

Health Building Note 00-10

Part B: Walls and ceilings

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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.

1. 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.
2. 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.
5. 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 walls and ceilings used in healthcare facilities. These requirements are a set of essential standards of quality and safety that flooring must comply with.

HBN 00-10 Part B outlines the policy and performance requirements for walls and ceilings used in healthcare facilities. These requirements are a set of essential standards of quality and safety that walls and ceilings must comply with. It supersedes Health Technical Memoranda 56 and 60.

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 walls and ceilings 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’.

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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 HCAs 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 HCAs.

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 7](#), 'References and evidence base'.

- 1.39 Readers should ensure that they use this Health Building Note 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 Walls/partitions

- 2.1 Partitions are required to enclose spaces and, at the same time, facilitate activities to be carried out whilst protecting adjacent spaces from those activities to defined environmental conditions and defined life-cycle replacement periods.
- 2.2 Finishes are applied to partitions not only for functional reasons but also to enhance the healthcare environment.
- 2.3 The product/system ranges available to achieve the requirements are extensive and no guidance is offered relating to appropriate product selection.
- 2.8 Partitions are to be designed to withstand loading imposed by equipment, fixtures and fittings, and protection.
- 2.9 Smooth, hard, seamless and impervious surfaces are required in clinical areas as they are easier to clean.
- 2.10 Wall surfaces are to be free from fissures, open joints or crevices.
- 2.1 Walls penetrated by pipes, ducts and conduits are to be sealed tightly to stop entry of pests, to maintain acoustic integrity, to maintain fire resistance and for reasons of hygiene.

Performance requirements

- 2.4 For the appropriate selection of wall/partition finishes by room space, see [Chapter 4, 'Selection process for finishes'](#) and [Chapter 5, 'Types of finish by room space'](#).
- 2.5 Partitions are to achieve the periods of fire resistance and construction requirements specified in Health Technical Memorandum 05-02.
- 2.12 Wall finishes should not comprise materials that promote or sustain the growth of fungi and microorganisms.
- 2.13 Wall finishes should be able to withstand the expansion and contraction of the wall/partition.
- 2.14 Wall finishes are to meet the performance classifications given in Health Technical Memorandum 05-02.
- 2.15 Wall finishes are to be durable and able to withstand minor impacts without the need for additional wall protection.
- 2.16 Wall finishes are to be impermeable and easily wiped over if necessary and not be physically affected or degraded by detergents and disinfectants.
- 2.17 Partitions should be suitably reinforced in areas where damage is expected.
- 2.18 Areas with security requirements (such as pharmacies, laboratories) should be secured to meet the requirements of local security services.
- 2.19 Consideration should be given to possible future requirements of the healthcare facility.
- 2.6 Partitions are to meet the acoustic requirements specified in Health Technical Memorandum 08-01 – 'Acoustics'.
- 2.7 Partitions are to be capable of meeting the requirements of BS 5234 Parts 1 and 2 to the appropriate duty category.

Note

Many in-patient hospitals are designed on the principle of horizontal evacuation where bed-bound patients are moved from the fire compartment where the fire is located to the safety of an adjacent compartment on the same level where they either remain until the fire is dealt with or are evacuated further from the location of the fire. This places greater importance on the integrity of fire-rated partitions in healthcare facilities than in all other building types where the whole building is immediately evacuated when a fire alarm is activated.

Radiation areas

- 2.20 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.

Requirements for impact protection

2.21 Impact protection is intended to help reduce the incidence and severity of damage to walls and partitions in healthcare buildings so that their performance is maintained.

2.22 Protection fittings include:

- handrails;
- crash rails;
- buffer rails;
- chair rails;
- corner guards;
- splayed skirtings;
- protective plates and sheeting;
- bed buffers.

Note

This section does not cover the need for handrails as part of a protection system, as this is covered by the client's project-specific needs and the Equality Act 2010 (see also Health Building Note 00-04 – 'Circulation and communication spaces'). Nevertheless, this does not preclude the use of handrails as part of a protection system.

2.23 Early consultation between the healthcare provider, designers and facilities management teams should be undertaken to ensure an appropriate strategy on damage avoidance is put in place (based on a full risk assessment of potential damage). This should be reviewed regularly (no longer than 12 months) to ensure prompt action is taken to prevent future damage.

