

**Waterworks (Amendment) Regulation 2017**  
**(“The Amendment Regulation”)**

**Response to the List of follow-up actions arising from**  
**the discussion at the meeting of the Bills Sub-committee on 6 June 2017**

**Response to Item (a)**

1. The relevant standards covered in the Amendment Regulation as compared with those existing standards in current Schedule 2 to the Waterworks Regulation (“WWR”) (Cap. 102A) are shown in the **Annex**.

**Response to Item (b)**

2. Under the section 16(1) of the Waterworks Ordinance (“WVO”) (Cap. 102) –

16. Water Authority may require repairs to be carried out

(1) The Water Authority may, if he is satisfied that a fire service or inside service—

(a) is in such a condition that waste or pollution of a supply has occurred or is likely to be caused thereby;

(b) has been altered without his permission; or

(c) does not comply with the provisions of this Ordinance, by notice require the consumer to carry out the repairs or other works specified in the notice to the fire service or inside service.

3. Upon receipt of a reported case or identification of a case relating to circumstance (a), (b) or (c) above, the Water Authority (“WA”) will investigate the matter and take enforcement action as appropriate including the issue of the repair notice for rectification after having regard to factors such as the degree of hazard to public health and safety, the risk level of damage to the property, and the extent of deficiency of inside service or fire service resulting in waste or pollution of water supply, etc..

### **Response to Item (c) and (d)**

4. The material standards currently stipulated in the WWR follow the British Standards which were made giving due consideration to the need for ensuring drinking water quality at the time of their promulgation. The Amendment Regulation is to update the WWR on material standards for pipes and fittings that are currently accepted by the WA and used for plumbing works in the industry.

5. The proposed regulation 19A of WWR only provides for the saving and transitional arrangements without changing the current regime on the control of quality of water supplied through pre-existing pipes and fittings in order not to cause too much burden on the public. Without such an arrangement, the public may have to alter or renew relevant parts of the inside services or fire services once a material standard has been updated in the WWR, and this is not our policy intent.

