The Institution of Structural Engineers

ice Institution of Civil Engineers

HRB Structures Register – Guidance for IEng Applicants

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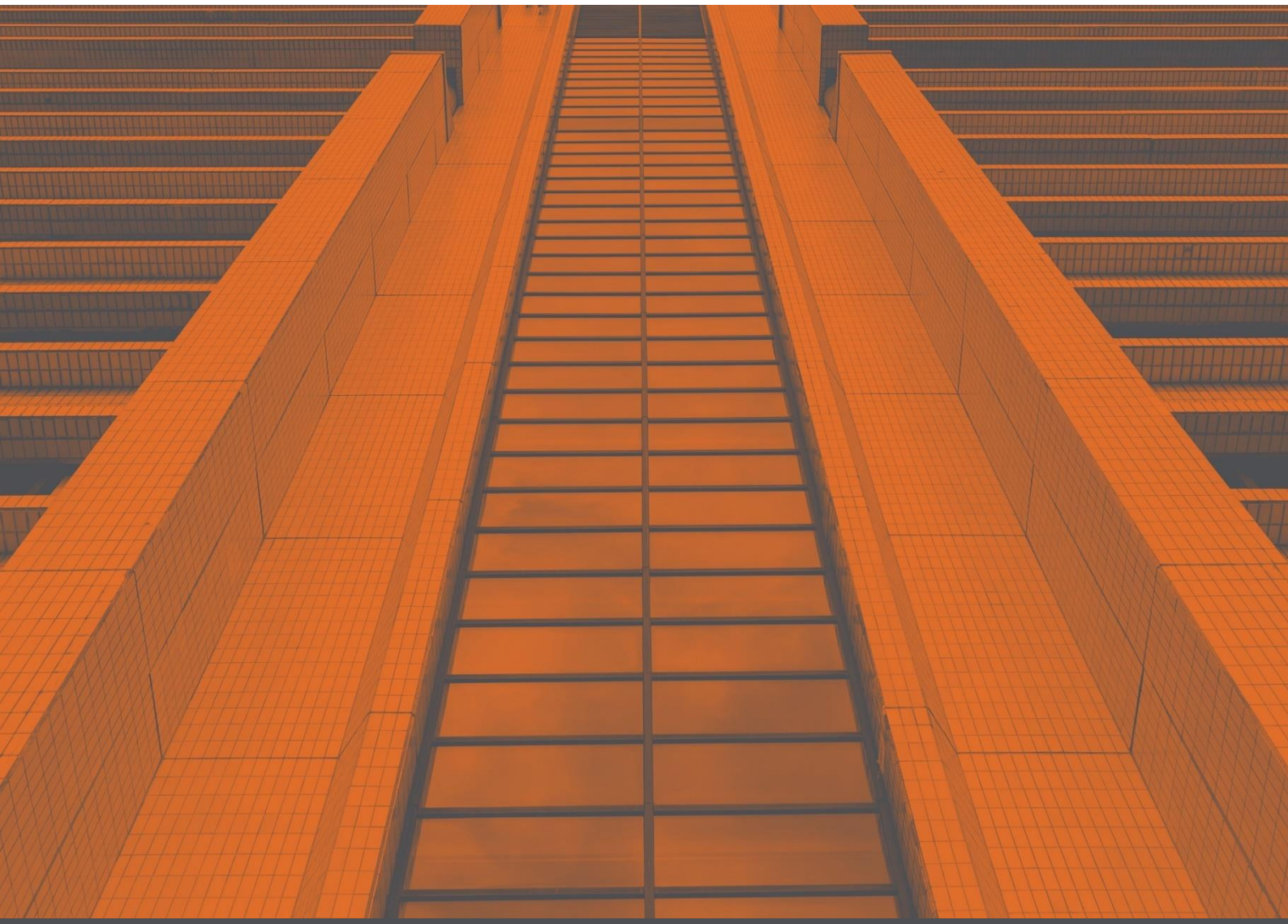

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Introduction

There is one Standard pathway to registration on the HRB Structures Register. This is a jointly held licence by ICE and IStructE, with IStructE administering the Register. All applicants, regardless of their registration/membership level and original route to professional registration, will be required to submit a complete application and undertake the full Professional Review Interview against the UK-SPEC HRB Structures Annex competences.

Please ensure you read this document thoroughly to avoid any delays in processing your application.

