

The Building Regulations 2000

Sanitation, hot water safety and water efficiency

CHANGES BETWEEN 2009 DRAFT AND 2010 EDITION OF APPROVED DOCUMENT G

| Paragraph Nr. (2009 draft) | Change |
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| Inside front cover | In main heading, “2009” replaced with “2010” |
| Inside front cover Paragraph 1 | <p>In the first line, “2009” replaced with “2010”</p> <p>In the second line, “1 October 2009” replaced with “6 April 2010”</p> <p>At the end of the first sentence, after “(SI 2009/1219)” “, the Building and Approved Inspectors (Amendment No. 2) Regulations 2009 (SI 2009/2465) and the Building and Approved Inspectors (Amendment) Regulations 2010 (SI 2010/719)” inserted.</p> <p>In the last sentence, “1 October 2009 the 2000 edition” replaced with “6 April 2010 all previous editions”</p> <p>At the end of the paragraph, after “2009/1219”, “as amended by SI 2009/2465” inserted.</p> |
| Inside front cover | <p>In paragraph 3, first two bullets replaced with:</p> <ul style="list-style-type: none"> “ <ul style="list-style-type: none"> • There is in G1 a new requirement on the supply of wholesome water for the purposes of drinking or food preparation • G1 requires a supply of wholesome water or softened wholesome water for washing • G1 also allows the provision of water of a suitable quality to sanitary conveniences fitted with a flushing device “ <p>In paragraph 7, “cannot” replaced with “is unlikely to be able to”</p> |
| Page 1 Contents | Contents and page numbering changed to reflect changes |
| Page 3 What is an Approved document? | In second sentence of second paragraph, “set out” replaced with “examples of”, and “would” replaced with “may”. |

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| Page 3 What is an Approved Document | <p>After “SI 2000/2531 has been amended by the following regulations:” the following regulations have been added:</p> <p>“ The Building (Amendment No.2) Regulations 2009 (SI 2009/466)</p> <p>The Building and Approved Inspectors (Amendment No.2) Regulations 2009 (SI 2009/2465)</p> <p>The Building (Amendment No.2) Regulations 2009 (SI 2009/2397)</p> <p>The Building and Approved Inspectors (Amendment) Regulations 2009 (SI 2009/1219) “</p> |
| Page 5 The Requirements | In paragraph 1, “1 October 2009” replaced with “6 April 2010” |
| Page 6 Exempt buildings and work definition | <p>After “Regulation 9”, “of” inserted</p> <p>After “Schedule 2”, “of” replaced with “to”</p> |
| Page 6 Non-self-resetting energy cut out definition | <p>Penultimate sentence changed to:</p> <p>“If this protective device is actuated it should only be possible to reset it manually. “</p> <p>Last sentence deleted.</p> |
| Page 7 Non-wholesome water definition | The definition of non-wholesome water deleted. |
| Page 7 | <p>A new definition added:</p> <p>“ * Softened wholesome water means water which would be regarded as wholesome for the purposes of regulations made under section 67 of the Water Industry Act 1991 (standards of wholesomeness) as they apply for the purposes of Part G of Schedule 1 in accordance with paragraph (2c) but for the presence of sodium in excess of the level specified in those regulations if it is caused by a water softener or water softening</p> |

