



Residential retrofit

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1 Introduction

In order to become an RICS Associate, you must demonstrate that you have knowledge, understanding and practical ability relevant to a surveying role – in this case residential retrofit services.

This guide explains the competencies for the **Residential retrofit** pathway, with examples of how you can show you meet the requirements.

Refer to this guide while preparing your submission for assessment.

The *Associate Assessment Candidate Guide* gives essential information on how to prepare for the assessment.

About the competencies

A **competency** is the knowledge, skills, abilities and behaviours needed for a particular role or task. RICS competencies equip you to work in your chosen pathway.

The **seven technical competencies** are the pathway-specific ‘hard’ skills needed for your role.

The **eight mandatory competencies** are the ‘soft’ business skills that demonstrate your ability to work with colleagues, manage workloads and act with integrity. All candidates, regardless of their pathway, need these skills.

This pathway is underpinned by RICS’ [Residential retrofit standard](#) and the roles defined in the process.

What is residential retrofit surveying?

Residential retrofit surveying occupies a central role in the successful completion of projects.

Typically, residential retrofit professionals will have direct involvement in producing a successful retrofit project that meets with the client’s requirements. Residential retrofit professionals may represent their client throughout the full development process, managing inputs from the client, consultants, contractors, supply chain and other stakeholders, or they may undertake defined service roles as part of the project.

Those working in this specialism can choose from a variety of potential employers, including clients and consultants from both the public and private sectors, with either commercial or not-for-profit aims.

The key retrofit roles in this pathway (as defined in RICS’ [Residential retrofit standard](#)) are:

- lead professional
- assessor
- designer
- contract administrator and
- post-retrofit inspector.

Note that Associate membership for retrofit surveying is focused on those working with residential buildings that are of a simple and standard construction.

2 Pathway requirements

Technical

You must undertake the following seven technical competencies:

- Building pathology
- Construction technology and environmental services
- Fire and building safety
- Inspection
- Measurement
- Retrofit testing, monitoring and evaluation
- Risk management

Plus, you must select any one of the following three technical competencies:

- Contract practice and procurement
- Design and specification
- Managing projects

Mandatory

You must complete all eight mandatory competencies:

- Client care
- Communication and negotiation
- Conduct rules, ethics and professional practice
- Conflict avoidance, management and dispute resolution procedures
- Data management
- Health and safety
- Sustainability
- Teamworking

3 Technical competencies guidance

Building pathology

This competency covers understanding building pathology, how a building performs, key construction elements, how defects can manifest and how to inspect buildings. Candidates should have a clear understanding of typical structures, based on age, locational and heritage factors, and future risks, with emphasis on remedial actions required before works progress. Candidates should have a detailed knowledge of RICS' [Home survey standard](#) and [BS 40104 Retrofit assessment for domestic dwellings](#).

An understanding of building pathology is key to retrofit. This includes knowledge of building defects that may be present before and after the retrofit process, as well as the appropriate remedies.

It is essential that all candidates have an understanding of defect analysis, and the defects that are likely to result from failures in the building fabric. This will range from the effects of failed elements, such as defective roof coverings, to much more complex defects such as interstitial condensation and cold bridging, and their possible effects on the building fabric.

Requirements	Demonstrate knowledge and understanding of building defects, including collection of information, measurements and tests. Apply that knowledge to undertake surveys, and use survey and other information to diagnose the causes and mechanisms of failure.
Examples of likely knowledge and experience	Knowledge <ul style="list-style-type: none">• How to identify building defects that are likely to be encountered in typical pre-retrofit surveying activities, and the likely remedial works required.• Assessment of existing retrofit measures and alterations to properties, and factoring these into the assessment and recommendations.• The various methods to collect, store and retrieve information for different purposes when carrying out property inspections.• Matters such as air quality, recording moisture in buildings and The Hazards in Social Housing (Prescribed Requirements) (England) Regulations 2025 ('Awaab's Law'), as well as the implications of the presence of deleterious materials, including asbestos.• The different types of testing and the limitations of those tests, for example the use of moisture meters, ventilation flow rate measurement and borescopes.• How to assess the existing heating and ventilation of a dwelling, common issues that may exist and solutions to overcome them.• The location of the building, including exposure to, and likely effects of, environmental factors such as flooding, solar gain or shading, and wind exposure.• The current and intended occupation of the dwelling, and the needs of the occupier and client.