Eligibility

Applicants for the HRB Structures register need to meet the following criteria:

1. Current membership of either ICE or IStructE in the relevant professional grade of membership*
2. Meet the academic standard in force at the time of their application for either ICE or IStructE professional membership (which may have been determined through an ICP)
3. A minimum of 5 years' experience, post-registration in/election to the relevant professional grade of membership

*Note that the applicant does not need to hold current EngTech, IEng or CEng registration at the time of applying to join the HRB Structures register.

Application Documents

Applicants are required to submit the following documents:

- Completed and signed application form
- CV
- 5 x Experience Report Forms – one for each of the five UK-SPEC HRB Structures Annex competences AA to EE
- Application fee of £210 (charged after application is received)

Additionally, applicants need to prepare a portfolio of evidence to support the statements made in the Experience Report Forms which will be submitted by the applicant directly to the HRB PRI Reviewers when requested, usually around two weeks prior to the interview date.

Application Process

NB: administration for the HRB (Structures) Register application and assessment process is undertaken by staff at the IStructE.

1. On receipt of application IStructE will check eligibility, qualification details and completeness of the application.
2. The assessment fee will be added to your account and you will be asked for payment.
3. After receipt of assessment fee payment, your application will be sent to two HRB Reviewers and they will contact you to request your portfolio and to arrange a time and date for your interview.
4. The HRB reviewers will make a recommendation based on the outcome of the interview which will be submitted to the Joint ICE/IStructE HRB Committee for review.
5. The HRB Interview result will be approved by the Joint ICE/IStructE HRB Committee at the next quarterly meeting.
6. If you fail the HRB PRI you will be informed of the result by email and given the option to request feedback from the HRB Reviewers.
7. If you pass the HRB PRI you will be informed of the result by email and advised to pay the HRB Registration fee to the IStructE which will be passed to the Engineering Council.
8. On payment of the HRB registration fee you will be added to the HRB Structures Register.
9. IStructE will invoice for the first registration fee, then either ICE or IStructE will charge the subsequent yearly fee, depending on what you designate as your ‘main’ institution.

Professional Review Interview (HRB PRI)

The HRB PRI is undertaken by two appropriately qualified and trained HRB Reviewers.

The HRB PRI will be conducted online and will be approximately 60 to 90 minutes in duration, but this can vary depending on the Reviewers’ need to gain sufficient information of each of the competence areas. At the start of the interview, the applicant will be asked to give an informal 5-10 minute presentation without slides. This presentation should only cover the areas of your career and experience that are relevant to HRB structures. The Reviewers will then commence with discussion/questions based on the content of your documentation.

HRB PRI Failures

You will be deemed to have failed your HRB PRI if you are not able to satisfy the Reviewers of each of the 21 competence areas of UK-SPEC HRB Structures Annex to the required level of competency (knowledge, experience or ability).

If you fail in five or fewer of the competence areas you will only be assessed against those areas when making a re-submission, provided you resubmit within three or less years of the first HRB PRI decision. However, if you fail in six or more of the competence areas you will require a full assessment when you come to reapply.

When the failure result has been ratified by the ICE/IStructE HRB Joint-Committee you will be informed in writing of the outcome. You will be able to request further feedback from the HRB PRI Assessment Form to support a future application.

Portfolio guidance

All candidates are required to prepare a portfolio of work in support of their HRB experience report forms which will need to be submitted to your reviewers prior to the interview. The deadline will usually be two to three weeks prior to the interview date. To avoid unnecessary delays in the interview process you should have the portfolio ready for submission at the time when you submit your HRB application to the IStructE.

A copy of the completed portfolio will need to be submitted to both of your reviewers via an agreed method (eg. Via email or file share software).

N.B. These will need to be submitted directly to your reviewers and not to the Institution.

If you cannot provide your portfolio within the timescales required by your reviewers, your interview may be cancelled. If your interview is cancelled because you cannot provide your portfolio in the required timescale, you will not be entitled to a refund of your application fee.

The portfolio must demonstrate that you have attained at least the minimum level of competence and responsibility for HRB registration. It is a vital element of the PRI process, and you should devote the necessary time and care to its production.

Portfolio format

When you are requested to submit your portfolio to your reviewers, you should use a method of transfer that is suitable and acceptable e.g. using a secure and appropriate electronic file transfer system/website.

The portfolio must be a single PDF with a maximum of 300 pages including drawings, sketches and any calculations. You should also include a hyperlinked index to the sections of your portfolio and bookmarking if possible. If you exceed the number of pages, your reviewers will be unable to assess all the submitted information in detail and consequently may decline to interview you.