**Development Bureau**

**16 June 2017**

## List of Standards in Schedule 2 of Cap.102A

Item	Existing Standard	Status	Proposed Standard	Title	Remarks	
1	BS 61	Current	BS 61: 1969	Specification for threads for light gauge copper tubes and fittings	Update	
2	BS 143 & 1256		BS 143 & 1256: 2000	Threaded pipe fittings in malleable cast iron and cast copper alloy		
	BS 3505		BS 3505:1986	Specification for unplasticized polyvinyl chloride (PVC-U)-- pressure pipes for cold potable water		
3	--	--	BS EN ISO 1452-1:2009	Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure - Unplasticized poly(vinyl chloride) (PVC U) -- General	Supplement	
			BS EN ISO 1452-2:2009	Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure - Unplasticized poly(vinyl chloride) (PVC U) -- Pipes		
			BS EN ISO 1452-3:2009	Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure - Unplasticized poly(vinyl chloride) (PVC U) -- Fittings		
			BS EN ISO 1452-4:2009	Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure - Unplasticized poly(vinyl chloride) (PVC U) -- Valves		
			BS EN ISO 1452-5:2009	Plastics piping systems for water supply and for buried and above-ground drainage and sewerage under pressure - Unplasticized poly(vinyl chloride) (PVC U) -- Fitness for purpose of the system		
4	BS 1212-1	Current	BS 1212-1:1990	Float operated valves: Specification for piston type float operated valves (copper alloy body) (excluding floats)	Update	
	--	--	BS 1212-2:1990	Float operated valves-- Specification for diaphragm type float operated valves (copper alloy body) (excluding floats)	Supplement	
			BS 1212-3:1990	Float operated valves-- Specification for diaphragm type float operated valves (plastics bodied) for cold water services only (excluding floats)		
			BS 1212-4:2016	Float operated valves-- Specification for compact type float operated valves for WC flushing cisterns (including floats)		
5	BS 1968	Current	BS 1968:1953	Specification for floats for ballvalves (copper)	Update	
6	BS 2456		BS 2456:1990	Specification for floats (plastics) for float operated valves for cold water services		
7	BS 417-2		BS 417-2:1987	Specification for galvanized low carbon steel cisterns, cistern lids, tanks and cylinders -- Metric units		
8	BS 1566-1		BS 1566-1:2002+A1:2011	Copper indirect cylinders for domestic purposes-- Open vented copper cylinders - Requirements and test methods		
	BS 1566-2		BS 1566-2: 1984	Copper indirect cylinders for domestic purposes -- Specification for single feed indirect cylinders		
9	BS 7291-1		BS 7291-1: 2010	Thermoplastics pipe and fitting systems for hot and cold water for domestic purposes and heating installations in buildings-- General requirements		Update
	BS 7291-2		BS 7291-2: 2010	Thermoplastics pipe and fitting systems for hot and cold water for domestic purposes and heating installations in buildings-- Specification for polybutylene (PB) pipe and associated fittings		
	BS 7291-3		BS 7291-3: 2010	Thermoplastics pipe and fitting systems for hot and cold water for domestic purposes and heating installations in buildings-- Specification for crosslinked polyethylene (PE-X) pipes and associated fittings		
	BS 7291-4	Withdrawn on 2/8/2013	--	Thermoplastics pipes and associated fittings for hot and cold water for domestic purposes and heating installations in buildings-- Specification for chlorinated polyvinyl chloride (PVC-C) pipes and associated fittings and solvent cement	BS EN ISO 15877 used as a substitute.	
	--	--	BS EN ISO 15877-1:2010	Plastics piping systems for hot and cold water installations - Chlorinated poly(vinyl chloride) (PVC-C)-- General	Substitute to replace the withdrawn BS 7291-4	
			BS EN ISO 15877-2:2010	Plastics piping systems for hot and cold water installations - Chlorinated poly(vinyl chloride) (PVC-C)-- Pipes		
			BS EN ISO 15877-3:2010	Plastics piping systems for hot and cold water installations - Chlorinated poly(vinyl chloride) (PVC-C)-- Fittings		

