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# Health Building Note 00-10 Part A – Flooring

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# **Preface**

### **About Health Building Notes**

Health Building Notes give "best practice" guidance on the design and planning of new healthcare buildings and on the adaptation/extension of existing facilities.

They provide information to support the briefing and design processes for individual projects in the NHS building programme.

### The Health Building Note suite

Healthcare delivery is constantly changing, and so too are the boundaries between primary, secondary and tertiary care. The focus now is on delivering healthcare closer to people's homes.

The Health Building Note framework (shown below) is based on the patient's experience across the spectrum of care from home to healthcare setting and back, using the national service frameworks (NSFs) as a model.

### Health Building Note structure

The Health Building Notes have been organised into a suite of 17 core subjects.

**Care-group-based** Health Building Notes provide information about a specific care group or pathway but cross-refer to Health Building Notes on **generic (clinical) activities** or **support systems** as appropriate.

Core subjects are subdivided into specific topics and classified by a two-digit suffix (-01, -02 etc), and may be further subdivided into Supplements A, B etc.

All Health Building Notes are supported by the overarching Health Building Note 00 in which the key areas of design and building are dealt with.

### **Example**

The Health Building Note on accommodation for adult in-patients is represented as follows:

"Health Building Note 04-01: Adult in-patient facilities"

The supplement to Health Building Note 04-01 on isolation facilities is represented as follows:

"Health Building Note 04-01: Supplement 1 – Isolation facilities for infectious patients in acute settings"

Health Building Note number and series title	Type of Health Building Note
Health Building Note 00 – Core elements	Support-system-based
Health Building Note 01 – Cardiac care	Care-group-based
Health Building Note 02 – Cancer care	Care-group-based
Health Building Note 03 – Mental health	Care-group-based
Health Building Note 04 – In-patient care	Generic-activity-based
Health Building Note 05 – Older people	Care-group-based
Health Building Note 06 – Diagnostics	Generic-activity-based
Health Building Note 07 – Renal care	Care-group-based
Health Building Note 08 – Long-term conditions/long-stay care	Care-group-based
Health Building Note 09 - Children, young people and maternity services	Care-group-based
Health Building Note 10 – Surgery	Generic-activity-based
Health Building Note 11 – Community care	Generic-activity-based
Health Building Note 12 – Out-patient care	Generic-activity-based
Health Building Note 13 – Decontamination	Support-system-based
Health Building Note 14 – Medicines management	Support-system-based
Health Building Note 15 – Emergency care	Care-group-based
Health Building Note 16 – Pathology	Support-system-based

# Other resources in the DH Estates and Facilities knowledge series

### Health Technical Memoranda

Health Technical Memoranda give comprehensive advice and guidance on the design, installation and operation of specialised building and engineering technology used in the delivery of healthcare (for example medical gas pipeline systems, and ventilation systems).

They are applicable to new and existing sites, and are for use at various stages during the inception, design, construction, refurbishment and maintenance of a building.

All Health Building Notes should be read in conjunction with the relevant parts of the Health Technical Memorandum series.

### Activity DataBase (ADB)

The Activity DataBase (ADB) data and software assists project teams with the briefing and design of the healthcare environment. Data is based on guidance given in the Health Building Notes, Health Technical Memoranda and Health Technical Memorandum Building Component series.

- Room data sheets provide an activity-based approach to building design and include data on personnel, planning relationships, environmental considerations, design character, space requirements and graphical layouts.
- Schedules of equipment/components are included for each room, which may be grouped into ergonomically arranged assemblies.
- 3. Schedules of equipment can also be obtained at department and project level.
- 4. Fully loaded drawings may be produced from the database.
- Reference data is supplied with ADB that may be adapted and modified to suit the users' project-specific needs.

### **Note**

The sequence of numbering within each subject area does not necessarily indicate the order in which the Health Building Notes were or will be published/printed. However, the overall structure/number format will be maintained as described.

# **Executive summary**

This Health Building Note (HBN) outlines the policy and performance requirements for flooring used in healthcare facilities. These requirements are a set of essential standards of quality and safety that flooring must comply with.

