/962 Surge Protector- Model Type SAC

Forbes Technology Ltd
DWI 56/4/711 Cheetah Tower Packings

ITT Lowara UK Ltd
DWI 56/4/963 GMD-GHV-GMS-GXS-GTKS Manifolds

L.E.S Engineering Ltd
DWI 56/4/830 Pipework/Tanks/Vessels

Memcor Ltd
DWI 56/4/609 Memcor EF

Midland Wire Cordage Co Ltd
DWI 56/4/828 316 Stainless Steel Wire Rope

Nijhuis Water Technology B.V.
DWI 56/4/620 IPF and NPF model of Dissolved Air Flotation units

OTV Ltd
DWI 56/4/309 Lamellar Separator Plates Type GA and H

Paques B.V.
DWI 56/4/768 Astraseparator ARS-C
DWI 56/4/724 Astraseparators ARS-standard

Passavant-Roediger-Anlagenbau GmbH
DWI 56/4/491 Lamellar Separator plates

Purac Ltd
DWI 56/4/741 Saturator Vessel Pall Rings

Scottish Water Solutions
DWI 56/4/740 Stainless steel baffle walls for Floc/DAF cells

Severn Trent Services Ltd
DWI 56/4/632 Rapid Gravity Filter Air Header

Veolia Water Systems Ltd
DWI 56/4/770 Package Actiflo and Multiflo

Vexamus Water Ltd

DWI 56/4/608 Dynasand Sand Filter DS5000AD
DWI 56/4/608 Dynasand Sand Filter DST30D
DWI 56/4/622 Lamella Plate Pack LP255
DWI 56/4/639 Lamella Plate Separators Flocculation Tank
DWI 56/4/728 Lamella Plate Separators LP Range (LP80, LP100, LP140, LP170, LP190)
DWI 56/4/640 Lamella Plate Separators LS Range (LS25, LS40, LS60, LS100, LS120, LS165)
DWI 56/4/663 Lamella Plate Separators LT Range (LT15, LT25, LT40, LT60)

Water-Line Solutions Ltd

DWI 56/4/1015 WLS Stainless Steel Baffle Curtain

PART F: LOW CONTACT COMPONENTS AND PRODUCTS

INTRODUCTION

The relevant Regulations cover products used in contact with water intended for human consumption where the contact surface area and/or contact time are low. These products do not require the same rigorous evaluation as that applied to products such as pipes and their coatings. Full details of the types of products covered under this requirement are given in Section 3 of Advice Sheet 8 (http://www.dwi.gov.uk/drinking-water-products/advice-and-approval/Advicesheet8.pdf). This Advice Sheet also contains guidance on the use of these components and products in the provision of public water supplies.

ANNEX 1

CHANGES TO APPROVALS AND AMENDMENTS TO THE LIST OF APPROVED PRODUCTS

1.1 Modified Conditions of Approval

Information letter http://www.dwi.gov.uk/stakeholders/information-letters/2006/09_2006.pdf: update on the *in-situ* resin lining of water mains under Regulation 31 (10) (b) of the Water Supply (Water Quality) Regulations 2000 (2001 Wales), and Information Letter 4/2006 issued under the Water Supply (Water Quality) (Scotland) Regulations 2001 in Scotland.

1.2 List of Products refused Approval under Regulation 31 (4) (a)

Company Name	Product Name
Polypipe Building Products	Polypipe Effast ABS Pressure Pipe

1.3 Prohibition of use of Substances and Products

The Authorities have not recently prohibited the use of any substances or products.

1.4 Revocation of Approval

Company Name	Product Name
A & J Fabrications Ltd	Dirty Wash Water Cleaning System
Creto International Inc Evercrete Corporation	Evercrete DPS
Munters Ltd	Tubedek FS 41.50
MC Building Chemicals	MC Injectropress 2300T
Pentair Water Treatment	Codeline Pressure Vessel E8B/SP
	Codeline Pressure Vessel E8L/SP
	Codeline Pressure Vessel E8S/SP
	Codeline Pressure Vessel E8U/SP
PTI Technology	Steelflow
Rivitswade	Pipes lined with Copon Hycote 162 PWX
Delkor Ltd	Spiral Separator
*The following products are revoked only for emergency use, other listings of them remain valid	
Aqua Cure plc	ACHY SHP*
	Aqua Dosa Sanitiser*
Ceratherm Ltd	Biotant*
ROAM Chemie NV	Huwa-San TR5*
	Huwa-San TR50*
	Tiosan*
SafeSol Ltd	SafeSol 3*
Swissteril International 5755 Ltd	Steril*
Water Treatment Products Ltd	Sanosil SO15*
	Sanosil Super 25*
	Sanosil Super 25 Ag*

1.5 Approval of Processes

Please see Frequently Asked Question 6 - http://www.dwi.gov.uk/drinking-water-products/faqs/FAQ6.pdf

1.6 Deletions from the list of approved products in the last twelve months

1.6.1 Products deleted because they are no longer supplied or their approval has lapsed

If these products were purchased before the date of withdrawal or removal they may still be used provided they remain fit for purpose.

Company Name	Product Name	Date of Removal
Amiad Filtration Systems	Filtration Microfibre MT33P Filter Unit	14/10/10
Angus Fire Armour Ltd	Thermopipe	29/10/10
3M E Wood	Copon Hycote 160PW (Activator L0120)	10/02/11
	Scotchkote 162PWX In-Situ lining use	10/02/11
Proton Water Services Ltd	PRO-SEC system	28/4/11
Pipeline Protection Services Ltd	Pipes lined with Copon Hycote 162PWX	4/5/11
Sarnafil Ltd	Sarnafil MCG 780-15	15/06/11
EPSCO Ltd	Carela Bio-Des	27/7/11
	Carela Bio Plus	27/7/11
	Carela Bio Plusforte	27/7/11
	Carela Novopur	27/7/11
	Carela RS100	27/7/11
Sika Ltd	Sikadur Combiflex using Sikadur 31 Rapid	26/8/11

1.6.2 Products deleted because they are covered by a BS EN

Company	Product Name	BS EN Number
GEH Wasserchemie GmbH	GEH ferric hydroxide	15029:2006
Lanxess Deutschland GmbH	Bayoxide E33P	15029:2006
Traditional Product	Magnesium Oxide	16004:2011

The Authorities remain satisfied that the substances or products listed above are unlikely used alone to affect adversely the quality of water. Consequently, the relevant Regulations authorise its application to, or introduction into, water supplied for regulation 4(1)purposes.