The pages of text within the portfolio must be A4 size, i.e. you cannot reduce your pages to A5 to fit two pages onto an A4 sheet. Drawings must be no greater than A3 size. The font size used in your portfolio and Experience Report Forms must be no smaller than Arial 10. You must ensure that all A3 pages can be clearly read on a computer screen and not contain information that is too small to be viewed.

The portfolio must contain evidence relating to all competencies on which you are being assessed and allow easy cross-referencing with the Experience Report Forms. Make sure that the information provided is relevant and relates directly to the competencies and how you have achieved the standards.

You will be expected to include examples of work from a variety of projects that you have worked on. The portfolio must be sub-divided into the competencies with only the relevant documents included in each section.

Where appropriate, you should provide comments and annotations on the submitted information to help demonstrate an understanding of the work and its relevance to the competencies.

All work included within the portfolio must be your own. Submitting work carried out by other people is not permitted.

Examples of the type of information and documents you may wish to include are detailed within each competence later in the guidance. You should avoid submitting repetitive designs or drawings and full reports of projects.

Appeals Procedure

The ICE/IStructE have an appeals procedure for candidates who have been unsuccessful in their application. An appeal may be made on the following grounds only:

- Extenuating circumstances occurring immediately before or during the application process or interview, and/or
- Departure from the application or interview procedures.

Full details of the procedures are published on the Institution website.

Please note that recording of your interview by any means is not permitted and any such recording cannot therefore be used as evidence in an appeal or other disagreement with the judgement of the reviewers.

HRB (Structures Annex) Competences

Introduction

The following list of compulsory Competences AA to EE, as set out in UK-SPEC HRB, details the requirements for HRB for candidates intending to apply for the HRB PRI. This guidance document is for those who are seeking HRB registration at Incorporated Engineer (IEng) level, based on your existing membership/registration level with ICE or IStructE. Other guidance documents are available for Chartered Engineer and Engineer Technician applicants.

The minimum standards required for the Competences are:

	Standard	Description
K	Knowledge	The lowest level, requiring an understanding of the subject and how it is applied.
E	Experience	The ability to operate independently or with some supervision.
A	Ability	Performing independently with no supervision, possibly supervising the work of others.

The competences, plus notes and examples, are included below.

HRB Experience Report

You need to complete one HRB Experience Report form for each of the five HRB competence areas, AA to EE. The HRB experience form is available to download from the website.

General advice for completing the HRB experience report form:

Personal: the reviewers will not be interested in what your company does, they are only interested in what you have done. Therefore, ensure that you state what you have personally undertaken and try to avoid generic statements about how your company operates.

Positive: do not sell yourself short. Try to avoid statements such as ‘I have limited/some experience’ – you either have experience or not. Try and ensure that the correct words are applied to the relevant Competence, e.g., if it’s an ‘ability’ competence, do not use ‘experience’ or ‘knowledge’ always use ‘ability’.

Practical: ensure you state how you have achieved the competence area standards.

Incorporated Engineer (IEng) Competences

AA Knowledge and understanding

Incorporated Engineers shall use a combination of general and specialist engineering knowledge and understanding to apply existing and emerging technology.

This competence is about having knowledge of the technologies, standards and practices relevant to HRBs and the applicant's area of practice and having evidence of maintaining and applying this knowledge.

HRB competency To the extent that it is relevant to their role, the candidate shall demonstrate that they:	IStructE/ICE standard and examples of evidence to demonstrate compliance with this objective
AA1 Maintain and extend a sound theoretical approach to the application of relevant fire, structural and building life safety systems, principles and practices throughout the building life cycle of HRBs.	**Minimum standard – A** **Example:** Provide evidence of applying a practical and pragmatic approaches when faced with unique aspects of HRB design. This can be in the form of design documentation such as Stage 3/4 reports.
AA2 Use a sound evidence-based approach to problem solving to apply relevant principles and technical standards to fire, structural and building life safety systems throughout the building life cycle of HRBs, and support continuous improvement in building safety.	**Minimum standard – A** **Example:** Knowledge of building safety risk and how they affect the design of structures to HRBs is expected here. Evidence of this could be a marked up copy of the fire strategy report of the HRB with a commentary by the candidate.