HBN 00-01 Part A outlines the policy and performance requirements for flooring used in healthcare facilities. These requirements are a set of essential standards of quality and safety that flooring must comply with. It supersedes Health Technical Memorandum 61.

This HBN outlines the relevant standards that commissioning organisations will need to include in their contracts with healthcare providers.

This HBN allows choice in the materials and methods of construction – provided they satisfy the performance requirements outlined.

The flooring used should be appropriate for the type of premises in which they are being fitted (for example, primary care facilities may have different design requirements from acute care facilities).

### **Note**

Mental health facilities have their own specific design requirements. These are addressed in Health Building Note 03-01 – 'Adult acute mental health units'.

Health Building Note 00-10: Part A - Flooring

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Health Building Note 00-10: Part A - Flooring

# 1 Introduction

# Regulatory framework and policy drivers

- 1.1 One of the Government's key priorities is delivering better health outcomes for patients.
- 1.2 The quality and fitness-for-purpose of the NHS estate is vital for high quality, safe and efficient healthcare, and this Health Building Note seeks to set out the quality and standards of certain components used in the construction of the estate.
- 1.3 Quality and fitness for purpose of the estate are assessed against a set of legal requirements and standards. Adhering to the performance requirements outlined in this Health Building Note will be taken into account as evidence towards compliance with these legal requirements and standards.

# Regulator requirements: essential standards of quality and safety

- 1.4 The Care Quality Commission (CQC) regulates all providers of regulated health and adult social care activities in England. The CQC's role is to provide assurance that the care people receive meets essential requirements of quality and safety.
- 1.5 The registration requirements are set out in the Health and Social Care Act 2008 (Regulated Activities) Regulations 2010 and include a requirement relating to safety and suitability of premises.
- 1.6 The CQC is responsible for developing and consulting on its methodology for assessing whether providers are meeting the registration requirements (see the CQC's (2010) 'Guidance about compliance').
- 1.7 The CQC also uses PEAT (Patient Environment Action Teams) data to inform 37 indicators across five essential standards of quality and safety.
- 1.8 Failure to comply with the requirements is an offence, and under the 2008 Act, CQC has a wide range of enforcement powers that it can use if the

- provider is not compliant. These include the issue of a warning notice that requires improvement within a specified time, prosecution, and the power to cancel a provider's registration, removing its ability to provide regulated activities.
- 1.9 Outcome 10 of the CQC's 'Guidance about compliance' focuses on the "safety and suitability of premises" and decrees that "people receive care in, work in or visit safe surroundings that promote their wellbeing".
- 1.10 Health Building Notes and Health Technical Memoranda are specifically referenced in the CQC's "schedule of applicable publications" as a means of compliance with Outcome 10.
- 1.11 Commissioning organisations, specifiers, project teams, design teams and those responsible for construction and maintenance of health buildings should therefore consider the performance requirements in this Health Building Note, as they relate to the CQC's essential standards of quality and safety.

### Infection prevention and control

- 1.12 A complex range of issues distinguishes healthcare environments from most other building types. One of the most important of these relates to the control of infection. Hospital environments in particular are subject to spillage of a range of potentially dangerous substances in areas of general use such as circulation areas and in wards. The choice of finishes is important in determining cleaning regimes.
- 1.13 Infection prevention and control teams should be consulted in design decisions and a risk analysis conducted on many issues of design (see Health Facilities Note 30 'Infection control in the built environment').

# Code of Practice on infection prevention and control

- 1.14 The guidelines outlined in this Health Technical Memorandum follow the general principles given in 'The Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance' (the healthcare-associated infection (HCAI) Code of Practice). This code of practice sets out criteria by which healthcare organisations are to ensure that patients are cared for in a clean environment and where the risk of HCAIs is kept as low as possible.
- 1.15 The CQC assesses healthcare organisations against aspects of the code of practice, to monitor whether they are complying with the registration requirements related to cleanliness and infection control.
- 1.16 The HCAI Code of Practice also contains a comprehensive list of the Department of Health's guidance on the prevention of HCAIs.