1.7 Changes in ownership or designation of approved products in the last twelve months

The following companies have had ownership of existing product approvals transferred to other companies, or have changed the name of the product:

1.7.1 Change in company name or ownership

COMPANY NAME		Date of Change
Old	**New**	
3M E Wood	Corrosion Protection Products	10/02/11
Orica UK Ltd- Watercare Europe	Orica Australia Pty Ltd	22/6/11
Metal Cleaning UK Ltd	Process Plant Network Ltd	17/8/11
Sertubi	Jindal Saw Italia SPA	26/8/11

1.7.2 Change in product designation in the last twelve months

Company	PRODUCT NAME		Date of Change
	Old	**New**	
Corrosion Protection Products	Geopox GX014	3M Scotchkote Geopox GX014	11/02/11
	Copon Hycote 162PWX	3M Scotchkote Epoxy Coating 162PWX	11/02/11
	Copon Hycote 165PW	3M Scotchkote Urethane Coating 165PW	14/02/11
	Scotchkote 169HB	3M Scotchkote Rapid Setting Polymeric Lining 169HB	14/02/11
	Scotchkote 169LV	3M Scotchkote Rapid Setting Polymeric Lining 169LV	14/02/11
	Scotchkote 169	3M Scotchkote Rapid Setting Polymeric Lining 169	14/02/11
	Copon Hycote 165PW-PR	3M Scotchkote Urethane Sealer 165CS/3M Scotchkote Urethane Coating 165PW-PR	14/02/11
STS Tubular Group	Steel Pipe Coated with Copon Hycote 162PWX	Steel Pipe Coated with 3M Scotchkote Epoxy Coating 162PWX	18/03/11
Electrosteel Castings Ltd	Electrofresh Plus pipe lined with Copon Hycote 162 PWX	Electrofresh Plus pipe lined with 3M Scotchkote Epoxy coating162 PWX	8/6/11

1.8 Additional Products added to the List in the last twelve months (consolidated into the main text of this list)

1.8.1 New Products approved in the last twelve months

Company	Product	Date of acceptance
Plasmor Ltd	Plasmor E Blcok	06/01/11
Aquatreat Group Ltd	Peroxysil 50	20/12/10
Grundfos Water Treatment	Selcoperm	11/3/11
Scotmas Ltd	Scotmas Purate CDDS	18/03/11
Water-Line Solutions Ltd	WLS Stainless Steel Baffle Curtain	25/03/11
Biobullets Ltd	Silver Bullets 2000	6/4/11
Ximax Water Solutions	Xziox Chlorine Dioxide	15/4/11
Grundfos Water Treatment	Selcoperm	11/3/11
Angus Flexible Pipelines	Super Aquaduct	16/05/11
AMT Systems Ltd	AMT Filter tanks and Vessels	23/05/11
BSS Industrial	Stainless Steel Tubings and Fittings	16/06/11
Orica Australia Pty Ltd	Miex DW1101 Resin	22/6/11
Durapipe UK	Durapipe ABS type S	5/7/11
Scotmas Ltd	Scotmas Zulu WXC Chlorine Dioxide Dosing system	12/7/11
GPS	Excel CR	15/7/11
Industrial Chemicals Ltd	Thycal	19/7/11
GPS	Excel (Black) Type F	15/7/11
Sayer Road tankers	Stainless Steel Water tanks	17/8/11
X-Flow B.V.	Aquaflex HP	16/09/11
OAO Lipetsk	Ductile Iron Pipes	18/7/11
GPS	Excel NB	7/10/11
Ross-shire engineering	Stainless Steel Process Pipework Systems	2/11/11
Corrosion Products Protection	3M Scotchkote Geopox GX014	4/11/11
Aquabiotics Industrial Pty	Boresaver Ultra C Plus	15/11/11
Line-X Protective coatings	Aquaurethane Extreme	22/11/11

1.8.2 Previously approved, now reinstated in the last twelve months

Company	**Product**	**Date of removal**	**Date of acceptance**
Angus Flexible Pipelines	Angus Flexible Rising Main	01/01/04	20/05/11

1.9 Changes to existing products in the last twelve months

This table reflects the changes that have been made to products and include changes in relation to Instructions for Use, conditions of use, etc

Company	Product	Nature of Change	Date of acceptance
Flexcrete	Cementitious Coating 851 White	Material	11/02/11
	Cementitious Coating 851 Grey	Material	11/02/11
	Steel Reinforcement Protector 841	Material	11/02/11
	Monolevel 844SP	Material	11/02/11
Corrosion Protection Products	3M Scotchkote Geopox GX014	Product name & Company name change	11/02/11
	3M Scotchkote Epoxy Coating 162PWX	Product name & Company name change	11/02/11
	3M Scotchkote Urethane Coating 165PW	Product name & Company name change	14/02/11
	3M Scotchkote Rapid Setting Polymeric Lining 169HB	Product name & Company name change	14/02/11
	3M Scotchkote Rapid Setting Polymeric Lining 169LV	Product name & Company name change	14/02/11
	3M Scotchkote Rapid Setting Polymeric Lining 169	Product name & Company name change	14/02/11
	3M Scotchkote Urethane Sealer 165CS/3M Scotchkote Urethane Coating 165PW-PR	Product name & Company name change	14/02/11
Siemens	Memcor Filtration Module	Material	18/02/11
Polypipe	Polyguard Pipes	Material	01/03/11
STS Tubular Group	Steel Pipe Coated with 3M Scotchkote Epoxy Coating	Product name change	18/03/11
Aquabiotics	Boresaver IKL Pro	Material	29/03/11
Radius Systems Ltd	PE100 High Performance Dark Blue Pipe	IFU	5/4/11
X-Flow B.V.	All Products	Material	16/06/11
Electrosteel Castings Ltd	Electrofresh Plus	Product Name	8/6/11
Orica Australia Pty Ltd	Miex DW1101 Resin	Material	22/6/11
	Miex DOC Resin	Material	22/6/11
GPS	Excel Black	Material	15/7/11
ITT PCI Membranes	C10 Module	IFU Company Address	19/7/11
	CA202 Membrane		19/7/11
	CA222 Membrane		19/7/11
	ES404 Membrane		19/7/11

Company	Product	Nature of Change	Date of acceptance
Siemens	Filtration Module	Material	24/8/11
Sika Ltd	Sikatop Seal 107	Material	13/9/11
Sika Ltd	Sika Monotop 610/612	Material	13/9/11
Sika Ltd	SIka Combiflex SG	IFU	12/10/11
Fileder Filter systems	SBH/PBH bag housings	Product Name	1/11/11
Fileder Filter systems	EFH/SFH/PFH cartridge housings	Product Name	1/11/11
Siemens	CMF Membrane module	Material	2/11/11
Siemens	CMF Membrane module	Material	8/11/11
FT pipeline systems	FT pipelines cement lined pipes	Approval Holder address	8/11/11
FT pipeline systems	CSP water pipes lined with scotchkote 162PWX	Product name and Approval Holder address	8/11/11
GPS	GPS Excel 3C (Blue)	Material	14/11/11
	GPS Excel (Blue)	Material	14/11/11

1.10 New and revised BS EN standards issued in the last twelve months

The results of the issue of new standards may require the removal of products listed in the main body of the text. Products removed from the main body of the text can be found in table 1.6.2 earlier in this section. Titles of the relevant BS ENs can be found in the tables in Annex 2.