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| | process which reduces the concentrations of calcium and magnesium. “ |
| Page 7 Wholesome water definition | Definition of wholesome water deleted and replaced with: “ Wholesome water means water complying with the requirements of regulations made under Section 67 (Standards of wholesomeness) of the Water Industry Act 1991. The regulations made under this Section at the time of publication of this Approved Document are for England the Private Water Supplies Regulations 2009 (SI 2009/3101), for Wales the Private Water Supplies (Wales) Regulations (SI 2010/66) and, for England, the Water Supply (Water Quality) Regulations 2000 (SI 2000/3184 as amended), and, for Wales, the Water Supply (Water Quality) Regulations 2001 (SI 2001/3911 as amended). “ |
| Page 10 Materials and workmanship | First paragraph of this section deleted. In paragraph 4, “document” replaced with “Document” |
| Page 11 Interaction with other legislation | The paragraph “The Water Supply (Water Fittings) Regulations 1999” replaced with: “ The Private Water Supplies Regulations 2009 (SI 2009/3101) in England and The Private Water Supplies (Wales) Regulations 2010 (SI 2010/66) in Wales are made under the Water Industry Act 1991 and section 2(2) of the European Communities Act 1972 and are concerned with the quality of water supplied from private supplies for drinking, washing or cooking or for food preparation purposes. “ |
| Page 12 The Requirement G1 | Paragraph G1 (1) of the Requirement replaced with: “ G1. (1) There must be a suitable installation for the provision of - (a) wholesome water to any place where drinking water is drawn off; (b) wholesome water or softened wholesome water to any washbasin or bidet provided in or adjacent to a room containing a sanitary convenience; (c) wholesome water or softened wholesome water to any washbasin, bidet, fixed bath or shower in a bathroom. (d) wholesome water to any sink provided in any area where food is prepared. “ |
| Page 13 | First sub-paragraph d. replaced with: “ d. the installation conveys wholesome water or softened |

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| Performance | <p>wholesome water to the sanitary appliances and locations specified in the Requirement without waste, misuse, undue consumption or contamination of water: “</p> <p>Second sub-paragraph b. replaced with:</p> <p>“ b. by a source complying with the Private Water Supplies Regulations 2009 (SI 2009/3101) in England or the Private Water Supplies (Wales) Regulations (SI 2010/66) in Wales. “</p> <p>Third sub-paragraph a. replaced with:</p> <p>“ a. the water supplied is either wholesome, softened wholesome or of suitable quality having regard to the risks to health; “</p> |
| Page 14 | The heading “Wholesome water (all buildings)” replaced with “Wholesome water ” |
| 1.1 | Last sentence replaced with “ The requirements in the appropriate water quality regulations are set out <i>etc.</i> “ |
| 1.3 | <p>The end of the first sentence amended to:</p> <p>“ criteria set out in the Private Water Supplies Regulations 2009(SI 2009/3101) in England or the Private Water Supplies (Wales) Regulations (SI 2010/66) in Wales. “</p> |
| <p>Page 14</p> <p>New 1.4 & 1.5 and subsequent paragraphs renumbered</p> | <p>After 1.3, new paragraph inserted:</p> <p>“ Softened wholesome water</p> <p>1.4 Wholesome water which has been treated by a water softener or a water softening processes to adjust the content of hardness minerals may have raised levels of sodium. Where the water, after this treatment, still complies with the requirements for wholesome water it is still considered to be wholesome water.</p> <p>1.5 However, where it complies with all requirements for wholesome water other than its sodium content, it will be considered to be wholesome softened water. Whilst wholesome softened water may be considered suitable for most purposes it should not be provided in place of wholesome water to any place where drinking water is drawn off or to any sink provided in an area where food is prepared. “</p> |

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| Page 14 | Heading “Non-wholesome water (all buildings)” and replaced with: “Alternative sources of water” |
| 1.5 (new 1.7) | “non-wholesome water” replaced with “alternative” |
| 1.6 (new 1.8) | “ and in BS 8515:2009 <i>Rainwater harvesting systems - Code of Practice</i> . “ added to end of sentence |
| 1.11 (new 1.13) | In first sentence, “non-wholesome” replaced with “alternative “ |
| 1.12 (new 1.14) | In first sentence, “non-wholesome” replaced with “alternative” |
| Page 15 Requirement | Under 17K, paragraphs (10) and (11) deleted In 13E. (1) after “calculated” , “in accordance with the methodology referred to in that regulation” inserted |
| Page 16 Performance | At the beginning of sub-paragraph a., “the estimated consumption of wholesome water resulting from” inserted At the beginning of sub-paragraph b., “the manner in which” inserted In sub-paragraph b. “taking” replaced with “takes” At the beginning of sub-paragraph c., “the manner in which” inserted In sub-paragraph c. “taking” replaced with “takes” In sub-paragraph d., “to meet the target” replaced with “in the water consumption calculation” , “buildings owners” replaced with “building owners” , at the end of the paragraph “In this context, relevant white goods are washing machines and dishwashers” inserted In sub-paragraph e., “to meet the target” replaced with “in the water consumption calculation” , “buildings owners” deleted and |