### Hygiene and cleaning

- 1.17 The control and prevention of healthcare-associated infection (HCAI) is a priority issue in terms of not only the safety and well-being of patients and staff, but also the resources consumed by potentially avoidable infections. It is important that the design of the building facilitates good infection prevention and control practices, and has the quality and design of finishes and fittings that enable thorough access, cleaning, disinfection and maintenance to take place.
- 1.18 All finishes in healthcare facilities should be chosen with cleaning in mind, especially where contamination with blood or body fluid is a possibility (that is, smooth, non-porous and water-resistant). Early and sustained involvement of the infection prevention and control (IPC) team is essential and will lead to the minimisation of infection risks.
- 1.19 Requirements for frequency of cleaning may impact on the use of rooms, circulation and waiting areas at various times of the day. Cleaning regimes including frequency of cleaning should be addressed in line with current national guidance together with any additional local management requirements.
- **1.20** Relevant provisions of current guidance are embodied in the following documents:

- 'The national specifications for cleanliness in the NHS: a framework for setting and measuring performance outcomes'.
- The 'Revised healthcare cleaning manual'.
- Health Facilities Note 30 'Infection control in the built environment'.

# Note on antimicrobial-impregnated products

Whilst antimicrobial-impregnated products (such as surface coatings, paints and curtains) and antimicrobial materials are available, there are, at present, no definitive data to support their efficacy in reducing healthcare-associated infection.

# Quality, innovation, productivity and prevention (QIPP)

- 1.21 This Health Building Note is underpinned by the requirement to improve quality whilst achieving value for money. Key drivers are:
  - standardisation and pre-assembly of components;
  - infection prevention and control issues;
  - patient safety;
  - durability, life-cycle and maintenance costs;
  - flexibility and adaptability;
  - sustainability including low energy design, waste minimisation and water conservation;
  - security.
- 1.22 Patient-safety-focused design can reduce costs through:
  - reducing hospital stay durations;
  - reducing the costs associated with patient safety incidents.
- 1.23 By following the performance requirements outlined in this Health Building Note, commissioning organisations, specifiers and healthcare providers will be able to demonstrate evidence of alignment to the challenges of quality and productivity required in QIPP.

### Life-cycle and maintenance

1.24 Early consideration of maintenance and replacement of building elements will help to achieve compliance with all the policy drivers.

- 1.25 Materials and finishes are to be selected to minimise maintenance and be compatible with their intended function and lifespan/duration of use.
- 1.26 Some spaces require more maintenance than others due to usage and traffic, and recognition of this is required during the design stage so that, for example, more robust flooring can be specified in potential problem areas. Maintenance is critically important in the prevention and control of infection, avoiding cracks and tears in finishes where dirt etc can build up. Good maintenance can also aid the ease of cleaning, ensuring that cleanliness is maintained. The life-cycle cost of materials is affected by these criteria.
- 1.27 Organisations responsible for building and engineering maintenance should have access to original copies of all building and engineering commissioning data, including as-fitted drawings and records of any changes implemented since the building was originally built and commissioned. Maintenance personnel should have access to operation and maintenance manuals (including BIM systems) containing building and engineering information such as the suppliers of the materials, fittings and equipment installed during construction, including instructions on cleaning and maintenance.
- 1.28 A useful whole life-cycle document that will aid designers and NHS organisations in both design and choice of materials when designing new schemes or refurbishments is the British Standards Institute's (BSI) 'Standardized method of life cycle costing for construction procurement: a supplement to BS ISO 15686-5 Buildings & constructed assets Service life planning Part 5: Life cycle costing'.

### Sustainability

- 1.29 Health Technical Memorandum 07-07 'Sustainable health and social care buildings' provides relevant advice on how to embrace sustainability protocols throughout the design and build process and should be read in conjunction with undertaking the BREEAM Healthcare assessment.
- 1.30 The Building Research Establishment Environmental Assessment Method for healthcare facilities (BREEAM Healthcare) is the standard tool for assessing the environmental impact of a healthcare facility.