	<p>Activities</p> <ul style="list-style-type: none"> • Identifying, and explaining in detail, the causes and mechanics of various types of failures. • Explaining the procedures for carrying out inspections of properties. • Explaining, using detailed examples, the relationship between observations taken on site and the diagnosis of failure in the building fabric. • Undertaking specialist inspections to diagnose and explain building fabric failure. • Demonstrating an understanding of the appropriate level of detail required in typical reports, including examples of layout, and the use of sketches/drawings and photographs. • Demonstrating when it is appropriate to refer matters for further investigation when actual or potential defects or risks are identified.
<p>Examples of tasks undertaken</p>	<ul style="list-style-type: none"> • Confirming instructions to advise on building defects. • Inspecting the building. • Demonstrating knowledge of specialist advice to supplement the inspection. • Undertaking research to support advice on remedial or further investigation work. • Drafting reports or similar documents. • Undertaking desk-based research of the general location, and demonstrating knowledge of local factors.

Construction technology and environmental services

This competency covers the design and construction of buildings. Candidates should have an awareness of the design and construction processes commonly used in the industry. They should have a detailed knowledge of construction solutions relevant to their projects, including building physiology, ventilation, moisture management, appraisal and air tightness.

Requirements	Demonstrate knowledge and understanding of the principles of design and construction relating to your chosen field of practice. Apply your knowledge to the design and construction process.
Examples of likely knowledge and experience	Knowledge <ul style="list-style-type: none">• The process of design information production, revision and delivery to the project team, and those involved outside the project team.• Alternative construction details in relation to functional elements of the design, such as different types of appropriate energy efficiency measures (EEMs). Activities <ul style="list-style-type: none">• Implementing the principles of designing and constructing for sustainability and environmental awareness.• Participating in the process of site investigation and environmental assessments.• Appreciating how design solutions vary for different types of buildings, such as working with older homes or dwellings with excess solar gain.
Examples of tasks undertaken	<ul style="list-style-type: none">• Performing site investigations or environment assessments.• Producing site drawings or design schedules.• Reviewing relevant EEM solutions.• Selecting or procuring materials for construction purposes.

Contract practice and procurement

This competency concerns the ability to recognise, understand and interpret different procurement routes and contracts. Candidates should be aware of the different options available in their area of practice. They should have an understanding of appropriate use of alternative procurement routes and contracts.

Requirements	Demonstrate knowledge and understanding of the various forms of contract and procurement procedures used in the domestic retrofit sector. Apply your knowledge of the use of the various standard forms of contract and procurement at the project level, including the implications and obligations that apply to the relevant parties.
Examples of likely knowledge and experience	Knowledge <ul style="list-style-type: none">• Variables for consideration when selecting a procurement system.• The impact of alterations to contractual arrangements on parties to the contract.• Legal and contractual constraints, such as terms and conditions of engagement, conflicts of interest and construction legislation.• Warranties and latent defects.• Contract documentation.• Basic contractual mechanisms and procedures at various stages of the contract.• Understanding tendering based on environmental impact rather than cost.• Third-party rights. Activities <ul style="list-style-type: none">• Reviewing contractual relationships with the main parties associated with typical procurement routes.• Preparing contractual documents for retrofit works.• Providing options for alternative forms of contract with respect to specific procurement routes.
Examples of tasks undertaken	<ul style="list-style-type: none">• Preparing contract documentation associated with retrofit works.• Being involved with meetings or communications associated with contract practices.• Participating in tendering or negotiation processes.• Investigating or compiling factors relevant to the selection of the procurement route.• Implementing the chosen procurement route onsite.

