



GQA Level 3 Award in Air Permeability (Air Leakage) Testing of Existing Dwellings using the Low-Pressure Method

**Qualification Reference Number:(Ofqual) 610/3686/9
Qualifications Wales C00/5165/3**

Personal Competence Summary

Name		Company/Centre			
Job Title		GQA Registration Number			
Mandatory Units					
Unit Number	Unit Title	Level	Credit Value	Assessor Signature	Date
K/651/0009	Air Permeability Testing of Existing Dwellings using the Low-Pressure Pulse Method	3	3		

RELIABLE EVIDENCE: The forms of evidence available include (mark as appropriate)

- | | |
|---|--|
| Observation in the workplace <input type="checkbox"/> | Assessment of knowledge <input type="checkbox"/> |
| Records of prior experience <input type="checkbox"/> | Witness statement(s) <input type="checkbox"/> |
| Testimonial(s) <input type="checkbox"/> | Photographic evidence <input type="checkbox"/> |
| Work records <input type="checkbox"/> | External testing <input type="checkbox"/> |

Passport Style
Candidate Photo
(Mandatory)

COMPETENCE COMPLETION SIGNATURES

By signing here, the Candidate and Assessor confirm that evidence presented is authentic and that the assessments took place in accordance with the relevant assessment strategy. Details of the assessments and evidence must be recorded in the assessment decision record/summaries at the end of each unit.

	Name	Signature	Date
Candidate			
Lead Assessor			
Internal Verifier			
EQA			

Introduction to the Qualification

Who is this Qualification for?

The qualification has been developed for achievement in a real workplace environment for those carrying out Air Permeability Testing using the Low-Pressure Method.

Achievement of this qualification enables the learner, to demonstrate and recognise skills, knowledge and understanding to be able demonstrate competence in understanding air tightness testing in domestic housing.

This qualification is at Level 3 and should be taken by those who are fully trained to deal with routine assignments.

Candidates should require minimum supervision in undertaking the job.

What is required from candidates?

Candidates should achieve all the mandatory units listed below.

Candidates should prove that they can achieve all the statements listed from each element. Guidance on the evidence that will be acceptable is contained in the introduction to each unit.

Unit Number	Unit Title	Level	Credit Value
Mandatory Units			
K/651/0009	Air Permeability (Air Leakage) Testing of Existing Dwellings using the Low-Pressure Pulse Method	3	3

Assessment Guidance

Evidence should show that the candidate can cover the scope of performance outlined for each relevant unit consistently over an appropriate period.

Types of evidence:

Evidence of performance and knowledge is required. Evidence of performance should be demonstrated by activities and outcomes, and should be generated in the workplace only, unless indicated under potential sources of evidence (see below). Evidence of knowledge can be demonstrated through performance or by responding to questions.

Potential sources of evidence:

The main source of evidence for each unit will be observation of performance. This can be supplemented by the following types of physical or documentary evidence:

- Accident book
- Correspondence/discussion with customer
- Customer feedback
- Damage and defect reports
- Delivery records
- Equipment used
- Audio/photographic/video
- Safety records
- Telephone logs
- Installation activity
- Witness testimony
- Simulation of accident or emergency

- Inspection reports
- Notes and memos
- Organisational reporting systems

Please Note that photocopied or downloaded documents such as manufacturers or industry guidance, H&S policies, Risk Assessments etc., are not normally acceptable evidence for GQA qualifications unless accompanied by a record of a professional discussion or assessor statement confirming candidate knowledge of the subject. If you are in any doubt about the validity of evidence, please contact your GQA EQA.

GQA Qualification Implementation Requirements covering Centre Approval, Candidate Assessment and ongoing Quality Assurance

This document indicates the requirements of approved centres delivering GQA qualifications and/or units of credit. This document complements the appropriate SSC Assessment Strategy linked to this qualification.