BS EN Number	Revision/New	Comment	Date published by BSi
16003:2011	New	Adjustment of pH and hardness	8/10/11
16004:2011	New	Adjustment of pH and hardness	8/10/11

ANNEX 2

LIST OF RELEVANT EUROPEAN STANDARDS

2.1 British Standards BS EN for Chemicals used for Treatment of Water

IMPORTANT NOTES

1. *The existence of a relevant EN standard does not necessarily mean that all supplies of a specific treatment chemical or product will have been tested to and shown to meet the appropriate requirements of the EN. These standards contain requirements for impurities and may additionally have a National Condition of Use assigned to them.*
2. *Since EN standards for drinking water treatment chemicals and products do not contain mandatory requirements for attestation of conformity, it is the responsibility of the user of these products to ensure that the treatment chemicals or products provided by a specific supplier fully meet the test requirements of the relevant EN standard by provision of a certificate of attestation for the batch of chemical supplied or by internally checking through their own laboratories.*
3. *The standards have been written for a specific function in water treatment. Full details where a treatment chemical or product is used outside of normal use, advice should be sought from the DWI and approval may be required.*
4. *It is recommended that end users of treatment chemicals or materials that have an BSEN associated to them have access to the current version to ensure that the product supplied conforms.*

Note - ***we are unable to recommend laboratories to undertake testing of individual treatment chemicals for conformity with these standards; responsibility of such testing is with the manufacturer and/or end user.***

For all of the chemicals listed the following general national condition of use applies:
The method of use and the purity of these products shall be such that, in the case of water for public supply, the water so treated meets the requirements of the relevant regulations .

BS EN	Chemical	Additional National Conditions of Use	Use
13194: 2008	Acetic acid	*None*	Source of carbon for biological denitrification
881: 2004	Aluminium chloride, aluminium chloride hydroxide and aluminium chloride hydroxide sulfate (monomeric)	*None*	Coagulant and precipitant
935: 2004	Aluminium iron (III) chloride (monomer) and aluminium iron (III) chloride hydroxide (monomeric)	*None*	Coagulant and precipitant
887: 2004	Aluminium iron (III) sulfate	*None*	Coagulant and precipitant
878: 2004	Aluminium sulfate	*None*	Coagulant
12122: 2005	Ammonia solution	*None*	For in-situ bacteriostatic treatment by formation of chloramines
12123: 2005	Ammonium sulfate	*None*	For in-situ bacteriostatic treatment by formation of chloramines
1421: 2005	Ammonium chloride	*None*	For in-situ bacteriostatic treatment by formation of chloramines
1407: 2008	Anionic and nonionic polyacrylamides	*(i) no batch must contain more than 0.020% of free acrylamide monomer based on the active ingredient content;* *(ii) the dose must average no more than 0.25 mg l^{-1} and never exceed 0.50 mg l^{-1} of the active ingredient;* *(iii) an upper limit for the content of free acrylamide monomer must be stated by the supplier for every batch;* *(iv) the method used for the analysis for free acrylamide monomer is entitled 'Determination of Acrylamide' published in the series 'Methods for the Examination of Waters and Associated Materials' by the Environment Agency.*	Removal of colloidal and fine suspended particles and as a flocculant
1018: 2006	Calcium carbonate	*None*	pH and hardness adjustment
900: 2007	Calcium hypochlorite	*None*	Removal of ammonium compounds, oxidising sulphides, oxidation of iron and

BS EN	Chemical	Additional National Conditions of Use	Use
			manganese and disinfectant
16003:2011	Calcium Magnesium Carbonate	*None*	pH and hardness adjustment
1204: 2005	Calcium tetrahydrogen bis(orthophosphate)	*None*	Corrosion inhibition in water pipes consisting of cast iron, mild or galvanized steel or copper. To achieve an improved corrosion inhibition, also combination products with polyphosphates are used depending on the water quality.
936: 2006	Carbon dioxide	*None*	Increase water hardness, pH adjustment and regeneration of ion exchange resins
1410: 2008	Cationic polyacrylamides	*(i) no batch must contain more than 0.020% of free acrylamide monomer based on the active ingredient content;* *(ii) the dose must average no more than 0.25 mg l^{-1} and never exceed 0.50 mg l^{-1} of the active ingredient;* *(iii) an upper limit for the content of free acrylamide monomer must be stated by the supplier for every batch; and* *(iv) the method used for the analysis for free acrylamide monomer is entitled 'Determination of Acrylamide' published in the series 'Methods for the Examination of Waters and Associated Materials' by the Environment Agency.*	Coagulant and flocculant for colloidal or fine suspended particles
937: 2009	Chlorine	*None*	Disinfectant, removal of ammonia compounds, oxidising sulphides and regeneration of ion exchange resins
12671: 2009	Chlorine dioxide	*The combined concentration of chlorine dioxide, chlorite and chlorate should not exceed 0.5mg l^{-1} as chlorine dioxide in the water entering supply.*	Disinfection and oxidation
12386: 2005	Copper sulfate	*None*	Cleaning of containers used for drinking water treatment and destruction of algae in water works installations
1202: 2005	Dipotassium hydrogen	*None*	Corrosion inhibition in water pipes

BS EN	Chemical	Additional National Conditions of Use	Use
	orthophosphate		consisting of cast iron, mild or galvanized steel or copper. To achieve an improved corrosion inhibition, also combination products with polyphosphates are used depending on the water quality.
1199: 2005	Disodium hydrogen orthophosphate	*None*	Corrosion inhibition in water pipes consisting of cast iron, mild or galvanized steel or copper. To achieve an improved corrosion inhibition, also combination products with polyphosphates are used depending on the water quality.
1205: 2005	Disodium dihydrogen pyrophosphate	*None*	Scale inhibitor
13176: 2008	Ethanol	*None*	Source of carbon for biological denitrification
12175: 2006	Hexafluorosilicic acid	*None*	Increase resistance of consumers to dental decay
12518: 2008	High-calcium lime	*None*	pH and hardness adjustment
939: 2009	Hydrochloric acid	*Permission or consent for disposal of any wastewater generated to a sewer or watercourse must be obtained from the relevant water service company or Environment Agency, in England and Wales or Scottish Environment Protection Agency (SEPA) in Scotland as appropriate.*	Lower pH, ingredient for the generation of chlorine dioxide and regeneration of ion exchange resins
902: 2009	Hydrogen peroxide	*(i)Permission or consent for disposal of any wastewater generated to a sewer or watercourse must be obtained from the relevant water service company or Environment Agency in England and Wales or Scottish Environment Protection Agency (SEPA) in Scotland , as appropriate. (ii)Products conforming to EN902 shall not contain stabilising or activation agents. If a product contains such agents it requires approval under the relevant regulations .(iii)Prior to introduction into supply all residual hydrogen peroxide must be demonstrably removed/destroyed*	An oxidant to remove oxidisable impurities and as a disinfectant (NB National Conditions of use apply)