Design and specification

This competency concerns the skills involved in the design and specification of construction projects. Retrofit professionals are generally involved in refurbishing/upgrading property. Knowledge of the stages of design and specification, from inception to completion, is an essential skill.

Requirements	Demonstrate knowledge and understanding of the design process, and the scope and content of related documentation. Prepare designs and specifications, including at outline and detail levels.
Examples of likely knowledge and experience	<p>Knowledge</p> <ul style="list-style-type: none">• The various stages of the design process.• The functional requirements and performance of building materials and components.• Health and safety regulations, including their implications for design.• The effect of technical standards and statutory regulations, such as planning, on the design process.• The structural implications of design on the the load-bearing components of the building fabric.• The ability to interpret the requirements of the project/client's brief in order to satisfy their requirements.• General issues surrounding sustainability in design, such as materials, sources, transportation and energy efficiency.• Concepts of construction techniques, including modern methods of construction, traditional builds and prefabricated dwellings.• Preambles to contract documentation.• The effect of the planning regime and technical standards on the design process. <p>Activities</p> <ul style="list-style-type: none">• Preparing designs to demonstrate compliance with a client's brief while satisfying statutory requirements.• Developing initial proposals to a detailed stage and obtaining statutory consents, including sections and details.• Provide guidance and support to the client in assembling pre-construction information, and ensure that all relevant details are communicated clearly to designers and contractors to enable them to discharge their responsibilities effectively under statutory requirements.• Supporting the provision of advice to clients regarding sustainability issues relating to proposals for their building.

Examples of tasks undertaken

- Reviewing contractual relationships with the main parties associated with procurement routes.
- Confirming instructions for design and specification.
- Working within the formal design process.
- Selecting materials or products.
- Liaising with the client/other designers/stakeholders in the design process.
- Developing the brief, including costings.
- Producing sketches, drawings, plans or the specification.
- Liaising with the [principal contractor](#), keeping them informed of any risks that need to be controlled during the construction phase.
- Varying or altering a design or specification.
- Liaising with contractors on the design and specification.
- Producing maintenance information from the design or specification.
- Liaising/negotiating with third parties.

Fire and building safety

This competency is about understanding the need for fire and building safety in both existing buildings and proposed building projects, and being able to support and assist in advising how to achieve the required levels of safety.

Requirements	Demonstrate knowledge and understanding of the principles of building safety and fire spread in relation to low-rise residential buildings. Higher-risk buildings are not in scope.
Examples of likely knowledge and experience	Knowledge <ul style="list-style-type: none">• The need for, and main consequences of, building safety.• How fires might start, and how a building may be protected by active and passive fire systems (e.g. detection and suppression).• Legislation, codes of practice and key building regulations.• Methods of safe evacuation.• Roles of dutyholders in commissioning fire risk assessments.• Insurance and liability.• Environmental impact.• Cost – financial, emotional and physical. Activities <ul style="list-style-type: none">• Applying fire safety principles to practical situations (project planning for fire compliance, risk assessment and prevention) in accordance with relevant legal requirements and published authoritative guidance.• Supporting recommendations from a fire risk assessment, fire safety audit and strategy.
Examples of tasks undertaken	<ul style="list-style-type: none">• Carrying out site investigations.• Reviewing drawings and documentation.• Specifying measures or actions to mitigate risk.• Identifying materials that may pose a risk to the building or project.

Inspection

It is essential that candidates exhibit knowledge and understanding of the core requirements of property inspection, for example the degree of detail required in connection with different types of inspection. This requirement is interlinked with other competencies, and candidates must demonstrate knowledge of construction technology and pathology to equip themselves to carry out property inspections.