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| | <p>replaced with “building owners” ,</p> <p>The paragraph “In this context, relevant white goods are washing machines and dishwashers” deleted.</p> <p>In the penultimate paragraph, before “the cold”, “estimated consumption of wholesome water resulting from the design of” inserted.</p> <p>In the last paragraph, “shall” replaced with “may”</p> |
| 2.4 | “, non-wholesome” deleted |
| <p>Page 16</p> <p>Notification of water efficiency calculation to the BCB</p> | Last paragraph, “will not” replaced with “are unlikely to” |
| <p>Page 17</p> <p>Requirement</p> | <p>In G3. (1), after “heated wholesome water” “or heated softened wholesome water” inserted</p> <p>In G3 (4), “shall” replaced with “does”</p> |
| <p>Page 17</p> <p>Limits on application</p> | “Note: Some of these systems may be subject to the Pressure Systems Safety Regulations 2000” deleted |
| <p>Page 18</p> <p>Performance G3(3)</p> | <p>In the first sub-paragraph b. “or heated softened wholesome water” inserted</p> <p>In the fourth sub-paragraph a., after “safety devices”, “that” replaced with “such as those that release pressure and so”</p> <p>In fourth sub-paragraph b., after “for the discharge”, “of hot water from safety devices” inserted and “any discharge of hot water from safety devices” replaced with “it”</p> |
| <p>Page 18</p> <p>Performance G3(4)</p> | “fix” replaced with “limit” |

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| 3.1 | In first sentence, before “where”, “or heated softened wholesome water” inserted In sub-paragraph a., after “wholesome” , “or softened wholesome” inserted |
| 3.3 | After “Regulations”, “1994 (SI 1994/1886)” inserted |
| 3.6 | After “For workplaces”, “and premises controlled in connection with a trade, business or other undertaking” inserted |
| 3.7 | After “way”, “so” inserted |
| 3.8 | After “Safety Regulations 2000”, “(SI 2000/128) “ inserted |
| 3.9 | At end of last paragraph “6.3” replaced with “6.4” |
| 3.10 | After “BS 6700:2006”, “ +A1:2009” inserted |
| 3.11 | End of paragraph amended to “... <i>domestic purposes</i> or other relevant national standard as appropriate. “ |
| 3.12 | Before “vessel”, “hot water storage” inserted |
| 3.13 | “either” moved from after “a.” to after “incorporate”. In sub-paragraph a. “; or” replaced with “; and” In sub-paragraph a. “i” and “ii” deleted At the end of sub-paragraph a., “and” replaced with “or” |
| 3.13 b | At start of sentence, “an appropriate safety device, for example,” inserted |
| New 3.17 and subsequent paragraphs renumbered | New paragraph 3.17 inserted: “ 3.17 To minimize the danger from excessive pressure, unvented hot water storage systems should incorporate a minimum of two independent safety devices. These shall be in addition to any thermostat provided to control the desired temperature of the stored water. The selection of safety devices should take account of the physical location of the devices, and the design, configuration, location of components and performance characteristics of the system to which they are attached. “ |
| 3.17 | First sentence replaced with: |