BS EN	Chemical	Additional National Conditions of Use	Use
888: 2004	Iron(III) chloride	*None*	Primary coagulant
891: 2004	Iron(III) chloride sulfate	*None*	Primary coagulant
889: 2004	Iron(II) sulfate	*None*	Primary coagulant
890: 2004	Iron(III) sulphate liquid	*None*	Primary coagulant
14664: 2004	Iron(III) sulphate, solid	*None*	Primary coagulant
12126: 2005	Liquefied ammonia	*None*	For in-situ bacteriostatic treatment by formation of chloramines
16004:2011	Magnesium Oxide	*None*	pH adjustment and hardness
13177: 2010	Methanol	*None*	Source of carbon for biological denitrification
1406: 2009	Modified starches	*The dose must not exceed 5 mg l^{-1} of active ingredient.*	Removal of colloidal and fine suspended particles
1204: 2005	Monocalcium phosphate	*None*	Corrosion inhibition in water pipes consisting of cast iron, mild or galvanized steel or copper.
1201: 2005	Monopotassium hydrogen orthophosphate	*None*	Corrosion inhibition in water pipes consisting of cast iron, mild or galvanized steel or copper. To achieve an improved corrosion inhibition, also combination products with polyphosphates are used depending on the water quality.
1197: 2006	Monozinc phosphate solution	*None*	Corrosion inhibition in water pipes consisting of cast iron, mild or galvanized steel or copper. To achieve an improved corrosion inhibition, also combination products with polyphosphates are used depending on the water quality.
12876: 2009	Oxygen	*None*	Oxidant, maintaining aerobic conditions, gas for ozone generation

BS EN	Chemical	Additional National Conditions of Use	Use
1278: 2010	Ozone	*None*	Disinfectant, improvement of organoleptic quality, removal of iron, manganese and colour, oxidation of persistent pollutants and a coagulant
974: 2003	Phosphoric acid	*Permission or consent for disposal of any wastewater generated to a sewer or watercourse must be obtained from the relevant water service company or Environment Agency in England and Wales or Scottish Environment Protection Agency (SEPA) in Scotland, as appropriate.*	Biological nitrification/denitrification and corrosion control eg plumbosolvency
15040: 2006	Phosphonic acids and salts – anitscalants for membranes	Under consideration – please seek advice from DWI	Antiscalant for reverse osmosis and nanofiltration membranes to prevent CaCO3, CaSO4, BaSO4, SrSO4, CaF2 scale deposition and fouling by iron, aluminium, maganese and silicates.
1408: 2008	Poly(diallyldimethylammonium chloride)	*The dose used must not exceed 10 mg l^{-1} of active ingredient.*	Coagulant and flocculant for colloidal and fine suspended particles
883: 2004	Polyaluminium chloride hydroxide and polyaluminium chloride hydroxide sulfate	*None*	Coagulant and precipitant
885: 2004	Polyaluminium chloride hydroxide silicate	*None*	Coagulant and precipitant
886: 2004	Polyaluminium hydroxide silicate sulfate	*None*	Coagulant and precipitant
1409: 2008	Polyamines	*(i) The average dose should be 2.5 mg l^{-1} and never exceed 5 mg l^{-1} of active ingredient;* *(ii) no batch must contain more than 40 mg of 3-monochloropropane 1,2-diol per kg of active ingredient;* *(iii) the analytical system used for determining the batch content must have a limit of detection no greater than 4 mg kg^{-1} and a maximum total standard deviation no greater than 4 mg kg^{-1} at 40 mg kg^{-1}. Both estimates must have at least 10 degrees of freedom and have been*	Coagulant and flocculant for colloidal and fine suspended particles

BS EN	Chemical	Additional National Conditions of Use	Use
		determined from batches of analyses carried out on not less than five separate days; and *(iv) the supplier must state for every batch an upper limit for the content of 3-monochloropropane 1,2-diol.*	
15039: 2006	Polycarboxylic acids and salts – antiscalants for membranes	Under consideration – please seek advice from DWI	Antiscalant for reverse osmosis and nanofiltration membranes to prevent CaCO3, CaSO4, BaSO4, SrSO4, CaF2 scale deposition and fouling by iron, aluminium, manganese and silicates.
15041: 2006	Polyphosphates – antiscalants for membranes	Under consideration – please seek advice from DWI	Antiscalant for reverse osmosis and nanofiltration membranes
1201: 2005	Potassium dihydrogen orthophosphate	*None*	Corrosion inhibition in water pipes consisting of cast iron, mild or galvanized steel or copper. To achieve an improved corrosion inhibition, also combination products with polyphosphates are used depending on the water quality.
12672: 2008	Potassium permanganate	*None*	Taste and odour control, elimination of algae and microorganisms, removal of iron and manganese and regeneration of filter media
12678: 2008	Potassium peroxomonosulfate	*None*	Oxidation of organic and inorganic matter
1211: 2005	Potassium tripolyphosphate	*None*	Scale inhibitor
15030: 2006	Silver salts for conservation of drinking water for intermittent use	On advice from HSE – these compounds may not be used in contact with water intended for human consumption.	
1205: 2005	Sodium acid pyrophosphate	*None*	Scale inhibition
1405: 2009	Sodium alginate	*the dose used must not exceed 0.5 mg l^{-1} of active ingredient*	Removal of colloidal and fie suspended particles
882: 2004	Sodium aluminate	*None*	Coagulant and flocculant
1208: 2005	Sodium calcium	*None*	Corrosion and scale inhibition in water pipes