Requirements	Demonstrate knowledge and understanding of the different requirements for inspection, together with the required information and factors affecting the approach to an inspection. Undertake inspections, apply the information gained to prepare reports/schedules and/or registers of equipment, and present appropriate information gained from the inspection.
Examples of likely knowledge and experience	Knowledge <ul style="list-style-type: none">• Requirements for different types of inspections, such as dilapidation, pre-acquisition and pre-retrofit assessment.• The methodology for completing a successful property inspection, including a review of relevant documentation prior to a survey.• Building construction and pathology, to enable competent performance of inspection techniques.• Advanced inspection techniques, including concrete inspection and diagnosis techniques, the uses and limitations of borescopes, and the use of thermography in leak detection.• Report writing requirements, in order to satisfy RICS and other parties such as insurers. Activities <ul style="list-style-type: none">• Assisting in the preparation of professional reports.• Assisting in the preparation of schedules of condition and pre-retrofit assessments.• Reporting findings to clients based on non-disruptive inspection techniques.• Commissioning advanced inspection techniques, such as infrared thermography, fibre optics and concrete testing.
Examples of tasks undertaken	<ul style="list-style-type: none">• Confirming instructions for the inspection.• Receiving the brief.• Arranging the inspection.• Undertaking a desktop study, obtaining information and reviewing data.• Creating site survey notes and drawings.• Liaising with consultants and contractors for specialist inspections.• Assessing inspection findings such as deleterious materials.• Preparing reports and correspondence.• Liaising with clients or liaising/negotiating with third parties on findings and further work.

Managing projects

This competency is about the stages a project goes through during its life cycle, and the role of the lead professional in that process. This includes its inception, briefing, financial feasibility, quality controls, completion timescales and subsequent programming. It also includes contractual and legislative/statutory requirements, stakeholder management, management reporting and auditing, and assessment of the performance of a project and its individual stakeholders.

Requirements	Demonstrate knowledge and understanding of contractual, legislative and statutory terminology/requirements in the management of a project. Implement the management procedures necessary for the smooth running of a project.
Examples of likely knowledge and experience	<p>Knowledge</p> <ul style="list-style-type: none"> • Contractual, legislative and statutory requirements, along with the retrofit funding process. • Document control systems and techniques to comply with funding requirements and evidencing processes. • Techniques for effectively controlling time and cost during the life cycle of a project, including the reasons for any design, cost or programme variations. • Project risks and contingency planning. <p>Activities</p> <ul style="list-style-type: none"> • Liaising with statutory authorities and service providers. • Recording and monitoring records of progress associated with the design and construction processes. • Identifying and implementing the contractual, legislative and statutory requirements needed for a development project, including any collateral documents such as insurances or warranties. • Understanding work done or to be done under the various 'competent persons' schemes. • Managing document control and information management systems. • Managing management reporting systems. • Preparing a project execution plan, feasibility study and/or other similar management tools. • Advising clients on getting formal, written quotations from appropriately qualified contractors and advising on where other due diligence (for example the services of a chartered quantity surveyor or other suitably qualified professional) is required. • Analysing the actual performance of the project and the team, and identifying potential improvements.
Examples of tasks undertaken	<ul style="list-style-type: none"> • Working with reporting systems associated with the project supply chain. • Managing off- or on-site reporting systems. • Managing off- or on-site document control systems. • Providing evidence of the practical application of statutory approvals; planning permissions and building regulation approvals for the proposed retrofit works; any associated alterations and repairs; and any indemnity insurance policies for non-compliance (if known), smoke control zones (such as in connection with biomass EEMs), tree preservation orders (TPOs) or the presence of protected species, as well as the need for appropriate consents/licences.

Measurement

This competency is relevant to all data capture and measurement of the property subject to retrofitting activities.

Requirements	Demonstrate knowledge and understanding of the principles and limitations of measurement relevant to your area of practice. Apply your knowledge to take measurements. Use basic and/or advanced instrumentation to collect data. Present appropriate information gained from measurement.
Examples of likely knowledge and experience	<p>Knowledge</p> <ul style="list-style-type: none">• Building measurement, as understood in the context of RICS' Code of measuring practice and other retrofit activities, such as assessment under BS 40104, the Home Energy Model and SAP/RdSAP.• The differences between measurement techniques.• The uses and limitations of plans and drawings. <p>Activities</p> <ul style="list-style-type: none">• Demonstrating the ability to collect data for energy performance calculations.• Providing measured surveys of dwellings to be able to create plans.• Using the appropriate instrumentation (including lasers and tapes) to capture sufficiently accurate data.• Dealing with, and advising on, the sources of error from the use of measurement instruments.• Applying the appropriate guidance correctly in practice, in order to undertake measurement of a wide variety of properties.• Performing necessary calculations.• Preparing and presenting measurements in a manner appropriate for the purpose they are to be used, and understanding the level of accuracy that is required for different types of property.
Examples of tasks undertaken	<ul style="list-style-type: none">• Providing measurements for applications.• Measuring buildings in order to complete energy performance calculations/certificates and retrofit assessments.