Performance requirements

2.24 The appropriate structure needs to be determined before fixing.

2.25 Protection fittings should not be prone to splinter, and neither should they have any sharp snags or dirt traps.

2.26 Protection fittings must not invalidate the fire-resistance periods of building elements given in Health Technical Memorandum 05-02.

2.27 The type of material used should be suitable for its intended location (for example stainless steel in kitchens; hygienic surfaces in labs).

2.28 Materials and colours should comply with the requirements of the Equality Act 2010, where appropriate.

2.29 Protective devices on walls should be positioned to give the maximum defence against mobile equipment. The type of mobile equipment to be used in the area and the correct siting of protective devices in terms of location and height is critical in assessing where they should be fitted.

2.30 In some special areas, such as operating theatres, considerations of hygiene may take precedence over the protection recommended for areas where beds and trolleys are present. Rails may be omitted in favour of overall durable, washable finishes.

2.31 Areas such as workshops, storerooms, service corridors and hospital streets may be constructed of materials that are not necessarily given a decorative finish, or applied protection. These materials include brickwork, blockwork and concrete. These areas may still require corner protection and handrail/crash rails, splayed skirtings etc if used by mechanically propelled tugs and heavy trolleys.

3 Ceilings

- 3.1 Ceilings enclose space and facilitate activities to be carried out whilst separating adjacent spaces from those activities. This is within defined environmental conditions and for agreed life-cycle replacement periods.
- 3.2 Strategic ceiling design is determined by acoustic and fire strategies for the building.
- 3.3 Detailed ceiling design is determined by humidity level, services access, infection prevention and control, ease of cleaning, aesthetics and patient well-being, and light reflectance values.
- 3.4 The product/system range available to achieve the requirement is extensive and no further guidance is offered relating to appropriate selection.

Performance requirements

- 3.5 For the appropriate selection of ceiling finishes by room space, see [Chapter 4, 'Selection process for finishes'](#) and [Chapter 5, 'Types of finish by room space'](#).
- 3.6 Ceilings should be selected using the data in the 'Types of finish by room space' section.
- 3.7 Smooth surfaces on concealed suspension systems should be impervious and able to withstand hard cleaning regimes.
- 3.8 A ceiling system should be able to support dead loading from a range of surface-mounted or recessed ceiling fixtures.
- 3.9 Ceilings must be able to achieve the periods of fire resistance specified in Health Technical Memorandum 05-02 when subjected to tests in accordance with BS 476 Parts 20–23.
- 3.10 Demountable ceiling systems must not be required to provide or contribute to the fire resistance of the elements of structure or to the fire containment principles such as the enclosure of hazard rooms, because access requirements to services in the ceiling void may render them incompatible with achieving the fire-resisting performance. Fire-rated ceilings should be capable of achieving at least 30 minutes' fire resistance (or the designated period of resistance as required by the fire strategy) when subjected to tests in accordance with BS 476 Parts 20–23.
- 3.11 Ceiling finishes are to meet the performance classifications given in Health Technical Memorandum 05-02.
- 3.12 Components and cavity barriers should limit the surface spread of flame and contribute to achieving a compliant fire strategy.
- 3.13 Proprietary ceiling finishes and site-applied ceiling finishes will need to meet the surface spread of flame requirements outlined in Health Technical Memorandum 05-02, that is:
 - a. small rooms (maximum 4 m²) are to meet Class 1 (C-s3, d2);
 - b. circulation spaces and all other rooms are to meet Class 0 (B-s3, d2).

The definitions of national Class 0 and Class 1, and the equivalent European classes, are given in the Building Regulations.

- 3.14 Ceiling finishes in clinical areas should be easily cleaned and not physically affected or degraded by detergents and disinfectants.
- 3.15 Completed assemblies are to contribute to achieving a compliant acoustic strategy (see Health Technical Memorandum 08-01 – 'Acoustics').
- 3.16 The specification should reflect low, normal and high humidity spaces and be able to withstand intermittent contact with water and water vapour.
- 3.17 Ceilings should be designed and constructed to provide patients with a safe environment especially in unsupervised areas, with consideration to anti-ligature points (see estates alert notice NHSE (2004) 05: 'Suspended ceilings as ligature points').
- 3.18 Ceiling voids should be designed to allow primary and secondary services distribution, access and support of ceiling-mounted services.