1.31 All new healthcare development projects and refurbishments are required to use BREEAM Healthcare to demonstrate that facilities are built with sustainability in mind. The Department of Health requires that all new builds achieve an "excellent" rating and all refurbishments achieve a "very good" rating under BREEAM Healthcare.

### NHS Premises Assurance Model (PAM)

- 1.32 The NHS Premises Assurance Model (PAM) has been designed to deliver public assurance that NHS services are commissioned and provided from physical environments that comply with national standards and requirements to support high quality outcomes.
- 1.33 It further aims to provide evidence that the NHS Constitution pledge is being delivered by providers and to ensure that the NHS Constitution is at the heart of commissioning strategies in respect of healthcare premises.
- 1.34 Using PAM, healthcare organisations carry out evidence-backed self-assessments to show that they have met the required statutory and nationally agreed standards on patient safety, effectiveness and patient experience.
- 1.35 Complying with the performance requirements in this Health Building Note will serve as supporting evidence in these self-assessments.

### **NHS Constitution**

- 1.36 The NHS Constitution sets out the rights to which patients, public and staff are entitled. It also outlines the pledges that the NHS is committed to achieve, together with responsibilities that the public, patients and staff owe to one another to ensure that the NHS operates fairly and effectively. All healthcare organisations will be required by law to take account of this Constitution in their decisions and actions.
- 1.37 Healthcare organisations need to "ensure that services are provided in a clean and safe environment that is fit for purpose, based on national best practice (pledge)".

### Relationship to other data

1.38 The main sources of data used in the preparation of this Health Building Note are listed in Chapter 6, 'References and evidence base'.

- 1.39 Readers should ensure that they use this Health Technical Memorandum in conjunction with all current building legislation, British and European Standards etc.
- 1.40 All products should conform to the relevant provisions of an appropriate British or European Standard. Suppliers offering products other than to these standards should provide evidence to show that their products are at least equal to such standards.
- 1.41 This Health Building Note's content does not diminish:
  - a specifier's responsibility for selection and application of appropriate products to meet project requirements;
  - a supply chain's responsibility for fitness for purpose of products;
  - a contractor's responsibility for correct product/ system installation;
  - the need to comply with statutory requirements, including the Building Regulations.

### A note on the Equality Act 2010, Approved Document M of the Building Regulations and BS 8300

Where the guidance outlined in this manual proposes requirements that differ from those in Approved Document M or BS 8300:2009, these special requirements should apply as they take into account specific healthcare building issues. The occupier of the healthcare premises should prepare an access statement in support of their argument that the premises comply with the requirements of the Equality Act.

# 2 Floor finishes and skirtings

- 2.1 Floor finishes are required to provide a surface that meets the functional and aesthetic requirements of the space over the defined life-cycle replacement period.
- 2.2 The product/system ranges available to achieve the requirements are extensive; therefore, no guidance is given on product selection.

### Performance requirements

- 2.3 For the appropriate selection of floor finishes by room space, see Chapter 3, 'Selection process for finishes' and Chapter 4, 'Types of finish by room space'.
- 2.4 Carpets should be avoided in clinical areas (see Health Facilities Note 30 'Infection control in the built environment'). If carpets are to be considered for non-clinical areas (for example interview rooms, counselling suites, consulting rooms), it is essential that a documented local risk assessment is carried out with IPC involvement and a clearly defined pre-planned preventative maintenance and cleaning programme is put in place.
- 2.5 Floor finishes should be of a material that is not physically affected or degraded by the detergents and disinfectants likely to be used.
- 2.6 Floor finishes are to meet the performance classifications and periods of fire resistance given in Health Technical Memorandum 05-03 Part C – 'Textiles and furnishings'.
- 2.7 Floor finishes should provide a flat surface without pronounced texturing to allow the passage of wheeled traffic and to assist maintenance.
- 2.8 Before a new or replacement floor covering is specified, the specifier should conduct a risk assessment and the following performance requirements should be considered:
  - environment;
  - contamination;
  - appearance;