1. Equality of Opportunity

Equality of access to fair and valid assessment is necessary for all candidates undergoing assessment. This may mean making reasonable adjustments to normal assessment methods for candidates with particular or special assessment requirements. Candidates work patterns should not become a barrier to assessment, the organisation of which may have to be flexible. In the same way, reasonable adjustment arrangements may be necessary for candidates with a disability. For example, a candidate who is unable, through disability, to produce oral or written evidence, may be allowed to use the method they normally use as a substitute for the required form of communication. Reasonable adjustments need to be approved by GQA.

2. Recognised/Approved Assessment Centres

2.1 Individual centres must be approved by GQA to offer specific qualifications and / or units of credit. A centre may be a single organisation or a partnership of two or more organisations. It may operate at a single location or have satellites. For further details see the GQA booklet "Guide to Centre Approval." The Centre Approval process is carried out by a GQA approved EQA. Each Centre must maintain a centre file. It is important to be clear what the steps in the assessment process are:

- plan evidence collection and opportunities for assessment
- collect evidence
- judge evidence
- determine whether sufficient evidence has been presented
- make an assessment decision and give feedback to the candidate

NB Any deviation from the norm must be approved by a GQA EQA

2.2 Assessors and Verifiers

All Assessors of candidate performance must be competent, to make qualitative judgements, both in the skills they are assessing and in the assessment of candidates and hold the appropriate Assessor national award. Assessor occupational knowledge related to the qualifications being assessed is essential and must be illustrated to GQA prior to approval.

Internal Verifiers are responsible for the quality assurance of the assessment process within a centre. They should have a relevant occupational background, be competent in internal verification and hold the Internal Verifier national award. It is recommended that Internal Verifiers work towards national recognition of assessor competence.

EQAs are responsible for ensuring accurate and consistent standards of assessment across centres, qualifications, units of credit and over time. They should have a relevant occupational background, be competent in External Quality Assurance and hold the EQA national award

GQA will approve and licence all individuals involved in the assessment and verification of its approved qualifications and / or units of credit. Individuals who are working towards the Assessor or Internal Verifier national awards can only be provisionally licensed. The judgement of provisional licence holders will need to be agreed/authorised by a fully qualified and GQA licensed individual who cannot carry out a dual role in relation to a specific candidate.

All GQA Assessors and Verifiers must undertake a minimum of two significant CPD activities in both occupational areas and assessment and verification. Reflective CPD records must be maintained and made available to GQA EQAs for review.

2.3 Centre Approval, Monitoring Reviews and Quality Assurance

The centre recognition/approval process is the start of a significant part of the awarding body's quality assurance system. The Approval process will begin with an EQA review of centre procedures to ascertain the potential centre's ability to deliver GQA qualifications and / or units of credit. Centres will be expected to meet the relevant regulatory authority criteria for delivery of qualifications prior to initial approval; continued compliance with the criteria will be monitored through regular EQA visits. It is recommended that centre reviews are conducted at minimum every six months by a GQA EQA.

New or multi-site centres may be required to undertake quarterly or more frequent EV reviews to ensure that different locations can be seen to satisfy the national requirements.

GQA will ensure that unacceptable barriers relating to the assessment and internal verification of candidates in small companies do not deny recognition of competence to competent young workers. In such circumstances, GQA will demonstrate that its quality assurance procedures remain sufficient and rigorous to ensure that the competence outcomes have standing and credibility in the occupational area.

Enhanced quality procedures to ensure consistency of assessment and verification will be necessary and will include:

- a high level of sampling of assessment decisions N.B. In some instances, the EQA may visit each assessment location and qualification / unit of credit candidate (e.g., single candidates dispersed throughout different small companies on government funded programmes)
- an in-depth scrutiny of assessment plans, materials and records
- specific centre guidance aimed at the successful implementation of qualifications and / or units of credit in SMEs via approved centre partnerships. This can include guidance on the quantity and quality of valid, authentic, and transferable evidence expected to be attributed to individual candidates
- ensuring centres are following the requirements prescribed in any appropriate assessment strategies and applicable codes of practice
- the identification and publication of good practice in centres

As part of the Quality Assurance process Proskills require an Enhanced External Quality Assurance process. This will be in the form of one significant underpinning knowledge question answered by the candidate for each unit of the qualification. The questions will be decided by GQA, and guideline answers must be submitted for approval and once approved kept in the Centre File to allow independent assessment

3. Qualification/Unit of Credit Candidates

All candidates must register with a GQA recognised/approved centre. The centre must maintain appropriate candidate personal details for external audit purposes etc.