BS EN	Chemical	Additional National Conditions of Use	Use
	polyphosphate		consisting of cast iron, mild or galvanized steel or copper.
897: 2005	Sodium carbonate	*None*	Increase pH and alkalinity
15028: 2006	Sodium chlorate	Under consideration – please seek advice from DWI	Ingredient for the generation of chlorine dioxide, it can also be used for the offline cleaning/maintenance of premises
14805: 2008	Sodium chloride for on site electrochlorination using non-membrane technology	*the requirements and national conditions of use of the final hypochlorite generated shall meet the requirements of BS EN 901.*	Ingredient used to produce active chlorine (Cl2 or NaClO) for disinfection of water by electrolysis of brine
973: 2009	Sodium chloride for regeneration of ion exchangers	*None*	Regeneration of ion exchange resins
938: 2009	Sodium chlorite	*(i) the dose must be such that the combined concentration of chlorine dioxide, chlorite and chlorate does not exceed 0.5 mg l^{-1} as chlorine dioxide in water potentially entering supply; and* *(ii) permission or consent for disposal of any wastewater generated to a sewer or water course must be obtained from the relevant water service company or Environment Agency in England and Wales or Scottish Environment Protection Agency (SEPA) in Scotland, as appropriate.*	Ingredient for the generation of chlorine dioxide
12931: 2008 12932: 2008 12933: 2008	Sodium dichloroisocyanurate, anhydrous Sodium dichloroisocyanurate, dihydrate Trichloroisocyanuric acid	**Conditions if product is used as a cleaning agent:** *(i) the dose must be such that the final concentration in the water used to wash installations does not exceed 1000 mg l^{-1} of free available chlorine;* *(ii) that following cleaning and disinfection, the installation is flushed to ensure that the residual chlorine concentration is acceptable to consumers; and* *(iii) permission or consent for disposal of any wastewater generated to a sewer or watercourse must be obtained from the relevant water service company or* *Environment Agency in England and Wales or Scottish Environment Protection Agency (SEPA) in Scotland, as appropriate.* *Water companies should check with their suppliers to ensure that products to be cleaned and disinfected will not be adversely affected by the concentration of chlorine to be employed.*	Disinfectant by generation of hypochlorous acid

BS EN	Chemical	Additional National Conditions of Use	Use
		Conditions if product is used as an emergency disinfectant: *(i) where circumstances are such that the water being treated is not grossly contaminated and a controlled contact time of not less than 15 minutes between dosing and taking it into use can be maintained, not more than 10 mg l^{-1} of sodium dichloro-isocyanurate compound should be applied and not more than 1mg l^{-1} of free residual chlorine should be present at the end of the relevant contact time. It is recommended that consumers should be exposed to such waters containing chloro-isocyanurates for only as long as is required to restore conventional treatment, or for no more than 90 days in any period of a year, whichever is applicable;* *(ii) under circumstances where water sources may be grossly contaminated, to ensure inactivation of most likely harmful organisms, up to 20 mg l^{-1} sodium dichloro-isocyanurate may be added, with a recommended contact time of 15 minutes before use. It is recommended that consumption of water dosed at this rate of treatment should be for only as long as is necessary before it is possible to effect control of the residual chlorine after contact to 1 mg l^{-1}, and then to follow the requirements set out in condition (i); and* *(iii) should it be necessary for specific groups of consumers to be exposed to water containing chloro-isocyanurates for periods greater than 90 days either continuously or in a year, it is recommended that independent medical advice be obtained from a person who is not under the control of the water undertaker.*	
1198: 2005	Sodium dihydrogen orthophosphate	*None*	Corrosion inhibition in water pipes consisting of cast iron, mild or galvanized steel or copper. To achieve an improved corrosion inhibition, also combination products with polyphosphates are used depending on the water quality.
12121: 2005	Sodium disulfite	*None*	Reducing agent to remove excess chlorine,

BS EN	Chemical	Additional National Conditions of Use	Use
			chlorine dioxide or ozone
12173: 2005	Sodium fluoride	*None*	Increase resistance of consumers to dental decay
12174: 2006	Sodium hexafluorosilicate	*None*	Increase resistance of consumers to dental decay
898: 2005	Sodium hydrogen carbonate	*None*	pH stabilisation and alkalinity adjustment
12120: 2005	Sodium hydrogen sulfite	*None*	Reducing agent to remove excess chlorine, chlorine dioxide or ozone
896: 2005	Sodium hydroxide	*None*	neutralising agent, adjustment of pH value, softening agent, alkalinity adjustment, regenerator for ion exchange resins
901: 2007	Sodium hypochlorite	*The method of use and the purity of these products shall be such that, in the case of water for public supply, the water so treated meets the requirements of the relevant regulations .*	Removal of ammonium compounds, oxidising sulphides, oxidation of iron and manganese and disinfectant
15482: 2007	Sodium Permanganate	Under consideration – please seek advice from DWI	Taste and odour control, elimination of algae and microorganisims, removal of iron and manganese and regeneration of filtering material.
12926: 2008	Sodium peroxodisulfate	*None*	Oxidation of organic and inorganic matter and ingredient in the generation of chlorine dioxide
1212: 2005	Sodium polyphosphate	*None*	Corrosion inhibition in water pipes consisting of cast iron, mild or galvanized steel or copper. To achieve an improved corrosion inhibition, also combination products with polyphosphates are used depending on the water quality.
1209: 2003	Sodium silicate	*None*	Flocculant, corrosion inhibitor and sequestering agent for iron and manganese
12124: 2005	Sodium Sulfite	*None*	Reducing agent to remove excess chlorine, chlorine dioxide or ozone

BS EN	Chemical	Additional National Conditions of Use	Use
12125: 2005	Sodium thiosulfate	*None*	Reducing agent to remove excess chlorine, chlorine dioxide or ozone
1210: 2005	Sodium tripolyphosphate	*None*	Scale inhibitor
1019: 2005	Sulfur dioxide	*None*	Removal of excess oxidising agents eg chlorine and ozone
899: 2009	Sulfuric acid	*None*	pH adjustment and regeneration of ion exchange resins
1207: 2005	Tetrapotassium pyrophosphate	*None*	Scale inhibitor
1206: 2005	Tetrasodium pyrophosphate	*None*	Scale inhibitor
1203: 2005	Tripotassium orthophosphate	*None*	Corrosion inhibition in water pipes consisting of cast iron, mild or galvanized steel or copper. To achieve an improved corrosion inhibition, also combination products with polyphosphates are used depending on the water quality.
1200: 2005	Trisodium orthophosphate	*None*	Corrosion inhibition in water pipes consisting of cast iron, mild or galvanized steel or copper. To achieve an improved corrosion inhibition, also combination products with polyphosphates are used depending on the water quality.