- acoustics;
- use;
- footwear;
- slip and trip potential of foot traffic etc under different conditions.
- 2.9 The risk assessment should be recorded.
  - All flooring, including slip-resistant flooring, should be capable of being cleaned to agreed hygiene standards.
  - Surfaces must be able to prevent pedestrians from slipping both in areas deemed as dry and those that become wet or contaminated in usage.
  - In clinical areas and associated corridors, there should be a continuous return between the floor and the wall. For example, coved skirtings with a minimum height of 100 mm allow for easy cleaning.
  - There should be evidence that healthcare providers are monitoring slip resistance levels at regular intervals throughout the service life of a floor in order to identify any changes.
  - Impermeable floor finishes should be designed to prevent water leakage.
  - Where flooring is regularly exposed to water, it should be resistant to the penetration of liquids to comply with BS EN 13553 Annex A (where appropriate).
  - In wet areas (for example behind pre-plumbed systems), the risk of flood and bacterial colonisation should be addressed in the detailing.
  - Threshold strips are to be avoided.
  - Manhole covers and inspection chambers are not considered acceptable in clinical areas.

### **Notes**

- a. Guidance on slip resistance characteristics is given in the Health & Safety Executive's 'Assessing the slip resistance of flooring: A technical information sheet'.
- b. Reference should also be made to CIRIA's C652 'Safer surfaces to work on: reducing the risks of slipping'.
- c. Despite the work carried out on falls prevention, falling in hospital remains a significant problem. Older people are most at risk of falling, and this patient group is growing. A pilot study (the HIP-HOP flooring study) is being carried out to describe any changes to fall and injury rates which may be related to the use of the new flooring in elderly care units, as well as exploring maintenance issues, cost implications, and users' opinions.

### Hospital streets

2.10 Floors in hospital streets and corridors must be capable of withstanding the loads imposed by heavy wheeled traffic and intensive pedestrian traffic (for further guidance, see Health Building Note 00-04 – 'Circulation and communication spaces').

### Sanitary spaces

2.11 Floor finishes must be able to prevent moisture penetrating the building fabric. For further guidance on flooring in sanitary spaces, see Health Building Note 00-02 – 'Sanitary spaces'.

### **Operating theatres**

- 2.12 Floors in operating theatres should be able to withstand:
  - the rolling loads of heavy mobile equipment;
  - frequent spillages, regular cleaning and disinfection.

2.13 The floor finish material should adhere firmly to a suitable subfloor system that is smooth, crack-free and stable.

### Radiation areas

2.14 The choice of construction materials for walls/ partitions must be agreed with the radiation protection adviser (RPA), who must also be consulted on overall radiation protection standards, including aspects of design and room layout.

### Central kitchens

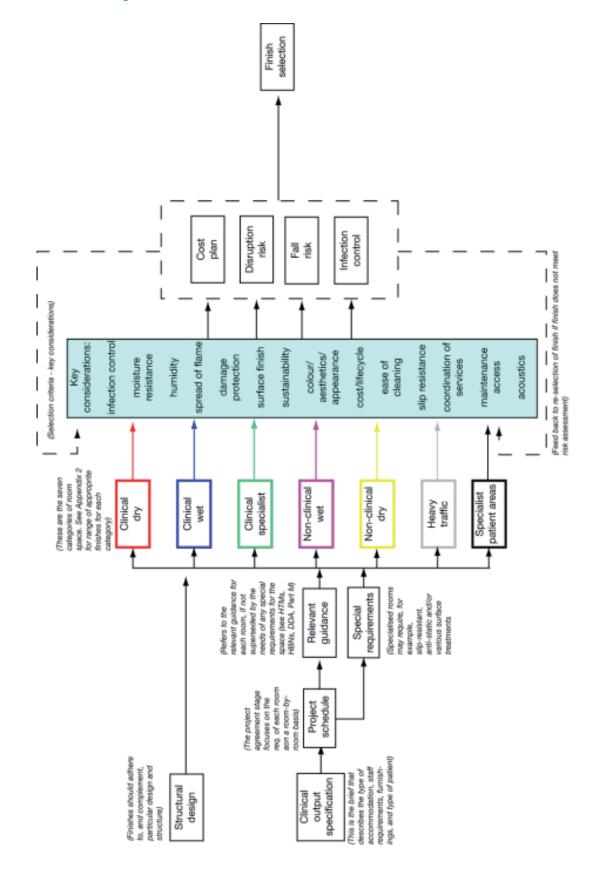
2.15 Selection of an appropriate finish should be made in consultation with environmental health officers (EHOs) and reference should be made to the Health & Safety Executive's 'Stop slips in kitchens' website.