Item	Existing Standard	Status	Proposed Standard	Title	Remarks
10	BS 4164	Withdrawn on 2/8/2013	--	Specification for coal-tar-based hot-applied coating materials for protecting iron and steel, including a suitable primer	Outdated material
11	BS 4622			Specification for grey iron pipes and fittings	
12	BS 1010-2	Withdrawn on 24/9/2012	--	Specification for draw-off taps and stopvalves for water services (screw-down pattern)-- Draw-off taps and above-ground stopvalves	BS 1010-2 withdrawn. BS EN 200 used as substitute
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13	BS 5154		BS 5154:1991	Specification for copper alloy globe, globe stop and check, check and gate valves	Earlier version of BS 5154 replaced by two standards to their latest applicable edition.
			BS EN 12288:2010	Industrial valves-- Copper alloy gate valves	
14	BS 5163	Partially superseded	BS 5163-1:2004	Valves for waterworks purposes-- Predominantly key-operated cast iron gate valves - Code of practice	Earlier version of BS 5163 replaced by four standards to their latest applicable edition.
			BS 5163-2:2004	Valves for waterworks purposes-- Stem caps for use on isolating valves and associated water control apparatus - Specification	
			BS EN 1074-1:2000	Valves for water supply-- Fitness for purpose requirements and appropriate verification tests - General requirements	
			BS EN 1074-2:2000	Valves for water supply-- Fitness for purpose requirements and appropriate verification tests - Isolating valves	
15	BS 2871-1		BS EN 1057:2006+A1:2010	Copper and copper alloys-- Seamless, round copper tubes for water and gas in sanitary and heating applications	
	BS 2871-2		BS EN 12449:2016	Copper and copper alloys-- Seamless, round tubes for general purposes	
16	BS 1740-1		BS EN 10241:2000	Steel threaded pipe fittings	
17	BS 4772	Superseded	BS EN 545: 2010	Ductile iron pipes, fittings, accessories and their joints for water pipelines-- Requirements and test methods	Update
18	BS 1387		BS EN 10255: 2004	Non-alloy steel tubes suitable for welding and threading-- Technical delivery conditions	
19	BS 864-2		BS EN 1254-1:1998	Copper and copper alloys-- Plumbing fittings - Fittings with ends for capillary soldering or capillary brazing to copper tubes	
			BS EN 1254-2: 1998	Copper and copper alloys-- Plumbing fittings - Fittings with compression ends for use with copper tubes	
	--	--	BS EN 1254-3:1998	Copper and copper alloys - Plumbing fittings-- Fittings with compression ends for uses with plastic pipes	Supplement
			BS EN 1254-4:1998	Copper and copper alloys - Plumbing fittings-- Fittings combining other end connections with capillary or compression ends	
			BS EN 1254-5:1998	Copper and copper alloys - Plumbing fittings-- Fittings with short ends for capillary brazing to copper tubes	
			BS EN 1254-6:2012	Copper and copper alloys - Plumbing fittings-- Fittings with push-fit ends	
			BS EN 1254-8:2012	Copper and copper alloys - Plumbing fittings-- Fittings with press ends for use with plastics and multilayer pipes	
			BS 8537:2010	Copper and copper alloys-- Plumbing fittings - Specification for press ends of plumbing fittings for use with metallic tubes	
BS EN ISO 9453:2014	Soft solder alloys – Chemical compositions and forms				
BS EN ISO 17672:2010	Brazing-- Filler metals				
20	BS 6730	Superseded	BS EN 12201-1:2011	Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE)-- General	Update
			BS EN 12201-2 : 2011+A1 : 2013	Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE)-- Pipes	
			BS EN 12201-5 : 2011	Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE)-- Fitness for purpose of the system	