Coordination of services

- 3.19 All lighting services should comply with CIBSE's Lighting Guide 2: 'Hospitals and healthcare buildings'.
- 3.20 Areas acceptable for enhanced ceiling design (for example public areas or circulation routes) should, wherever possible, enhance the patient experience.
- 3.21 Access points should be designed to allow panels and tiles to be removed without damage or disfiguration and should be clearly identified. They should not change the overall design/appearance of the ceiling.
- 3.22 Access through jointless membranes should be avoided where possible.
- 3.23 Service access points should not be located over patient bed positions.
- 3.24 In operating theatres/areas, aseptic suites and laboratories, access through the ceiling should be avoided. A local risk assessment should be undertaken as this list is not exclusive.

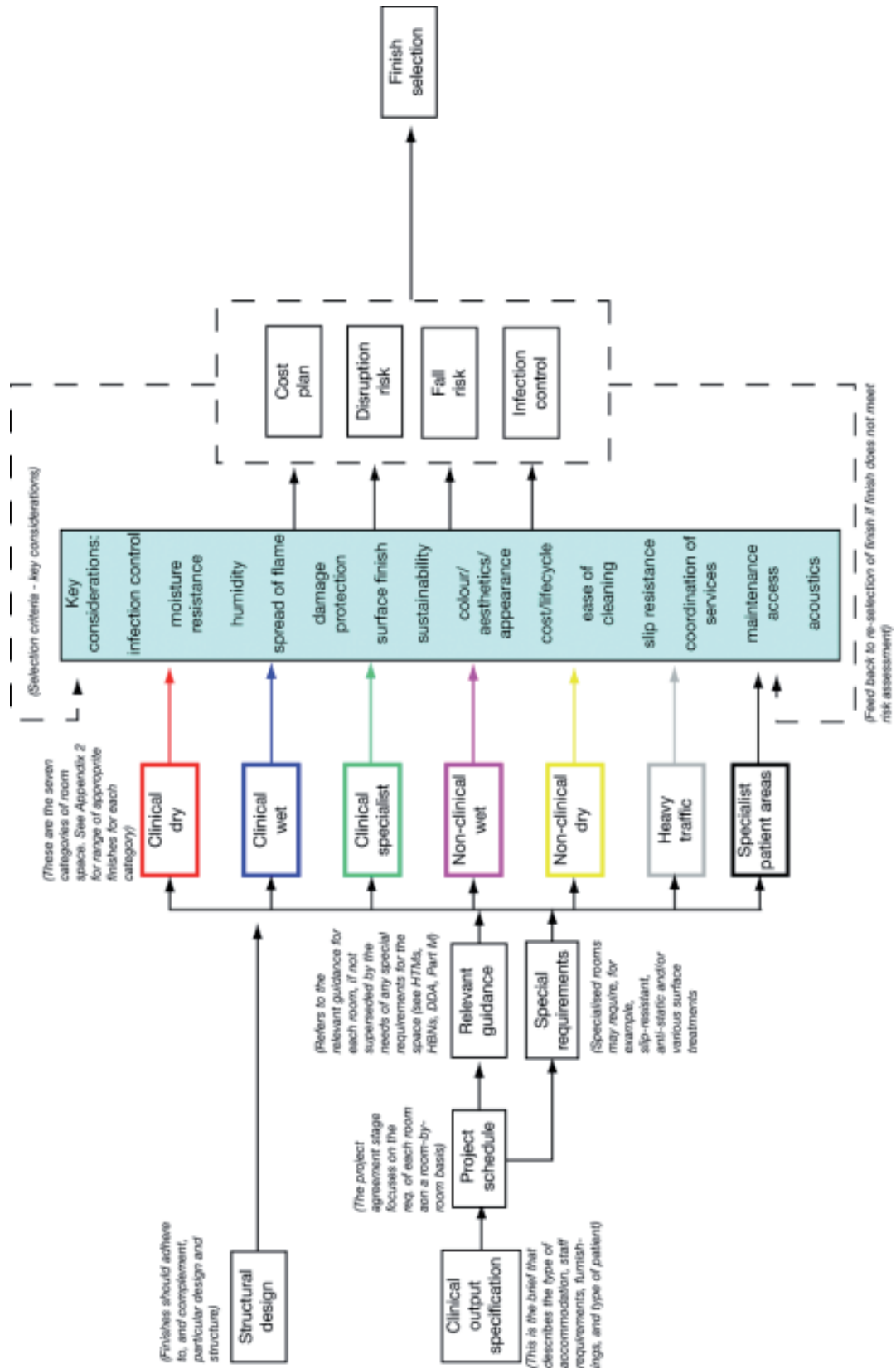
Ceiling heights/ceiling void depth

- 3.25 Guidance on appropriate ceiling heights to functional rooms is given in the range of specific Health Building Notes.

Radiation areas

- 3.26 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.

4 Selection process for finishes



5 Types of finish by room space

Category of room space (see 'Selection process for finishes' section)	Floor finish	Wall/partition finish	Ceiling finish ¹	Sanitaryware	Protection (potential risk of damage)
Clinical – dry For example: • Single-bed room • Multi-bed room • Consulting room • Clean utility	Sheet systems or Seamless finish systems	Emulsion or heavy duty emulsion	• High clinical: jointless/smooth impermeate finish • Moderate clinical: jointless or concealed grid/smooth impermeate finish or jointed/concealed grid/smooth impermeate finish • Light clinical: jointed/exposed grid/textured perforated finish	Clinical	Low risk Medium risk