### **Entrances**

- **2.16** Floor surfaces at entrances should be slip/tripresistant in all weather conditions.
- 2.17 There should be no strips of unprotected floor between threshold and matting.
- 2.18 Entrance matting, suitable for pedestrian and trolley/wheelchair users, should be provided at entrances to reduce dirt being trafficked into the building.
- 2.19 There should be a regular programme that ensures matting is cleaned and maintained appropriately and regularly.
- 2.20 The way in which pedestrians use the entrance should determine how and where the matting should be positioned.

BS 7953:1999 identifies typical matting materials and provides some guidance on their selection, installation and maintenance.

# 3 Selection process for finishes



# 4 Types of finish by room space

Category of room space	Floor finish	Wall/partition finish	Ceiling finish <sup>1</sup>	Sanitaryware	Protection (potential risk
(see 'Selection process for finishes' section)  Clinical - dry  For example:  Multi-bed room  Consulting room  Clean utility  For example:  For example:  For example:  For example:  For example:	Sheet systems or Seamless finish systems Sheet systems Or Soamless finish Sheet systems	Emulsion or heavy duty emulsion Heavy duty emulsion/PVC	High chincal: Jointess/smooth imperforate finish     Moderate clinical:     Jointess or concealed grid/smooth imperforate finish     Jointed/concealed grid/smooth imperforate finish     Light clinical: Jointed/exposed grid/ textured     perforated finish.  Moderate clinical: Jointess or concealed grid/smooth     imperforate finish.	Clinical	of damage) Low risk Medium risk Medium to low risk
Assisted bathroom     Assisted shower     Clinical specialist     For example:     Theatre suite	systems Silp-resistant sheet systems Sheet systems or Scamless finish systems	Thick film paint system (150–300 microns)	Jointed/concealed grid/smooth imperforate finish  Both resistant to high humidity levels  Jointless/smooth imperforate finish	Clinical	Medium to no risk
X-ray room     Post-mortem room	Anti static sheet system Slip resistant Sheet systems or Slip-resistant seamless finish systems	Heavy duty emulsion Thick film paint system (150-300 microns)	Square-edged tile to suit unistrut ceiling Concealed grid/smooth finish (power washable)	Clinical	Medium to no risk Medium to no risk
• Aseptic suite	Sheet systems	Sheet vinyl	Sheet vinyl on jointless/smooth imperforate finish	N/A	Medium to no risk
Non-clinical wet  For example:  • WC/slower room (en-suite)  • Cleaner's room	Slip resistant Sheet systems or Slip-resistant seamless finish systems	Humidity-resistant paint/ PVC sheet	Jointless concealed grid/smooth finish/resistant to humidity or Jointed/exposed grid/smooth finish  Both resistant to high humidity levels	Non-clinical	Low to no risk
Non-clinical dry For example: Offices Stores	Sheet systems or Seamless finish systems or Textile flooring	Paint	Jointed/exposed grid/textured finish	Non-clinical	Low to no risk
Heavy traffic For example:  Corridors Entrances Lift lobbies Stairs Plantrooms	Sheet systems or Seamless finish systems	Heavy duty emulsion or specialist floor paint	Jointed/exposed grid/textured finish Jointed/exposed grid/textured perforated finish		Medium to high risk
Specialist patient areas Sheet sys (areas where patients are at risk of self-or harm) Seamless Systems	te fi	ms Selection is dependent on an JG assessment of level of Clinical prinish requirement	Jointless/smooth imperforate finish without potential ligature points Concealed grid/smooth imperforate finish	Selection is dependent on an assessment of level of clinical requirement	High risk

# Note: 1 Selection is dependent on an assessment of level of clinical requirement, i.e in-patient accommodation is considered "light clinical"; a treatment room would be considered "moderate clinical"; and a theatre suite considered "high clinical".