2.2 British Standards BS EN for Products used for Treatment of Water Intended for Human Consumption

IMPORTANT NOTES

1. *The existence of a relevant EN standard does not necessarily mean that all supplies of a specific treatment chemical or product will have been tested to and shown to meet the appropriate requirements of the EN. These standards contain requirements for impurities and may additionally have a National Condition of Use assigned to them.*
2. *Since EN standards for drinking water treatment chemicals and products do not contain mandatory requirements for attestation of conformity, it is the responsibility of the user of these products to ensure that the treatment chemicals or products provided by a specific supplier fully meet the test requirements of the relevant EN standard by provision of a certificate of attestation for the batch of chemical supplied or by internally checking through their own laboratories.*
3. *The standards have been written for a specific function in water treatment. Full details where a treatment chemical or product is used outside of normal use, advice should be sought from the DWI and approval may be required.*
4. *It is recommended that end users of treatment chemicals or materials that have an BSEN associated to them have access to the current version to ensure that the product supplied conforms.*

Note - ***we are unable to recommend laboratories to undertake testing of individual treatment chemicals for conformity with these standards; responsibility of such testing is with the manufacturer and/or end user.***

For all of the products listed the following general national condition of use applies;
The method of use and the purity of these products shall be such that the quality of treated drinking water meets the requirements of the relevant regulations.

BS EN	Title	Additional National Conditions of Use	Use
1017:2008	Half –burnt dolomite	*None*	Granular filter medium
12909: 2005	Anthracite	*None*	Filter medium
12912: 2005	Barite	*None*	A filtering or supporting material in multilayer filters
13754: 2009	Bentonite	*None*	used to weigh down a flock when there is a low amount of suspended solids in the water.
14456: 2004	Bone charcoal	*The contact bed containing the product must be adequately back-washed (until backwash water is clear of fines) to remove any readily leachable materials before connection to the supply.*	Remove colour, taste odour and wide range of metals, fluoride and certain other organic and inorganic contaminants.
12905: 2005	Expanded aluminosilicate	*None*	Filtering material and as a support for biofiltration
12910: 2005	Garnet	*None*	Used as a filtation and support material. It also has an application as a seeding material in pellet reactors.
13753: 2009 12915 - 1: 2009 12915 - 2: 2009 12907: 2009	Granular activated alumina Granular activated carbon. Part 1: Virgin GAC Granular activated carbon. Part 2: Reactivated GAC Pyrolised coal material	*(i) the contact bed containing the product must be adequately back-washed (until backwash water is clear of fines) to remove any readily leachable materials before connection to the supply; and (ii) before connection to the supply, the water undertaker or their appointed agent must carry out tests on the filtrate water to establish that use of the contact bed will not cause any adverse effect on the quality of water to be put into supply. These tests must include measurement of chlorine demand and a qualitative odour assessment, as well as tests to confirm that leaching of activating agents or any other substance used in the preparation or regeneration of the product will not cause a contravention of the standards prescribed in the relevant regulations .*	the primary function of granular activated alumina is as an adsorbent for the removal of inorganic ions; particularly fluoride, arsenate, chromate and polar organic contaminants. The primary function of granular activated carbon is as an adsorbent for the removal of trace organic contaminants (e.g. Pesticides, chlorinated solvents, oils), taste and odour-producing compounds and trihalomethane precursors. Pyrolised coal is used as a filtering material

BS EN	Title	Additional National Conditions of Use	
12901: 1999	Inorganic supporting and filtering materials – Definitions	*None*	
15029: 2006	Iron (III) hydroxide oxide	*None*	the primary function of iron (III) hydroxide oxide is as an adsorbent for the removal of inorganic ions; particularly arsenic, arsenate, phosphate, antimony compounds, other trace metals and polar organic contaminants.
14369: 2003	Iron-coated granular activated alumina	*None*	the primary function of iron-coated granular activate alumina is as an adsorbent for the removal of inorganic ions; particularly fluoride, arsenate and polar organic contaminants.
13752: 2009	Manganese dioxide	*None*	used as a catalytic filtering material for the removal of iron and manganese from water
14368: 2003	Manganese dioxide coated limestone	*None*	Catalytic filtering medium for removal of iron and manganese
12911: 2006	Manganese greensand	*None*	the primary function of manganese greensand is for removal of iron, manganese and hydrogen sulfide from water.
15795: 2010	Natural Unexpanded Aluminosilicates	Under consideration – please seek advice from DWI	used as filtering materials or as supporting material in multilayer filters.
12903: 2009	Powered activated carbon	*The dose must not exceed 100 mg* l^{-1}.	used as an adsorbent for the removal of trace organic contaminants (e.g. Pesticides, chlorinated solvents, oils) taste and odour-producing compounds and trihalomethane precursors.
12913: 2005	Powdered diatomaceous earth	*None*	used to remove solid contaminants from water by retention
12914: 2005	Powdered perlite	*None*	used to remove solid contaminants from water.
12906: 2005	Pumice	*None*	used as a filtering material
12904: 2005	Silica sand and silica gravel	*None*	used as filtering of supporting materials

2.3 British Standards BS EN on the Influence of Materials on Water Intended for Human Consumption

BS EN	Title
1302: 1999	Aluminium based co-agulants – Analytical methods
1420-1: 1999	Influence of organic materials on water intended for human consumption – Determination of odour and flavour assessment of water in piping systems
12485: 2010	Calcium carbonate, high-calcium lime and half burnt dolomite - Test methods
12873-1: 2003	Influence of materials on water intended for human consumption – Influence due to migration – Part 1: Test method for non-metallic and non-cementitious factory made products
12873-2: 2005	Influence of materials on water intended for human consumption – Influence due to migration – Part 2: Test method for non-metallic and non-cementitious site – applied materials
12873-3: 2006	Influence of materials on water intended for human consumption – Influence due to migration – Part 3: Test method for ion exchange and adsorbent resins
12873-4: 2006	Influence of materials on water intended for human consumption – Influence due to migration – Part 4: Test method for water treatment membranes
12902: 2004	Inorganic supporting and filtering materials – Methods of test
13052-1: 2001	Influence of materials on water intended for human consumption – Organic materials – Determination of colour and turbidity of water in piping systems – Part 1: Test method
14395-1: 2004	Influence of materials on water intended for human consumption – Organoleptic assessment of water in storage systems – Part 1: Test method
14718: 2006	Influence of organic materials on water intended for human consumption – Determination of the chlorine demand – Test Method
14944-1: 2006	Influence of factory made cementitious products on organoleptic parameters – Test methods – Part 1: Influence of factory made cementitious products on organoleptic parameters
14944-3: 2007	Influence of factory made cementitious products on organoleptic parameters – Test methods – Part 3: Migration of substances from factory-made cementitious products
15664-1: 2008	Influence of metallic materials on water intended for human consumption – Dynamic rig test for assessment of metal release – Part 1: Design and operation
15664-2:2010	Influence of metallic materials on water intended for human consumption – Dynamic rig test for assessment of metal release – Part 2: Test Waters

2.4 List of Authorised Cement Admixture Components

The following list gives the chemical identity of admixture components considered acceptable for use in cement admixtures for use in concrete in contact with water in water retaining structures, providing the admixture is not added to the concrete at a concentration exceeding the manufacturer's recommended dose.