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| (New 3.18) | “ An acceptable approach might consist of: “ In Note, “3.33” replaced with “3.35” |
| 3.19 (New 3.20) | “3.20 to 3.23” replaced with “3.21 to 3.24” |
| 3.21 (New 3.22) | After “BS 6700:2006”, “ + A1:2009 “ inserted |
| 3.22 (New 3.23) | Sub-paragraph e. replaced with: “ e. relevant operating data on each of the safety devices fitted” |
| 3.24 (New 3.25) | “3.25” replaced with “3.26” “3.26” replaced with “3.27” |
| 3.26 (New 3.27) | After “BS 6700:2006”, “ + A1:2009” inserted |
| 3.29 (New 3.30) | “3.17” replaced with “3.18” “3.28” replaced with “3.29” |
| 3.31 (New 3.32) | “3.33” replaced with “3.35” |
| 3.32 (New 3.33) | “a system has more than one heat source” replaced with “an energy cut-out is fitted as set out in paragraphs 3.13a or 3.18. |
| Page 21 | Heading “Temperature and pressure relief valves” replaced with “Temperature and pressure relief devices” |
| New paragraph 3.34 and renumber subsequent paragraphs | New paragraph 3.34 inserted after heading “Temperature and pressure relief devices” : “ 3.34 Where relevant, appropriate pressure, temperature or temperature and pressure-activated safety devices should be fitted in addition to a safety device such as an energy cut-out. “ |
| 3.33 (New 3.35) | “3.17(a)” replaced with “3.18 (a)” |
| 3.34 (New 3.36) | Before “BS 6283-2” , “relevant national standards such as” inserted. |

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| | At the end of the paragraph “ Combined temperature and pressure relief valves should conform to BS EN 1490:2000 <i>Building valves. Combined temperature and pressure relief valves. Tests and Requirements.</i> ” inserted. |
| 3.35 | Paragraph deleted. |
| 3.36 (New 3.37) | Paragraph deleted and replaced with: “ Temperature relief valves (see paragraph 3.18) should be sized to give a discharge rating at least equal to the total power input to the hot water storage system, when measured in accordance with Appendix F of BS 6283-2:1991 or BS EN 1490:2000. “ |
| 3.37 (New 3.38) | “The temperature relief valve(s) or combined temperature and pressure relief valve(s) specified in 3.17” replaced with: “ Temperature relief valve(s) or combined temperature and pressure relief valve(s) (see paragraph 3.18) “ |
| 3.38 (New 3.39) | “the temperature relief valve(s) specified in 3.17” replaced with “ temperature relief valve(s) (see paragraph 3.18) “ |
| 3.39 (New 3.40) | “choice of an appropriate system” replaced with “the choice of system and safety devices appropriate” |
| 3.40 (New 3.41) | “efficient” replaced with “efficiency”. |
| 3.41 (New 3.42) | “BCB” replaced with “ BCB ” |
| 3.48 (New 3.49) | “Some” replaced with “As some” |
| 3.49 (New 3.50) | “Each of the” replaced with “Safety devices such as” “specified in 3.13 or 3.17” deleted and replaced with “(see 3.13 and 3.18) |

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| 3.50 (New 3.51) | Before “ temperature relief valve ”, “safety device eg.” inserted |
| 3.52 (New 3.53) | “than the” replaced with “than a” |
| 3.53 (New 3.54) | “, the valve,” replaced with “the safety device” |
| 3.55 (New 3.56) | In sub-paragraph b., after “fall” “thereafter” deleted, and “thereafter” inserted after “200” |
| 3.56 (New 3.57) | At end of paragraph, after “BS 7291”, “-1:2006 <i>Thermostatic pipes and fittings for hot and cold water for domestic purposes and heating installations in buildings. General requirements</i> ” inserted |
| 3.57 (New 3.58) | In the Note, after “BS 6700:2006”, “ +A1:2009 “ inserted |
| Diagram 1 | In top left hand corner, “See paras 3.33 to 3.39 and 3.50” deleted In note to D2, “3.55” replaced with “3.56”, and “Table 3” replaced with “Table 1” In note to gulley, “3.60” replaced with “3.61” |
| Table 1 | In footnote, “3.49 ” replaced with “3.51”, and “3.56” replaced with “3.58” |
| 3.59 (New 3.60) | In sub-paragraph c. “to Class S of BS 7291-2:2006 or cross linked polyethylene (PE-X) to Class S of BS 7291-2:2006” replaced with “or cross linked polyethylene (PE-X) complying with national standards such as Class S of BS 7291-2:2006 or Class S of BS 7291-3:2006 respectively; and.” “Note” replaced with “Notes” At the end of note 1, “:2002 <i>Plastics. Symbols and abbreviated terms. Basic polymers and their special characteristics.</i> ” inserted |
| 3.63 (New 3.64) | “BS 15092” replaced with “BS EN 15092:2008 <i>Building valves. Inline hot water supply tempering valves</i> ” |
| 3.64 (New 3.65) | Before “in-line blending valve”, “a” replaced with “an” |