Item	Existing Standard	Status	Proposed Standard	Title	Remarks		
21	BS 6572	Superseded	BS EN 12201-1:2011	Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE)-- General	Update		
			BS EN 12201-2 : 2011+A1 : 2013	Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE)-- Pipes			
			BS EN 12201-5 : 2011	Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE)-- Fitness for purpose of the system			
	--	--	BS EN 12201-3:2011+A1:2012	Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE)-- Fittings	Supplement		
		BS EN 12201-4:2012	Plastics piping systems for water supply, and for drainage and sewerage under pressure - Polyethylene (PE)-- Valves				
22	BS 4504-1	Current	BS EN 1092-1:2007+A1:2013	Flanges and their joints --- Circular flanges for pipes, valves, fittings and accessories, PN designated -- Steel flanges	Update		
	--	--	BS EN 1092-2:1997	Flanges and their joints. Circular flanges for pipes, valves, fittings and accessories, PN designated-- Cast iron flanges	Supplement		
23	BS 699	Current	BS 1566-1:2002 + A1:2011	Copper indirect cylinders for domestic purposes-- Open vented copper cylinders - Requirements and test methods	Update		
24	BS 6282		BS EN 13959: 2004	Anti-pollution check valves -- DN 6 to DN 250 inclusive Family E, type A, B, C, and D	Earlier version of BS 6282 splitted and replaced by two standards to their latest applicable edition.		
		BS EN 14451: 2005	Devices to prevent pollution by backflow of potable water--- In-line anti-vacuum valves DN 8 to DN 80 - Family D, type A				
25	BS 3456-102.21	Superseded & no longer used	BS EN 60335-2-21:2003+A2:2008	Household and similar electrical appliances - Safety-- Particular requirements for storage water heaters	Requirements already incorporated in proposed Schedule 2		
26	BS 853		BS 853-1:1990+A3: 2011	Specification for vessels for use in heating systems - Calorifiers and storage vessels for central heating and hot water supply			
27	--	--	BS EN 816:1997	Sanitary tapware--- Automatic shut-off valves PN 10	New for taps		
28			BS EN 1286:1999	Sanitary tapware--- Low pressure mechanical mixing valves-- General technical specifications			
29			BS EN 1287:1999	Sanitary tapware--- Low pressure thermostatic mixing valves-- General technical specifications			
30			BS EN 15091:2013	Sanitary tapware--- Electronic opening and closing sanitary tapware			
31			BS EN 593:2009+A1:2011	Industrial valves-- Metallic butterfly valves	New for butterfly valve		
32			BS EN 1171:2015	Industrial valves-- Cast iron gate valves	New for gate valves		
33			BS EN 1984:2010	Industrial valves-- Steel gate valves			
34			BS EN 1567:1999	Building valves -- Water pressure reducing valves and combination water reducing valves-- Requirements and tests	New for pressure reducing valve		
35			BS EN 12266-1:2012	Industrial valves--- Testing of metallic valves-- Pressure tests, test procedures and acceptance criteria - Mandatory requirements	New for testing a pipe joint		
36			BS EN 12334:2001	Industrial valves-- Cast iron check valves	New for miscellaneous valves		
37			BS EN 16767:2016	Industrial valves-- Steel and cast iron check valves			
38			BS EN 13547:2013	Industrial valves-- Copper alloy ball valves			
39			BS EN 13709:2010	Industrial valves-- Steel globe and globe stop and check valves			
40			BS EN 13789:2010	Industrial valves-- Cast iron globe valves			
41			BS EN 13828:2003	Building valves-- Manually operated copper alloy and stainless steel ball valves for potable water supply in buildings - Tests and requirements			
42			BS 5041-1:1987	Fire hydrant systems equipment-- Specification for landing valves for wet risers		New for fire hydrant gate valve	
43			BS EN 1074-3:2000	Valves for water supply--- Fitness for purpose requirements and appropriate verification tests-- Check valves	New for waterworks check valve		
44					BS EN 997:2012+A1:2015	WC pans and WC suites with integral trap	New for testing flushing valve

Item	Existing Standard	Status	Proposed Standard	Title	Remarks
45	--	--	BS 6920-1:2014	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water -- Specification	New for testing non-metallic products
			BS 6920-2.1:2014	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water -- Methods of test - Samples of testing	
			BS 6920-2.2.1:2000+A3:2014	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water -- Methods of test - Odour and flavour of water - General method of test	
			BS 6920-2.2.2:2000+A1:2014	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water -- Method of testing odours and flavours imparted to water by multi-layered hoses and pipes	
			BS 6920-2.2.3:2000+A2:2014	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water -- Method of testing tastes imparted to water by hoses for conveying water for food and drink preparation	
			BS 6920-2.3:2000+A1:2014	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water -- Method of test - Appearance of water	
			BS 6920-2.4:2000+A1:2014	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water -- Method of test - Growth of aquatic micro-organisms test	
			BS 6920-2.5:2000+A2:2014	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water -- Method of test - The extraction of substances that may be of concern to public health	
			BS 6920-2.6:2000+A2:2014	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water -- Method of test - The extraction of metals	
			BS 6920-3:2000	Suitability of non-metallic products for use in contact with water intended for human consumption with regard to their effect on the quality of the water - High temperature tests	
			46		
47			BS EN 10217-7:2014	Welded steel tubes for pressure purposes--- Technical delivery conditions-- Stainless steel tubes	
48			BS EN 10312:2002	Welded stainless steel tubes for the conveyance of water and other aqueous liquids -- Technical delivery conditions	
49			AS 3688:2016	Water supply and gas systems---Metallic fittings and end connectors	New for stainless steel fittings