Clinical wet For example: • Dirty utility • Assisted bathroom • Assisted shower	Sheet systems or Seamless finish systems Slip-resistant sheet systems	Heavy duty emulsion/PVC sheet	Moderate clinical: jointless or concealed grid/smooth impermeate finish or jointed/concealed grid/smooth impermeate finish Both resistant to high humidity levels	Clinical	Medium to low risk
Clinical specialist For example: • Theatre suite	Sheet systems or Seamless finish systems	Thick film paint system (150–300 microns)	Jointless/smooth impermeate finish	Clinical	Medium to no risk
• X-ray room	Anti static sheet system	Heavy duty emulsion	Square-edged tile to suit unistrut ceiling	Clinical	Medium to no risk
• Post-mortem room	Slip resistant Sheet systems or Slip-resistant seamless finish systems	Thick film paint system (150–300 microns)	Concealed grid/smooth finish (power washable)	Clinical	Medium to no risk
• Aseptic suite	Sheet systems	Sheet vinyl	Sheet vinyl on jointless/smooth impermeate finish	N/A	Medium to no risk
Non-clinical wet For example: • WC/shower 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 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 or jointed/exposed grid/textured perforated finish	-	Medium to high risk
Specialist patient areas (areas where patients are at risk of self-harm)	Sheet systems or Seamless finish systems	Selection is dependent on an assessment of level of Clinical requirement	Jointless/smooth impermeate finish without potential ligature points Concealed grid/smooth impermeate finish	Selection is dependent on an assessment of level of clinical requirement	High risk
If a room from one category falls within a different category of room space, the higher criterion should be adopted					

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".