Retrofit testing, monitoring and evaluation

This competency concerns the evaluation process: assessing the technical and financial feasibility of a project, including the resultant economic and performance returns. The assessment should focus on a clear evaluation of building performance.

Requirements	Describe the feasibility study process, including the financial and energy saving outcomes. Apply the techniques used in value management/value engineering, life cycle/whole life costing and risk assessment, together with balance sheet analysis.
Examples of likely knowledge and experience	Knowledge <ul style="list-style-type: none">• Life cycle costing.• Analysis of actual energy performance data.• The practical application of air tightness tests and evaluating ventilation rates.• Energy performance models (HEM, SAP and RdSAP).• The importance of building performance evaluation and techniques, with particular reference to BS 40101.• Performance gaps and how they can be addressed.• The influence of the project in terms of the human experience, air quality and well-being. Activities <ul style="list-style-type: none">• Understanding measured performance data, and comparing it with design data.• Reviewing the outcomes of the project in terms of the 'in use' performance of air quality and ventilation, including occupant perceptions and experiences.• Suggesting and organising responses to performance issues, unintended consequences and post-retrofit defects.
Examples of tasks undertaken	<ul style="list-style-type: none">• Reviewing actual against predicted energy use.• Reviewing property performance to determine whether the intended outcomes of the retrofit project have been achieved.• At the appropriate time(s), monitoring and evaluating the project, including a structured liaison and feedback process with the client and/or occupier, checking and testing parts of the project as required, and testing internal air quality.• Taking action, where required, to understand and resolve any discrepancy between predicted performance and actual performance.

Risk management

This competency is about the effective use of risk management for projects. It includes understanding how to use the tools and techniques available.

Requirements	Demonstrate knowledge and understanding of the nature of risk and, in particular, of the risks associated with your area of business/practice. Apply that knowledge to carry out risk assessments, taking into account all relevant factors. Understand the application of the various methods and techniques used to measure risk.
Examples of likely knowledge and experience	Knowledge <ul style="list-style-type: none">• Risk management.• Risk register techniques.• Quantitative methods for measuring risk and contingency. Activities <ul style="list-style-type: none">• Undertaking qualitative risk identification and the formation of a risk register.• Participating in risk management and assessment with the project team where a risk to the building or occupant has been identified, for example where deleterious materials such as asbestos have been found.• Preparing reports resulting from issues identified.
Examples of tasks undertaken	<ul style="list-style-type: none">• Gathering data for the tabulation and measurement of project risks.• Assembling the project risk register.• Arranging or taking part in risk workshops.• Recording, monitoring and managing the risk register.