BB Design, development and solving engineering problems

Incorporated Engineers shall apply appropriate theoretical and practical methods to design, develop, manufacture, construct, commission, operate, maintain, decommission and recycle engineering processes, systems, services and products.

This competence is about the ability to identify appropriate methods and approaches to use to undertake a task within their area of practice and to make a significant contribution to the development of a design or process or the maintenance of operations in relation to HRBs.

HRB competency To the extent that it is relevant to their role, the candidate shall demonstrate that they:	IStructE/ICE standard and examples of evidence to demonstrate compliance with this objective
BB1 Identify, review and select appropriate techniques, procedures, and methods to design, construct, commission, operate, maintain, decommission and recycle building engineering processes, systems, services and products, in order to comply with relevant legislation, regulations, statutory guidance and standards of performance applicable to HRBs.	**Minimum standard – A** **Example:** Examples of evidence of this would be design documentation authored by the candidate that explains how components of the design of an HRB were completed under the heading of 'occupant safety'.
BB2 Undertake research, analysis and development to define, refine and apply relevant standards, testing, assessment, site inspection and maintenance procedures for building materials, products, components, assemblies and systems effectively throughout the building life cycle.	**Minimum standard – A** **Example:** Evidence that due consideration of how design output reflects the decisions made at Stage 2 and 3 of the HRB and their application is expected here. This objective is directly linked to AA1.
BB3 Implement design solutions for equipment of processes and contribute to their evaluation.	**Minimum standard – A** **Example:** Execute the analysis and design of structures to HRBs. Fire engineering of structural elements is an example of this.

Incorporated Engineers shall apply appropriate theoretical and practical methods to design, develop, manufacture, construct, commission, operate, maintain, decommission and recycle engineering processes, systems, services and products.

CC Responsibility, management and leadership

Incorporated Engineers shall provide technical and commercial management.

This competence is about the ability to plan the applicant's own work and manage or specify the work of other effectively, efficiently and in a way which provides leadership at an appropriate level, whether technical or commercial. Leadership is not necessarily about having a formal line management role. In matrix management and other types of organisational structure, where Incorporated Engineers are working within complex and varied working relationships, they will provide leadership to achieve objectives. This competence is also about the ability to consider and identify improvements to quality in relation to HRBs.

HRB competency To the extent that it is relevant to their role, the candidate shall demonstrate that they:	**IStructE/ICE standard and examples of evidence to demonstrate compliance with this objective**
CC1a Plan the work and resources needed to enable effective implementation of significant engineering tasks or projects in association with or to fulfil key roles, responsibilities and duties relating to HRBs.	**Minimum standard – E** **Example:** While creating a plan of work, providing a programme that was co-authored by the lead engineer is also acceptable.
CC1b Contribute to continuous improvement and use of appropriate information management principles to manage, distribute and maintain information which is critical to ensuring that HRBs are build, operated and maintained to be safe throughout the lifecycle.	**Minimum standard – A** **Example**: Minutes of meetings, emails to other team members and sketches/notes provided to others relating to supporting decisions made by the lead engineering concerning the design of the structure to the HRB.
CC2 Manage and use systems to challenge unacceptable behaviour or practice where duties are not being effectively met and raise, report, escalate or flag risks to safety with mangers, duty holders and Regulators..	**Minimum standard – E** **Example:** Challenge design decisions being made before following them, especially those that could affect safety critical elements of the structure.
CC3a Manage competent teams or the input of others into own work and assist others to meet changing requirements for technical and procedural compliance for safe outcomes.	**Minimum standard – E** **Example:** Assist others in the design team and the PAP to ensure the requirements of the BSA in relation to HRBs is maintained.
CC3b Identify and manage the limits of competence of self and others and undertake appropriate mitigating actions to manage risk including how and when to procure specialist advice and use appropriate evidence and experience in the management of 'soft hazards'.	**Minimum standard – A** **Example:** Communications that demonstrate that the candidate follows the direction of the lead engineer, while being aware of any potential deviations from the safety critical components of the structure.
CC4 Take an active role in continuous quality improvement.	**Minimum standard – A** **Example:** Following a QMS and identifying how it is applied to the design of an HRB.

DD Communication and interpersonal skills

Incorporated Engineers shall demonstrate effective communication and interpersonal skills.

This is the ability to work with others constructively, to explain ideas and proposals clearly and to discuss issues objectively and constructively.

