

Architect and Building Designer Competency Framework for Higher Risk Residential Buildings

A	Technical knowledge and understanding	Scope	Specific competencies	Typical evidence to demonstrate competency
A1	Ability to understand and apply relevant fire safety principles and practices in the design of HRRBs.	<p>Fire science</p> <ul style="list-style-type: none"> • Principles of Heat transfer • Principles of Fire chemistry • Principles of Fire dynamics <p>Human behaviour and evacuation</p> <ul style="list-style-type: none"> • Human behaviour and physiological response to fire • Egress and life safety design concepts and practice <p>Fire protection systems</p> <ul style="list-style-type: none"> • Passive fire protection systems • Active fire protection systems • Fire detection and alarm systems • Fire suppressions systems <p>Fire safety design and specification</p> <ul style="list-style-type: none"> • Access and facilities for fire and emergency services • Fire performance of materials • Compartmentation and spread of flame • Principles of structural fire protection design • Commissioning and interrogation of specialist analysis by others 	<p>This should include the ability to:</p> <ul style="list-style-type: none"> • Understand and apply fundamental knowledge of fire science, (including key aspects of fire performance of materials) in the design and specification of HRRBs. • Integrate understanding of key principles of human behaviour and fire escape design in to the design, layout and arrangement of escape provision in HRRBs. • Understand the key features and principles of passive and active fire protection (including suppression systems) and be able to specify or design (or commission others to specify or design) active or passive systems for HRRBs • Demonstrate suitably detailed knowledge of how to integrate compartmentation and structural fire protection in to the design of HRRBs with particular reference to measures which prevent the spread of flame and smoke. • Demonstrate understanding and ability to integrate fire-fighting access requirements and provision of fire-fighting facilities in the design and layout of HRRBs. 	Examples from your work where principles of fire safety have been effectively applied in the design of an HRRB.
A2	Suitable knowledge and understanding of relevant principles and technical standards for building safety and ability to co-ordinate and integrate these holistically in the design of HRRBs.	<p>Structural safety</p> <ul style="list-style-type: none"> • Structural design /fixing of cladding / envelope at height • Secondary fixings specification and design • Disproportionate collapse <p>Protection from falling or collision</p> <ul style="list-style-type: none"> • Stair safety • Guarding / balustrades • Balconies <p>Public Health</p> <ul style="list-style-type: none"> ○ Air quality / ventilation ○ Above ground drainage 	<p>This should include the ability to:</p> <ul style="list-style-type: none"> • Demonstrate understanding of the process by which different aspects of building safety should be successfully integrated into the overall design of an HRRB. • Demonstrate suitable understanding of critical safety design principles relevant to structure, public health and building services and how to ensure advice from suitable specialist professionals is obtained and integrated effectively in to the building design. • Co-ordinate the design, specification and assessment of building fabric including where necessary commissioning and integrating the work of other specialist 	Examples from your work where principles of building safety (other than fire safety) have been effectively applied in the design of an HRRB.

- Water storage
- Combustion appliances

building professionals to achieve safe performance throughout the building lifecycle.

Building Services

- Gas appliances and services
- Electrical safety
- Mechanical services

Building fabric

- Interstitial condensation / corrosion
- Water penetration / weather tightness
- Service penetrations
- Maintenance
- Glazing and glazing systems

A3 Suitable knowledge and understanding of relevant legislation, regulations, statutory guidance, standards of performance and how to meet or exceed these requirements in the design of HRRBs.

Construction legislation relevant to high risk buildings including:

Construction Legislation

- The Building Act 1984
- The Building Regulations 2010
- Approved Documents
- AD7 Materials and Workmanship
- Building regulations (procedural)
- Local acts / enactments
- Government communications / circular letters
- Sustainable and secure building act
- Regulatory Reform (Fire Safety) Order 2005
- CDM Regulations 2015
- Health and Safety at Work etc. Act 1974
- Gas safety (installation and use) Regulations 1998

Related

- Civil, criminal and case law
- Contract Law
- Law of Agency
- Employment Law
- The Housing Acts 1985,1988, 1996,2004
- Housing Health and Safety Rating System
- Equalities act 2010
- Town and country planning Acts
- Housing and Regeneration Act
- Licensing legislation
- Water Bylaws

This should include the ability to:

- Understand and where necessary advise others on what needs to be done to comply with relevant statutory requirements.
- Have suitable awareness of how other statutory or legal requirements relate to the role of the designer where these are not your direct responsibility but could impact on building safety.
- Have suitable knowledge and understanding of how to meet or exceed regulatory requirements and technical performance standards relevant to your work in safely designing HRRBs.