ADMIXTURE COMPONENT	USED AS
Abietic acid salts	Air entrainer
Acetic Acid	pH Balance
Aluminates, sodium or potassium	Accelerator
Aluminium hydroxides, amorphic	Accelerator
Anionic surfactants	Air entrainer
Butyl stearate	Waterproofer/ water repellent
Carbonate, sodium or potassium	Accelerator
Cellulose ethers	Stabiliser/pumping aid
Citric acid	Retarder
Decanoate, sodium	Air entrainer
Dimethylsiloxane, poly-	Defoamer agent for plasticisers/ superplasticisers
Dodecyl benzene sulphonate, sodium	Air entrainer
Fatty acid soaps	Waterproofer/ water repellent
Formate, calcium	Accelerator
Gluconic and Heptonic acid salts	Retarder/ water reducer/ plasticiser
Lauryl ether sulphate, sodium	Air entrainer
Lignosulphonates	Water reducer/ plasticiser
Mono and di saccharides, eg sucrose, xylose	Retarder
Nitrate, calcium, sodium or potassium	Accelerator
Oleic acid and salts	Waterproofer/ water repellent
Oxalate, lithium	Accelerator
Polysaccharides	Water reducer/ plasticiser
Phosphate, dibutyl	Defoamer agent for plasticisers/ superplasticisers
Phosphate, tributyl	Defoamer agent for plasticisers/ superplasticisers
Phosphates (inorganic)	Retarder
Phosphonates (organic)	Retarder
Polycarboxylate/ polyether copolymer	Superplasticiser
Silicates, sodium	Accelerator/ waterproofer
Starch ethers	Stabiliser/pumping aid
Stearate salts	Waterproofer/ water repellent
Sulphonated melamine formaldehyde condensate	Superplasticiser
Sulphonated naphthalene formaldehyde condensate	Superplasticiser
Tartaric acid	Retarder
Thiocyanate, sodium	Accelerator
Triethanolamine	Water reducer/ plasticiser

***Note 1**: Biocides/ preservative and agents, antifoam/ air control agents, present in the admixture at less than 1.0% in total and the dilution water used in cement admixture formulations are excluded from the requirement for authorisation.*
***Note 2:** The use of ferrous or stannous sulphate is acceptable as reducing agents to control concentrations of hexavalent chromium (VI) in cement.*
***Note 3:** Fibre additions to concrete - , the use of polymeric or carbon reinforcing fibres should not be a cause for concern, providing that either -*

a. *concrete made with them, at the proposed concentration/level conforms with the requirements of BS 6920 odour and flavour and growth of aquatic microorganisms tests OR*
b. the reinforcing fibres have already met the requirements of BS 6920

ANNEX 3

RECOGNISED MATERIALS FOR USE IN THE MANUFACTURE OR ASSEMBLY OF PRODUCTS

The only products approved under the relevant regulations are those that will be supplied directly to drinking water suppliers for use in direct contact with water intended for human consumption. Materials used to make products used in water networks, treatment plants etc., are outside the scope of this remit and are not, therefore included in this List.

However it has proved helpful to manufacturers and suppliers of such products to provide details of suitable materials known not to have adverse effects on water quality or pose unacceptable health risks to consumers. Details of such "recognised materials" are incorporated into Advice Sheet 5, and cover particular grades of materials for use in the –

- extrusion of thermoplastics pipes
- factory application of coatings to products
- manufacture/fabrication of stainless steel structures

Advice Sheet 5 explains, in detail, how applications for approval of products made from these recognised grades of specific material types are handled. The listing of recognised materials in the Annexes of this Advice sheet does **NOT** imply –

a) recommendation or approval of the material by DWI
b) that products made from the grades listed will have suitable fitness for purpose qualities for their proposed use
c) that no further testing will be required before a recommendation for approval can be made

NOTE - these materials have NOT been approved under the relevant Regulations , but are "recognised" as suitable for use in the manufacture of such products, subject to satisfactory results in any subsequent limited testing required. See Advice Sheet 5 for further information, including how to gain recognised status for a particular material – http://www.dwi.gov.uk/drinking-water-products/advice-and-approval/Advicesheet5.pdf

ANNEX 4

MANUFACTURERS' AND SUPPLIERS' ADDRESSES

ABC Stainless Steel Ltd
Empson Road
Eastern Industry
Peterborough
PE1 5UP
Tel: 01733 314515

Airedale Chemical
Company Ltd
Airedale Mills
Skipton Road
Crosshills, Keighley
West Yorkshire
BD20 7BX
Tel: 01535 637876

AJ Engineering & Construction Services Ltd
West Road
Greshop Industrial Estate
Forres
Moray
IV36 2GW
Tel: 01309 671919

Alpha Plus Ltd
336 Coleford Rd
Darnall
Sheffield, South Yorkshire
S9 5PH
Tel: 0114 243 3594

Amari Metals Ltd
The Hersham Centre
Hersham Green
Hersham
Surrey
KT12 4HP
Tel: 01932 250100

Amazon Filters Ltd
Albany Park Estate
Frimley Rd
Camberley
Surrey
GU16 7PG
Tel: 01276 670600

AMT Systems Ltd
Unit 14, West Stocwith Park
Stockwith Road
Misterton
Doncaster
DN10 4ES
Tel: 01427 890022

Amiad Filtration Systems Ltd
Kibbutz Amiad
D.N. Galilelyon 1
12335 Israel
Tel: 00972 4690 9500

AMT Systems Ltd
Unit 14
West Stockwith Business Park
Stockwith Road
Misterton
Doncaster
DN10 4ES
Tel: 01427 890022

Angus Flexible Pipelines
Station Road
Bentham
Lancaster
LA2 7NA
Tel: 01524 264000

Arlington Packaging (Rental) Ltd
Units 16/17
Salisbury Road
Business Park
Pewsey
SN9 5PZ, England
Tel: 01672 563723

APT Marine Engineering Ltd
Humber Bank South
Fish Docks
Grimsby
North East Lincolnshire
DN31 3SD
Tel: 01472 362550

Aqua Cure plc
Aqua Cure House
Hall Street
Southport, Merseyside
PR9 0SE
Tel: 01704 516 916

Aquabiotics Pty Ltd
14 Goongarrie Street
Bayswater 6053
Western Australia
Tel: 0061 89379 2911

Aquatreat GroupLtd
Stanley House
9 Bunting Close
Mitcham
Surrey
CR4 4ND
Tel: 020 8401 8391

Arch Chemicals S.A
28 Rue Jean Jaures
BP 2016
Les Mureaux Cedex
France
78132
Tel: 0033 130 999900

Arkal Filtration Systems CS Ltd
Kibbutz Bet Zera
MP Jordan Valley 15135
Israel
Tel: 00972 6 6775140