6 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

7 References and evidence base

- BS 476:1970-7. Fire tests on building materials and structures. Method of test to determine the classification of the surface spread of flame of products. British Standards Institution 1997.
- BS 4322:1968 Recommendations for buffering on hospital vehicles such as trolleys. British Standards Institution, 1968.
- BS 5234-1:1992 Partitions (including matching linings). Code of practice for design and installation. British Standards Institution, 1992.
- BS 5234-2:1992 Partitions (including matching linings). Specification for performance requirements for strength and robustness including methods of test. British Standards Institution, 1992.
- BS 5628-1:1992 Code of practice for use of masonry. Structural use of unreinforced masonry. British Standards Institution, 1992.
- BS 5628-2:2000 Code of practice for use of masonry. Structural use of reinforced and prestressed masonry. British Standards Institution, 2000.
- BS 5628-3:2001 Code of practice for use of masonry. Materials and components, design and workmanship. British Standards Institution, 2001.
- BS 6262:1982 Code of Practice for glazing for buildings. British Standards Institution, 1982.
- BS 7719:1994. Specification for water-borne emulsion paints for interior use. British Standards Institution, 1982.
- BS 8212:1995 Code of practice for dry lining and partitioning using gypsum plasterboard. British Standards Institution, 1995.
- BS 8481 Design, preparation and application of internal gypsum, cement, cement/lime plastering systems specification. British Standards Institution, 2006.
- BS EN 1154:1997 Building hardware. Controlled door closing devices. Requirements and test methods. British Standards Institution, 1997.
- BS EN 1935:2002 Building hardware. Single-axis hinges. Requirements and test methods. British Standards Institution, 2002.
- BS EN ISO 140 Acoustics. Measurement of sound insulation in buildings and of building elements. British Standards Institution, 1998.
- BS 476:1970 Fire tests on building materials and structures. British Standards Institution.
- Part 4: Non-combustibility test for materials, 1970
- Part 6: Method of test for fire propagation for products, 1989.
- Part 7: Method of test to determine the classification of the surface spread of flame of products, 1997.
- Part 20: Method for determination of the fire resistance of elements of construction (general principles), 1987.
- Part 21: Methods for determination of the fire resistance of loadbearing elements of construction, 1987.
- Part 22: Methods for determination of the fire resistance of non-loadbearing elements of construction, 1987.
- Part 23: Methods for determination of the contribution of components to the fire resistance of a structure, 1987.
- BS 1191-1:1973 Specification for gypsum building plasters. Excluding premixed lightweight plasters. British Standards Institution, 1973.
- BS 1230-1:1985 Gypsum plasterboard. Specification for plasterboard excluding materials submitted to secondary operations. British Standards Institution, 1985.
- BS 5250:2002 Code of practice for control of condensation in buildings. British Standards Institution, 2002.
- BS 6100-6.6.2:1990 Glossary of building and civil engineering terms. Concrete and plaster. Products, applications and operations. Plaster. British Standards Institution, 1990.
- BS 6150:1991 Code of practice for painting of buildings. British Standards Institution, 1991.

- BS 6750:1986 Specification for modular coordination in building. British Standards Institution, 1986.
- BS EN 1365-2:2000 Fire resistance of loadbearing elements. Floors and roofs.
- BS EN 10143:1993 Continuously hot-dip metal coated steel sheet and strip. Tolerances on dimensions and shape. British Standards Institution, 1993.
- BS EN 13501-1:2002 Fire classification of construction products and building elements. Classification using test data from reaction to fire tests.
- BS EN 13501-2:2007. Fire classification of construction products and building elements. Classification using data from fire resistance tests, excluding ventilation services.
- BS EN 13823:2002 Reaction to fire tests for building products – building products excluding flooring exposed to the thermal attack by a single burning item
- BS EN 13964:2004 + A1:2006 Suspended ceilings. Requirements and test methods.
- BS EN ISO 354:2003 Acoustics. Measurement of sound absorption in a reverberation room.
- 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 1182:2002 Reaction to fire tests for building products – non-combustibility test.
- BS EN ISO 1716:2002 Reaction to fire tests for building products – determination of the gross calorific content.
- BS EN ISO 11925:2002 Reaction to fire tests for building products – ignitability when subjected to direct impingement of flame.
- Health Technical Memorandum 08-01 – ‘Acoustics’.
- Health Technical Memorandum 05-02 – ‘Guidance in support of functional provisions for healthcare premises’.
- Health Building Note 00-04 – ‘Circulation and communication spaces’.
- Equality Act 2010.
- Health Technical Memorandum 05-02 – ‘Guidance in support of functional provisions for healthcare premises’.
- CIBSE Lighting Guide 2: ‘Hospitals and healthcare buildings’.
- NHSE (2004) 05: ‘Suspended ceilings as ligature points’.
- Approved Document B2 of the Building Regulations.
- 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)
- NHS Constitution.
- The Equality Act.
- Approved Document M.
- Health Technical Memorandum 05-03: Part C – ‘Textiles and furnishings’.
- Health Building Note 00-02 – ‘Sanitary spaces’.
- Health Technical Memorandum 04-01 – ‘The control of Legionella, hygiene, “safe” hot water, cold water and drinking water systems’, Part A: Design, installation and testing. Part B: Operational management.