Examples from your experience of designing an HRRB in order to ensure robust compliance with statutory requirements; and evidence of understanding or awareness of relevant statutory regimes.

A4

Whenever relevant to your role, demonstrate the ability to develop, manage, distribute and maintain information about the design of HRRBs which is critical to ensuring that they are designed to be safe, built to be safe, operated safely and maintained to be safe throughout the project lifecycle.

Golden thread of building information; Safety case; Health and safety file, Fire and Emergency File; design /construction, as built / as maintained information; building safety strategies; maintenance information and scheduling; testing and commissioning information; lifecycle and replacement data; building installer / constructor / maintainer competency requirements.

This should include the ability to:

- Develop and communicate clearly expressed strategies to meet building safety requirements.
- Demonstrate suitable knowledge and understanding of all documents (and their content) which are relevant to the role of the designer in ensuring HRRB safety.
- Comply with requirements to prepare and submit relevant documenting as part of the Safety management system, Safety Case, Fire and Emergency file or Health and Safety plan.
- Utilise suitable information management tools such as BIM to ensure accurate design and as built information are developed and issued.
- Manage changes to design information for which the designer is responsible in order to ensure an accurate set of as built information is available at key gateway stages
- Identify what information is needed from other parties and coordinate that information where relevant to the role of the designer

Examples of good practice in developing and maintaining as built information; evidence of leading role in the development of key building safety information packages such as the safety case or fire and emergency file; effective development of information setting out key building safety strategies for use by building owners or emergency services; examples of effective management of information post completion.

B Assessment of design, process, systems, services and products

B1	Suitable knowledge of the relevant standards, testing, assessment and maintenance procedures for building materials, products, components, assemblies and systems and ability to apply these effectively as part of the design process to ensure safety through the life cycle of the building.	British and international product standards; testing standards, procedures and interpretation of results; good practice specification; product characteristics and performance; system / component / assembly testing and performance; prototyping and sample panel and testing; maintenance requirement; maintenance testing and commissioning of building systems and services.	This should include the ability to: <ul style="list-style-type: none">• Understand and apply relevant British, international or third party codes and standards to ensure through life building safety design.• Ensure that the right assessment methods or procedures have been used to ensure through life building safety or be able to commission sample testing or assessment if this is necessary.• Understand and interpret the results of testing or assessment (or stated performance criteria) and know when to seek more expert advice on such to ensure through life building safety.• Understand how and when to integrate requirements for building maintenance into the design and specification of HRRBs where these are necessary to maintain through life building safety.	Evidence of suitable application or use of relevant standards, testing or assessment procedures in the design of an HRRB.
B2	Suitable knowledge, understanding and ability to work within or apply in practice statutory process and procedures specific to the design of HRRBs.	Gateway process and stages for HRRB; Role of the JCA; Tenant voice and engagement.	This should include: <ul style="list-style-type: none">• Ability to advise clients, project team members and others on duties and procedural requirements relating to the design of HRRB• Knowledge, understanding and ability to comply with relevant design development activities in order to demonstrate compliance with building safety requirements to the JCA at differing gateway stages.• Understanding of and ability to engage positively with the JCA and its constituent bodies.• Understanding of relevant requirements for designers to engage and communicate with tenants or the public.	Examples of successful project delivery through statutory cycles or process; examples of specific complex interactions, discussions or process meeting requirements for HRRB.
B3	Suitable knowledge and understanding of specific risks relevant to the design of HRRBs and ability to use this knowledge as part of the development and application of risk management frameworks and safe systems of work.	Critical risk factors in high risk buildings; Safety case development; safety case review; fire risk strategy; CDM regulations; Health and safety file; deleterious materials; COSHH regulations; building management and maintenance for building and occupier safety;	This should include: <ul style="list-style-type: none">• Suitable knowledge and understanding of the specific risks relevant to each type of HRRB (including typical critical modes of failure and consideration of maintenance and replacement cycles) and how these risks should be managed through the design process, including through commission or undertaking of work by other specialist persons.• Understanding of and ability to contribute to and work within safety management systems for HRRBs.• Understanding of the designer's role in	Examples from your work of the development or application of risk management process, procedures, safety case, safety information or frameworks. Examples of identifying specific risks and how these were subsequently successfully managed.

developing and maintaining an HRRB
project safety case and ability to
contribute to the safety case
development, review and management.

- Interaction between designers role on
HRRB and duties under CDM regulation /
site health and safety requirements.