4 Mandatory competencies guidance

Title	Requirement
Client care	Demonstrate knowledge and understanding of the principles and practice of client care, including: <ul style="list-style-type: none"> • The concept of identifying all clients/colleagues and third parties, and the behaviours that are appropriate for establishing good client relationships. • The systems and procedures that are appropriate for managing the client care process, including for complaints. • The requirement to collect data, analyse it and define the needs of clients. • Demonstrate the practical application of the principles and practice of client care in your area of practice.
Communication and negotiation	Demonstrate knowledge and understanding of effective oral, written, graphical and presentation skills, including methods and techniques that are appropriate to specific situations. Demonstrate the practical application of these skills in a variety of situations, specifically including where negotiation is involved.
Conduct rules, ethics and professional practice	Although this is demonstrated through the RICS ethics module (see the Associate Assessment Candidate Guide), you should still refer to it where applicable. Demonstrate knowledge and understanding of the role and significance of RICS and its functions. Also, display an appreciation of your personal professional role, society's expectations of professional practice, and RICS Rules of Conduct and regulations, including the general principles of law and the legal system as applicable in your country of practice. Demonstrate practical application in your area of practice, being able to justify actions at all times and show a personal commitment to the RICS <i>Rules of Conduct</i> and RICS ethical standards. Demonstrate that you have applied these in the context of advising clients.
Conflict avoidance, management and dispute resolution procedures	Demonstrate knowledge and understanding of techniques for conflict avoidance and conflict management, as well as dispute resolution procedures, including adjudication and arbitration, appropriate to your pathway.

Data management	Demonstrate knowledge and understanding of the sources of information and data, and of the systems applicable to your area of practice, including the methodologies and techniques most appropriate for collecting, collating and storing data.
Health and safety	Demonstrate knowledge and understanding of the principles and responsibilities imposed by law, codes of practice and other regulations appropriate to your area of practice. Demonstrate the practical application of health and safety issues, and the requirements for compliance in your area of practice.
Sustainability	Demonstrate knowledge and understanding of why and how sustainability seeks to balance economic, environmental and social objectives at global, national and local levels, in the context of land, property and the built environment.
Teamworking	Demonstrate knowledge and understanding of the principles, behaviours and dynamics of working in a team.

PILOT

5 Continuing professional development (CPD)

In your submission document, you must record 48 hours of CPD. This must be from the 12 months prior to your associate assessment. The following are examples of the type of development relevant to this pathway.

Contract practice

Activity type	Purpose	Description	Learning outcomes
Work-based	To develop knowledge of the use of the various standard forms of contract.	Attended in-house training workshop on contractual awareness.	On completion of this activity, retrofit surveyors will be able to identify the different forms of contracts used in retrofit projects, and explain the obligations and responsibilities of each party under these contracts. They will also be able to analyse potential scenarios that may arise during retrofit projects and their contractual implications. They will also be able to evaluate how different contract structures affect risk, accountability and project delivery, and apply this knowledge of contractual obligations to ensure compliance and safeguard the interests of all parties involved.

Construction technology and environmental services

Activity type	Purpose	Description	Learning outcomes
Private	Learn more about the main elements of a construction project and how they interrelate.	Undertook an online refresher course on construction technology and environmental services, and completed structured CPD in the practical application of BS 40104.	Have an understanding of the various kinds of construction designs, methods, materials and conditions of building elements.

Procurement and tendering

Activity type	Purpose	Description	Learning outcomes
Organised	Improve knowledge of procurement and tendering; its application in practice and understand procurement options.	Attended a CPD lecture outlining the main forms of procurement, as well as knowledge and understanding of the tendering and negotiation processes involved in procurement.	Appreciate the factors that need to be considered when selecting a procurement system.

Health and safety

Activity type	Purpose	Description	Learning outcomes
Work-based	Updates around health and safety legislation and industry standards associated with preparing risk assessments, work package plans and task briefings.	Attended a course delivered at workplace over 9 hours through a combination of online materials, demonstration and hands-on tutoring.	On completion of this activity, retrofit surveyors will be able to understand the importance of health and safety to all parties involved in a development, both on- and off-site. They will also be able to recognise the key statutory requirements and systems that govern safe working practices. They will also be able to explain how these statutory requirements and systems should be implemented during the different stages of development to ensure safety, compliance and effective project delivery – and apply them.

Delivering confidence

We are RICS. As a member-led chartered professional body working in the public interest, we uphold the highest technical and ethical standards.

We inspire professionalism, advance knowledge and support our members across global markets to make an effective contribution for the benefit of society. We independently regulate our members in the management of land, real estate, construction and infrastructure. Our work with others supports their professional practice and pioneers a natural and built environment that is sustainable, resilient and inclusive for all.

Enquiries
contactrics@rics.org



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