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| 3.65 (New 3.66) | Last sentence in brackets deleted. After “European Standard” “, such as BS EN 1111:1999 <i>Sanitary tapware. Thermostatic mixing valves (PN10). General technical specification</i> or BS EN 1287:1999 <i>Sanitary tapware. Low pressure thermostatic mixing valves. General technical specifications</i> ,” inserted |
| 3.67 (New 3.68) | Before “blending valves”, “in-line” inserted “provisions” replaced with “provision” Before “pasteurisation”, “for” deleted “operated in such a manner as” replaced with “managed” After “prevent”, “the risk associated with” inserted |
| 3.68 (New 3.69) | Before “BS 8000-15”, “appropriate standards such as” inserted |
| 3.69 (New 3.70) | “in the same way as any product or installation that uses energy” deleted |
| 3.70 (New 3.71) | After “ building services”, “, including controls” inserted Last two sentences deleted. |
| 3.71 (New 3.73) | “,without prejudice to the need to comply with health and safety requirements” deleted |
| Page 27 Requirement | In paragraph G4 91), “for that purpose” replaced with “them” |
| 4.1 | After “Part M” “(Access to and use of buildings)” inserted ; after “Regulations 2000” (Access to and use of buildings)” deleted |
| 4.2 | “()” around “Ventilation” inserted |
| 4.7 | “Part M” replaced with “paragraph M4 (Sanitary conveniences in dwellings)” ; “(Access to facilities and buildings)” deleted In the Note, “Part M” replaced with “Paragraph M4” |
| 4.12 | Existing paragraph replaced with: “ 4.12 The Workplace (Health, Safety and Welfare) Regulations 1992 require that a minimum number of sanitary conveniences must be provided in workplaces. The Approved Code of Practice (ACOP) that supports those Regulations sets |

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| | out how to calculate that minimum requirement (guidance on those minimum numbers can be found at http://www.hse.gov.uk/pubns/indg293.pdf). “ |
| 4.14 | Existing paragraph replaced with: “ 4.14 Further guidance on the provision of sanitary conveniences can be found in BS 6465-1:2006 + A1:2009 <i>Sanitary installations. Code of practice for the design of sanitary facilities and scales of provision of sanitary and associated appliances</i> . This may be used for those building types not set out in paragraph 4.12 above or for those workplaces where the applicant wishes to provide more than the minimum recommended in the Approved Code of Practice, for example, to deliver equivalent provision for men and women. ” |
| 4.20 | “NSF 41 – 1999” replaced with “NSF 41:2005 as amended by Addendum 1:2007” |
| 4.24b | In sub-paragraph b, “BS EN 12050-2:2001 <i>Wastewater lifting plants for buildings and sites. Principles of construction and testing. Lifting plants for faecal-free wastewater</i> ” replaced with: “BS EN 12050-1:2001 <i>Wastewater lifting plants for buildings and sites. Principles of construction and testing. Lifting plants for wastewater containing faecal matter</i> or BS EN 12050-3:2001 <i>Wastewater lifting plants for buildings and sites. Principles of construction and testing. Lifting plants for wastewater containing faecal matter for limited applications</i> ” |
| 5.1 | After “1999”, “(SI 1999/1148)” inserted |
| 5.8 | After “BS 6465-1:2006”, “ + A1:2009” inserted |
| Annex 1 A1.1 | In the second line of A1.1, “In” replaced with “in” In the first line of the second paragraph of A1.1, “relevant” inserted before “regulations”. In the second paragraph of A1.1, after “form”, “with some deletions or additional text where it is considered it would assist comprehension” inserted In the second paragraph of A1.1, “While all efforts have been madder to ensure accuracy, the consolidated text should not be regarded as authoritative.” deleted In the last sentence of the second paragraph of A1.1, “In” replaced with “These are only extracts of the legislation, and in”. |