HRB competency To the extent that it is relevant to their role, the candidate shall demonstrate that they:	IStructE/ICE standard and examples of evidence to demonstrate compliance with this objective
DD1 Maintain effective and clear communication with residents, the public and with others, orally and in writing.	**Minimum standard – K** **Example:** Communications that demonstrate that the candidate has assisted the lead engineer in providing technical information to duty holders and/or PAPs.
DD2 Clearly present and discuss proposals, justifications and conclusions.	**Minimum standard – A** **Example:** Evidence can be in the form of correspondence to other members of the design team to support the decisions made by the lead engineer.
DD3 Demonstrate personal and social skills and awareness of diversity and inclusion issues.	**Minimum standard – K** **Example:** Empathetic based actions with respect to working with other members of the design team and the PAP.

EE Personal and professional commitment

Incorporated Engineers shall demonstrate a personal commitment to professional standards, recognising obligations to society, the profession and the environment.

This competence is about ensuring that the applicant is acting in a professional manner in their work and in their dealings with others. A Chartered Engineer should set a standard and example to others with regard to professionalism.

HRB competency To the extent that it is relevant to their role, the candidate shall demonstrate that they:	IStructE/ICE standard and examples of evidence to demonstrate compliance with this objective
EE1 Demonstrate leadership, understanding and ability to manage complex ethical considerations relating to the occupation of HRBs and apply these to self and others in practice.	**Minimum standard – E** **Example:** Knowledge of the relevant PEI's code of conduct and how the candidate has executed these values when designing HRBs.
EE2a Review and comply with relevant legislation, regulations, statutory guidance, standards of performance applicable to HRBs.	**Minimum standard – A** **Example:** Candidate should be familiar with the concept of meeting functional requirements of HRBs and this can be demonstrated by sharing an extract from a compliance statement.
EE2b Develop effective approaches to risk management and apply knowledge and understanding of specific and complex risks relevant to HRBs in the development and application of risk management frameworks and safe systems of work.	**Minimum standard – E** **Example:** An understanding of how risk is related to events in the context of the BSA for HRBs..

Incorporated Engineers shall demonstrate a personal commitment to professional standards, recognising obligations to society, the profession and the environment.	
EE2c Understand statutory processes and procedures applicable to HRBs.	**Minimum standard – E** **Example:** Following the procedures as directed by the lead engineer and compiling information for a Gateway 2 submission.
EE3 Understand the principles of sustainable development and apply them to their work.	**Minimum standard – E** **Example:** Evidence would include documentation that demonstrates implementation of BREEAM requirements with respect to sustainability.
EE4 Carry out and record the CPD necessary to maintain and enhance competence in HRBs.	**Minimum standard – A** **Example:** Attending CPD talks, both internal and external, reading articles in technical journals, news reports on fires and structural damage to HRBs, and CROSS newsletters.
EE5 Understand the ethical issues that may arise in their role and carry out their responsibilities in an ethical manner.	**Minimum standard – E** **Example:** Recognise the duty of care and advise the lead engineer of their obligations to advise the Duty Holder under the BSA in relation to HRBs.

HRB Registration Process

Once your PRI pass result has been approved by the Joint ICE/IStructE HRB Committee, the initial registration fee will be added to your IStructE account and you will be contacted to make payment online, via the secure portal. Once paid, IStructE will pass your details to the Engineering Council and they will add you to the HRB Structural Register.

There is not a designated HRB postnominal but the appropriate descriptor, can be used: Chartered HRB Engineer, Incorporated HRB Engineer or HRB Engineering Technician.

HRB Renewals/re-registration

Your home/main Institution, either ICE or IStructE, will add the annual registration fee to your account the year after your initial registration. This will be the institution through which you normally pay your CEng/IEng/EngTech fees.

Please note that the HRB renewal fee is in addition to your usual CEng/IEng/EngTech fees, if this is applicable to you.

This Registration will be valid for 5 years from your HRB PRI pass. IStructE/ICE will carry out the re-registration after 5 years in accordance with the Engineering Council's procedures.

Appendix: definitions

Acronym	Definition
PRI	Professional Review Interview
PEI	Professional Engineering Institution
HRB	Higher Risk Buildings
CROSS	Collaborative Reporting for Safer Structures. Confidential safety reporting system for buildings and other structures. Operated jointly by IStructE and ICE
UK-SPEC	UK Standard for Professional Engineering Competence and Commitment
QMS	Quality Management System
BSA	Building Safety Act
PAP	Principle Accountable Person
CPD	Continuing Professional Development