# 5 Glossary

**Accessories:** Associated items related to the total component assembly, such as mirrors, soap holders etc

**Assembly:** Combination of component, panel, support system and appropriate accessories and services combined to form a practical product

**Clinical (of sanitary assemblies):** For use by clinical staff undertaking clinical procedures

**Component:** Prime constituent supported by the panel assembly

**Duct:** Space formed or used to contain services and related fittings

**Handrail:** A rail required to enable unassisted walking by patients

**Impervious:** Able to resist the penetration of liquids likely to be encountered in healthcare buildings

**Jointless:** A surface that presents a continuous unbroken surface

**Non-clinical (of sanitary assemblies):** For use by hospital staff, patients and the public in general

**Panel:** Fixed or removable section supporting mounted components

**Pre-plumbed assembly:** Framed duct panel unit with sanitaryware factory-fitted and tested before delivery

**Sanitary assembly:** An assembly comprising a soil or waste appliance and appropriate supply and waste fittings

**Services:** Hot and cold water, drainage, medical gases, electrical and communication services, supply fittings etc

**Smooth, textured and perforated:** Range of ceiling surfaces and tiles for use in appropriate types of space (for example, administrative, non-clinical, clinical support and clinical)

**Smooth:** No coarser than brush-applied matt emulsion paint on a flat plastered surface without projections, indents or holes part-way through the material

**Soil appliance:** An appliance for the reception and discharge of excretory matter

**Supply fitting:** A fitting to control or regulate the supply of water, commonly used with an appliance

**Suspension system:** Ceiling comprising hangers, primary and secondary support grids and tiles or boards suspended from structural soffits.

**Thermostatic mixing valve:** a valve, with one or more outlets, which mixes hot and cold water and automatically controls the mixed water to a user-selected or pre-set temperature (see also Health Technical Memorandum 04-01)

**Waste appliance:** An appliance for the reception of water for ablutionary, cleansing, or culinary purposes and its discharge after use

**Waste fitting:** A fitting to conduct the discharge from an appliance and to connect to pipework

# 6 References and evidence base

BS 1881 Testing concrete.

BS 4027:1996 Specification for sulfate-resisting Portland cement.

BS 4247-2:1982 Surface materials for use in radioactive areas. Guide to the selection of materials.

BS 4790:1987 Method for determination of the effects of a small source of ignition on textile floor coverings (hot metal nut method).

BS 5287:1988 Specification for assessment and labelling of textile floor coverings tested to BS 4790.

BS 5325:2001 Installation of textile floor coverings. Code of practice.

BS 5385-3:1989 Wall and floor tiling. Code of practice for the design and installation of ceramic floor tiles and mosaics.

BS 5385-5:1994 Wall and floor tiling. Code of practice for the design and installation of terrazzo tile and slab, natural stone and composition block floorings.

BS 5395-1:2000 Stairs, ladders and walkways. Code of practice for the design, construction and maintenance of straight stairs and winders.

BS 5442-1:1989 Classification of adhesives for construction. Classification of adhesives for use with flooring materials.

BS 5557:1992, ISO 2424:1992 Textile floor coverings. Vocabulary.

BS 5606:1990 Guide to accuracy in building.

BS 5808:1991 Specification for underlays for textile floor coverings.

BS 6263-2:1991 Care and maintenance of floor surfaces. Code of practice for resilient sheet and tile flooring.

BS 6431-1:1983, EN 87:1991 Ceramic floor and wall tiles. Specification for classification and marking, including definitions and characteristics.

BS 6925:1988 Specification for mastic asphalt for building and civil engineering (limestone aggregate).

BS 7953:1999 Entrance flooring systems. Selection, installation and maintenance.

BS 8004:1986 Code of practice for foundations.

BS 8203:2001 Code of practice for installation of resilient floor coverings.

BS 8204-1:2003 Screeds, bases and in-situ floorings. Concrete bases and cement sand levelling screeds to receive floorings. Code of practice.