The centre will provide candidates with advice and guidance on how to prepare for assessment and allocate an Assessor who will assess candidate ability to meet the requirements of the relevant qualifications / unit of credit.

It is the candidate's responsibility to demonstrate competence and to do this they must:

- prove they can consistently meet all the qualification and / or unit of credit criteria
- provide evidence from work, that they can perform competently in all the contexts specified in the qualification / unit of credit requirements
- prove that they have the knowledge and understanding required to perform competently, even where they have not provided evidence from the workplace

It is therefore critical that quality evidence is provided in a format to allow the Assessor to decide and for the Internal Verifier to audit/verify his/her decision.

4. Evidence

A qualification and / or credit is awarded when a person has achieved the necessary outcomes of the qualification and / or unit of credit.

The specific combination of units necessary to achieve a qualification is detailed in the qualification structure. Certificates of Unit Credit can be awarded when candidates achieve anyone, or more, units from the qualification. The evidence the candidate brings forward is primarily evidence of performance of what he/she can do, not just what he/she knows. The assessment criteria / qualification requirements are described within the qualification and / or unit of credit itself and can incorporate practical skills and knowledge.

The assessor's role is to judge each relevant item of evidence. Each must be judged against the qualification and / or unit of credit requirements. It is not sensible to collect evidence against individual criteria. Nor is it effective. If items of evidence were collected for each of the criteria, the candidate may have to produce many items of evidence, well above the number required. GQA recommend holistic assessment.

When judging each item of evidence, the assessor is deciding whether the evidence:

- is authentic – i.e., produced by the candidate
- meets the criteria
- relates as appropriate to a context defined within the qualification and / or unit of credit
- confirms that the candidate has the required underpinning knowledge

When the assessor decides about the candidate's competence, he or she examines all the evidence available to determine:

- if the evidence covers all the evidence of achievement
- whether the evidence indicates consistency in competent performance
- whether there is enough evidence on which to base an inference of competence

The answer can only be:

- yes (the candidate is competent)
- no (the candidate is not yet competent)
- there is insufficient evidence to decide

Consistency means that the individual is likely to achieve the standard in their work role, in the different activities defined

5. Performance Evidence

Performance evidence can be what the individual produces, or the way the individual achieves the standard.

One is called product evidence and the other process evidence.

Product evidence is tangible – you can look at it and feel it. Products can be inspected, and the candidate can be asked questions about them.

To make a fair and objective assessment, the assessor must be able to answer the question: Is there sufficient evidence that the candidate can consistently meet the requirements of the qualification and / or unit of credit? Process evidence describes the way the candidate has achieved an outcome – how they went about it. This may be,

for example, the way the quality of products is checked, or the way customer complaints are handled. This usually means observing the candidate in action.

Performance evidence may cover several outcomes. It makes sense to plan evidence collection so that what the candidate does, in the normal course of their job, can be related to different outcomes and units. The activities that clearly link to the qualification and / or unit of credit requirements are the things to concentrate on when planning evidence collection and assessment and when monitoring the candidate's progress. Look for opportunities in the candidate's job when evidence can be collected against several units at the same time.