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| <p>Annex 1 Water Supply (Water Quality) Regulations 2000 (SI 2000/3184)</p> | <p>In sub-paragraph 4. (1) b. blank line inserted after “produced,”</p> <p>In sub-paragraph 4. (1) b. after “Chapter III”, “ [(quality and sufficiency of supplies) of Part III (water supply) of the Water Industry Act 1991] ” inserted</p> <p>In sub-paragraph 4. (2) a. i. “listed in Schedule 1” inserted after “parameter”</p> <p>In sub-paragraph 4. (2) a. ii. “listed in Schedule 1” inserted after “parameter”</p> <p>In sub-paragraph 4. (2) a. i. a blank line inserted before “at a “</p> <p>At the end of this section the following added:</p> <p>“ (6) Water transferred from a service reservoir for supply for regulation 4(1) purposes shall not be regarded as unwholesome for the purposes of Chapter III because the maximum concentration for the coliform bacteria parameter is exceeded if, as regards the samples taken in any year in which the reservoir in question is in use, the results of analysis for that parameter establish that in at least 95 per cent of those samples coliforms were absent. ”</p> |
| | <p>The Private Water Supplies Regulations section replaced with:</p> <p>“ Private Water Supplies Regulations 2009 (SI 2009/3101)</p> <p>Note: The Private Water Supplies (Wales) Regulations (SI 2010/66) which apply in Wales contain equivalent requirements.</p> <p>Wholesomeness</p> <p>4. Water is wholesome if all the following conditions are met—</p> <p>(a) it does not contain any micro-organism, parasite or substance, alone or in conjunction with any other substance, at a concentration or value that would constitute a potential danger to human health;</p> <p>(b) it complies with the concentrations or values specified in Part 1 of Schedule 1; and</p> <p>(c) in the water: $\frac{\text{nitrate (mg/l)}}{50} + \frac{\text{nitrite (mg/l)}}{3} \leq 1$. “</p> |
| <p>Annex 2</p> | <p>Annex generally updated to reflect schemes that will be in force</p> |

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| | on 6 April 2010 |
| Annex 3 Page 37 | <p>“The Private Water Supplies Regulations 1991 (SI 1991/2790). HMSO, 1999” deleted and replaced with: “ The Private Water Supplies Regulations 2009 (SI 2009/3101) HMSO, 2009” and</p> <p>“The Private Water Supplies Regulations 2010 (SI 2010/66) HMSO, 2010</p> <p>“ANSI-NSF 41 – 1999” replaced by “ANSI-NSF 41:2005 + A1:2007”</p> |
| Annex 3 Page 38 | <p>After “BS 6465-1:2006”, “+A1:2009” inserted</p> <p>After “BS 6700:2006”, “ + A1:2009” inserted</p> |
| Annex 3 Page 39 | <p>“ BS EN 12050-1:2001 <i>Wastewater lifting plants for buildings and sites. Principles of construction and testing. Lifting plants for wastewater containing faecal matter</i> “</p> <p>BS EN 12050-3:2001 <i>Wastewater lifting plants for buildings and sites. Principles of construction and testing. Lifting plants for wastewater containing faecal matter for limited applications</i>”</p> <p>inserted</p> |
| Annex 3 Page 39 | “BS 8518” deleted and replaced with “BS 8515” |
| Annex 3 Page 39 | <p>“Market Transformation Project” replaced with “Market Transformation Programme” (three times)</p> <p>“CIBSE Guide G: <i>Public health engineering</i>, CIBSE, 2004. ISBN 1903287421” added</p> <p>“CIBSE Domestic Building Services Panel: <i>Solar heating design and installation guide</i>, 2007. ISBN 9781903287842” added</p> |