C Responsibility, Management and Leadership

C1 Clear understanding of and ability to fulfil relevant roles, responsibilities and duties in relation to HRRBs.	Client duties and responsibilities; Principal Designer; designer duties and responsibilities; contractor responsibilities and duties; building owner / manager ; tenant; JCA; Local Authority; Regulators; Fire and rescue services.	This should include the ability to: <ul style="list-style-type: none">• Explain and comply with your duties as a designer in relation to the work you undertake on HRRB's• Understand and explain the roles and responsibilities of other key duty holders you will interact with as part of your role as a designer on HRRBs• Explain how to work effectively with other key duty holders you will interact with as part of your role as a designer on HRRBs• Act as or engage effectively with the Principal Designer as and when necessary in relation to your specific designer activity on HRRBs.	Evidence of specific roles and responsibilities you have held as part of your work on HRRB. Evidence of your involvement of ensuring awareness and fulfilment of specific duties relevant to HRRBs; examples or interaction with other key duty holders.
C2 Awareness of responsibility to challenge unacceptable behaviour or practice and how to raise, escalate or flag risks to safety during the design process.	Whistle blowing policies / Public Information Disclosure Act; public duty to report; liabilities; company or organisational reporting and escalation policies and procedures.	This should include the ability to: <ul style="list-style-type: none">• Explain and comply with your professional and ethical duties to raise concerns relating to public safety• Effectively raise safety concerns with colleagues and where necessary escalate these concerns through management chains• Identify if and when it is necessary to utilize whistleblowing provisions under the Public Information disclosure Act and how to do so.• Understand, explain and act on any other duties to raise concerns about project safety.	Examples of industry practice where you may have had concerns and acted upon them; how you have been effective in leading on building safety issues; how you integrate good building safety practice in your day to day work.
C3 Ability to effectively manage or work within complex design or project teams and co-ordinate technical and procedural compliance to ensure safe outcomes.	Project management and control; sequencing of work; assembling and appointing teams; effective management practice / procedures for design of high-risk buildings.	This should include the ability to: <ul style="list-style-type: none">• Integrate requirements for building safety into project planning and management activities• Assess competencies required within design or project teams for which you are responsible and ensure suitable expertise is procured.• Apply quality managing, control or audit procedures in order check building safety measures for which you are responsible have been discharged• Explain and comply with procedural requirements, submission and process' relevant to your involvement in the design of HRRB.	Examples of effective team working and team management; good practice in assembling and managing project teams; examples of your role in leading on, participating in or coordinating delivery of complex integrated systems or buildings.

D Effective Communication and interpersonal skills

D1 Understanding of duties to communicate with residents and the public, and ability to communicate clearly and effectively with others verbally and in writing.	Requirements / obligations to communicate, consult with and respond to residents or persons otherwise affected by buildings / building work; ability to communicate effectively through media relevant to role (verbally, written, drawn); ability to communicate technical complex information to non-technical audiences; effective communication within project and client teams.	This should include the ability to: <ul style="list-style-type: none">• Explain and comply with duties to communicate with clients, residents and other persons or organisations involved in or affected by projects on HRRBs.• Write reports, letters, e-mails or give presentations in a manner which can be clearly understood by non-technical persons• Clearly identify and communicate responsibilities and issues relating to HRRB safety within design or project teams.	Evidence or examples of effective engagement with residents, building users or those affected by building work; reports, presentations and academic submissions; examples of effective client briefing; examples of effectively explaining complex technical considerations clearly to clients or other non-professional or technical audiences.
D2 Clear understanding of techniques for and the importance of identifying limits of competency for individuals or organisations involved in the design, construction or maintenance of HRRBs buildings and suitable mitigating actions to manage risk.	Principals and value of competency; competency assessment techniques; roles and responsibilities in advising on and ensuring competency; procurement and management of specialist competencies and managing residual risk.	This should include the ability to: <ul style="list-style-type: none">• Explain what competency is and how this relates to building safety• Identify when and how to assess or request evidence of competency from other project team members• Explain and comply with duties to ensure competency relating to the design of HRRBs.• Identify the need to seek advice from others with specialist competencies and how to procure that advice• Effectively raise concerns about the competency of individuals or organisations if this is of concern• Mitigate any residual risk relating to competency of which you become aware i.e. by putting in place additional checks or inspection measures.	Competency self-assessment records and learning from that process; examples of quality assurance or management procedures to ensure competency of self / staff / specialists or other organisations; use of competency scoring or assessment techniques; involvement in competency assessment of individuals.