BS 8204-2:2003 Screeds, bases and in-situ floorings. Concrete wearing surfaces. Code of practice.

BS 8204-3:1993 Screeds, bases and in-situ floorings. Code of practice for polymer modified cementitious wearing surfaces.

BS 8204-4:1993 Screeds, bases and in-situ floorings. Code of practice for terrazzo wearing surfaces.

BS 8204-5:1994 Screeds, bases and in-situ floorings. Code of practice for mastic asphalt underlays and wearing surfaces.

BS 8204-6:2001 Screeds, bases and in-situ floorings. Synthetic resin floorings. Code of practice.

BS 8204-7:2003 Screeds, bases and in-situ floorings. Pumpable self-smoothing screeds. Code of practice.

BS EN 548. Resilient floor coverings (specification for plain and decorative linoleum).

BS EN 649:1997 Resilient floor coverings. Homogeneous and heterogeneous polyvinyl chloride floor coverings. Specification.

BS EN 650. Resilient floor coverings – polyvinyl chloride floor coverings on jute backing or on polyester felt backing or on polyester felt with polyvinyl chloride backing – specification.

BS EN 651:1997. Resilient floor coverings. Polyvinyl chloride floor coverings with foam layer. Specification.

BS EN 652. Resilient floor coverings – polyvinyl chloride floor coverings with cork-based backing – specification.

BS EN 653. Resilient floor coverings – expanded (cushioned) polyvinyl chloride floor coverings – specification.

BS EN 654:1997 Resilient floor coverings. Semi-flexible polyvinyl chloride tiles. Specification.

BS EN 655. Resilient floor coverings – tiles of agglomerated composition cork with polyvinyl chloride wear layer – specification.

BS EN 686. Resilient floor coverings – specification for plain and decorative linoleum on a foam backing.

BS EN 687. Resilient floor coverings – specification for plain and decorative linoleum on a cork-ment backing (AMD 9832).

BS EN 688. Resilient floor coverings – specification for cork-linoleum.

BS EN 1307:1997 Textile floor coverings. Classification of pile carpets.

BS EN 1816. Resilient floor coverings – specification for homogeneous and heterogeneous smooth rubber floor coverings with foam backing.

BS EN 1817: 1998. Rubber flooring – specification for homogeneous and heterogeneous smooth rubber floor coverings.

BS EN 12104:2000 Resilient floor coverings. Cork floor tiles. Specification.

BS EN 12199. Resilient floor coverings – specification for homogeneous and heterogeneous relief rubber floor coverings.

BS EN 12620:2002 Aggregates for concrete.

BS EN 13748-1:2004 Terrazzo tiles. Terrazzo tiles for internal use.

BS EN ISO 140 Acoustics. Measurement of sound insulation in buildings and of building elements. British Standards Institution, 1998.

BS EN ISO 717-2:1997 Acoustics. Rating of sound insulation in buildings and of building elements. Impact sound insulation. British Standards Institution, 1997.

BS EN ISO 9000:2005 Quality management systems. Fundamentals and vocabulary.

BS EN ISO 9239-1:2002 Reaction to fire tests. Horizontal surface spread of flame on floor covering systems. Determination of the burning behaviour using a radiant heat source. British Standards Institute 2002.

CP 102:1973 Code of practice for protection of buildings against water from the ground.

Health and Social Care Act 2008 (Regulated Activities) Regulations 2010.

CQC's 'Guidance about compliance'.

Patient Environment Action Teams (PEAT).

Health Facilities Note 30 – 'Infection control in the built environment'.

HCAI Code of Practice.

The national specifications for cleanliness in the NHS: a framework for setting and measuring performance outcomes.

The Revised healthcare cleaning manual.

Standardized method of life cycle costing for construction procurement: a supplement to BS ISO 15686-5
Buildings & constructed assets – Service life planning – Part 5: Life cycle costing'.

Health Technical Memorandum 07-07 – 'Sustainable health and social care buildings'.

BREEAM Healthcare.

NHS Premises Assurances Model (PAM).

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Approved Document M.

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