Ashland Industries UK Ltd
Alfreton Trading Estate
Somercotes
Derbyshire DE55 4LR
Tel: 01642 822298

Asset International Ltd
Stephenson Street
Newport
South Wales
NP19 4XH
Tel: 01633 273081

ASD Metal Services
Valley Farm Road
Stourton
Leeds
West Yorkshire
LS10 1SD
Tel: 0113 2540711

Atkinson Chemicals Ltd
24 High Street
Twyford
Reading
Berkshire
RG10 9AB
Tel: 01734 342289

Avista Technologies (UK) Ltd
Waterside House
PO Box 28612
Edinburgh
EH14 5ZL
Tel: 0131 449 6677

Aztec Environmental Controls
Sittingbourne Industrial Park
Crown Quay Lane
Sittingbourne
Kent
ME10 3JG
Tel: 01795 476241

Barnard Ltd
Lower Tower Street
Birmingham
B19 3NL
Tel: 0121 359 5531

Barrier Limited
Pearl Buildings
Stephenson Street
Willington Quay
Wallsend
NE28 6UE
Tel: 0191 262 0510

BASF Construction Chemicals (UK) Ltd
19 Broad Ground Road
Lakeside, Redditch,
Worcestershire, B98 8YP
Tel: 01527 5052

BASF Performance Products plc
PO Box 38
Bradford
West Yorks
BD12 0JZ
Tel: 01274 417000

BioBullets Ltd
2 Fitzhardinge Street
London
W1H 6EE
Tel: 01223 338311

BOC
Water Treatment Technologies
26 Nailsworth Mills Estate
Nailsworth
Gloucestershire
GL6 0BS
Tel: 01453 836621

Boode UK Ltd
22-23 Brindley Road
Dodwells Bridge Ind Estate
Hinckley
Leicestershire
LE10 3BY
Tel: 01455 611317

Bournemouth and West Hampshire Water Plc
George Jessel House
Francis Avenue
Bournemouth
BH11 8NB
Tel: 01202 597020

Brenntag UK & Ireland
Fodens Business Centre
Moss Lane
Sandbach
Cheshire
CW11 3AE
Tel: 01270 759759

British Cement Association
Riverside House
4 Meadows Business Park
Station Approach
Blackwater
Camberley
Surrey
GU17 9AB
Tel: 01276 608700

BSR Pipeline Services Ltd
Brenda Road
Hartlepool
S25 2EG
Tel: 01429 527286

BSS Industrial
Fleet House
Lee Circle
Leicester
LE1 3QQ
Tel: 0116 2623232

Buderus Giesserei Wetzlar GmbH
Pipe Casting Division
Sophiestrabe 52-54
35576 Wetslar
Germany
Tel: 0049 64 41 49 15 62

BWA Water Additives UK Ltd
2 Brightgate Way
Stretford
Manchester
M32 0TB
Tel: 0161 864 6699

Carus Chemical Company
315 5th Street
Peru IL 61329
USA
Tel: 001 815 223 1500

Celtic Vacuum Ltd
The Salterns
Marsh Road
Tenby
Pembrokeshire
SA70 8EP
Tel: 01834 845511

Centraltubi SPA
Via Foglia 11
61020 Lunano
Italy
Tel: 0039 335441644

Ceratherm Ltd
11 Mill Hey Road
Caldy
Wirral
CH48 1ND
Tel: 0870 121 2880

Clinty Chemicals Ltd
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CO Antrim
BT43 6SS

Compressor & Power Engineers Ltd
Apollo
Lichfield Road In Est
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Tel: 01827 68710

Conline Coatings B.V.
Adriaan van Heelstraat 19
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3140 ab maassluis
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Corroless Corrosion Control
Kelvin Way
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Corrosion Protection Products
3M United Kingdom PLC
Standard Way
Northallerton
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Tel: 01609 780170

Crossland Tankers (Burnley) Ltd
Shuttlework Mead Business Park
Blackburn Road
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Damstahl Stainless Ltd
Halesfield 4
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Degremont UK Limited
Water and Waste Treatment
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Houghton Hall Park,
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DH Stainless Ltd
Springvale Mill
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BB4 SE2
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DRC Polymer Products Ltd
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Dryden Aqua Ltd
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Duktus
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Durapipe UK
Walsall Road
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Dustacco Engineering Ltd
Tower works
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Dyka B.V.
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Dyka Plastics NV
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Dyka (UK) Ltd
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EBERO Pipe Systems Ltd
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Egeplast Werner Strumann GmbH &Co
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Elastogran GmbH
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Electrosteel Castings Ltd
30 B. T. Road
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Flexcrete Technologies Ltd
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Flo-dyne Ltd
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Forbes Technology Ltd
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Freeflow Pipesystems Ltd
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GB Filters Ltd
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George Green (Keighley) Ltd
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Gulf Specialised Water Services Ltd
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Grundfos Water Treatment
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Hepworth Building Products Ltd
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Hydranautics BV
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ITT PCI Membrane Systems Ltd
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ITT Water and Waste water Leopold Inc
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JFC Manufacturing (Europe) Ltd
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Johnson Filtration System
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Midland Wire Cordage Co Ltd
Wire Rope House
Eagle Road
North Moons Moat
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Highfield Works
Highfield Industrial Estate
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NKT Flexibles
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Noksel Steel Pipe Co Inc
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Överçler/Ankara – Turkey
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Northpoint Ltd
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Lipetsk
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Orrmac Coatings Limited
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Pall Europe Ltd
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Panton McLeod Ltd
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Permastore Ltd
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Powerrun Project Management Ltd
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Purolite International Ltd
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Quality Plastics Ltd
PO Box 29
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Quantum Engineering Developments Ltd
Quantum House
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Saxon Park
Stoke Prior
Bromsgrove
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Tel: 01527 577888

Radius Systems Ltd
Hilcote Plant
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R Spane GmbH
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ROAM chemie NV
Industrieterrein Centrum
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Rohm and Haas Ltd
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Ross-shire Engineering Ltd
Muir of Ord Industrial Est
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Samuel Cooke & Co Ltd
The Oil Terminal
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Sandvik Materials Technology UK
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Sayers Road tankers Ltd
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Scotmas Ltd
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Siemens plc
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Sika Ltd
Watchmead
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Silotank (Digestors, Silos & Tanks) Ltd
Pembroke Loop Road
Springbank Industrial Estate
Poleglass, Dunmurry
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Simona UK Ltd
Telford Drive
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Sitemech Utilities Ltd
Porrit St
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Snap-Tite Europe. B.V.
Industrial Estate
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Stainless Metric Stock Ltd
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Staptina Engineering Services Ltd
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Stevens Geomembranes - JPS Elastomeries
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STS Tubular Group
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Wallace and Tiernan Ltd
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