Performance evidence can be:

- Naturally occurring – evidence produced in the normal course of work. Evidence of this sort is usually of high quality and reliable. It is also cost effective to collect naturally occurring evidence
- Taken from previous achievements – the candidate may be able to bring forward evidence from previous work experience to show that they are still competent to the standard
- Evidence of prior achievement can be used when it can be shown to support a judgment that the candidate can still achieve the standard. So, the assessor must be satisfied that the evidence of prior achievement is sufficiently reliable to justify saying that the candidate is currently competent
- Simulated – from circumstances specially designed to enable the candidate's performance to be assessed. Simulation is not acceptable

The exceptions this are:

- Dealing with emergencies
- Dealing with accidents
- Certain pre-approved real time simulators
- Limited other procedures that cannot be practically performed in the workplace, and for which sufficient evidence can be collected through other means

NB: It is not always possible or feasible to collect naturally occurring evidence. It is likely that some simulation may be needed, when it may take too long to wait for the evidence to arise e.g., it may be an aspect of performance which occurs infrequently. An example of this may be evidence of how to deal with emergencies i.e., it makes sense to look for evidence from sources other than naturally occurring ones, rather than for, say, waiting for the building to burn down. Centres must obtain GQA EV approval prior to the use of simulation.

Knowledge evidence

Being able to achieve a standard requires the ability to put knowledge to work. The qualification and / or unit of credit indicates the knowledge each person should use if they are to perform competently.

It should not be necessary to test all of the candidate's knowledge separately; however, any exception to this would be detailed in the relevant Assessment Strategy. Performance evidence could show that the candidate knows what he or she is doing. When this is not the case, or if the assessor is not convinced from the performance evidence, it may be necessary to check the individual's knowledge separately.

Oral or written assessments must clearly provide a suitable means of checking the breadth and depth of an individual's knowledge. Assessors will need to judge the best mix of knowledge evidence according to individual circumstances. Knowledge evidence is useful when deciding the quality of performance evidence but must not be used in isolation to judge competence or as an alternative to performance evidence. Care must be taken that candidate evidence is auditable and verifiable.

NB: These Qualification implementation guidelines are generic across the full range of GQA qualifications. Further guidance on acceptable evidence on each qualification will be found in the Introduction to the Qualification section of the candidate booklet.

Candidate Declaration

Candidate Name.....

Centre/Company Name.....

Assessor(s) Name(s).....

I acknowledge receipt of this copy of GQA qualification booklet. The unit structure provides information on which units must be achieved to be awarded the qualification. The individual units detail the necessary requirements etc. that I must achieve.

I understand that I will have an important role in preparing for and planning assessments and with guidance from the Assessor.

I will collect and record relevant evidence.

I have been informed of the appeals system, should I want to appeal against any part of the assessment process.

I understand the assessments will be carried out regarding the company's/centre's Equal Opportunities Policy.

Candidate signature.....

Date.....

Air Permeability (Air Leakage) Testing of Existing Dwellings using the Low-Pressure Pulse Method							
GQA Ref	APT1	Regulatory Ref	K/651/0009	Level	3	Credit Value	3
<p>Aims</p> <p>The aim of this unit is to ensure the learner understands air-tightness testing in domestic housing:</p> <ul style="list-style-type: none"> • Understand the Air leakage terminology • Principles and purpose of air-tightness in existing dwellings • Materials and approached used • Risks and challenges associated with air-tightness testing • How to calculate the Air Permeability of the building • How to analysis the results of the tests • How to evaluate the effectiveness of air-tightness in retrofit activities 							
<p>Assessment Guidance</p> <p>Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge.</p> <p>All criteria must be assessed, and evidence must be auditable.</p>							
Learning outcome; The learner will:		Assessment criteria: The learner can:			Evidence Ref No.		
					1	2	3
1. Understand the overall principles and purpose air-tightness in existing dwellings		1.1 Give a definition of the following examples of the terminology used in context of air leakage testing:					
		<ul style="list-style-type: none"> • Infiltration • Air Leakage • Air-Tightness • Air Change Rate • Air Permeability 					
		1.2 State the overall aim of air-tightness in domestic retrofit projects					
		1.3 State the factors that drive air-tightness testing in domestic retrofit					
		1.4 Identify the different ventilation systems and how they interact within a domestic dwelling					
2. Understand the principles of air-tightness and ventilation on existing dwellings and how these activities can improve		1.5 Explain why a whole house approach is important when carrying out air-tightness testing					
		2.1 Explain the importance of mechanical ventilation in domestic dwellings					
		2.2 Explain the benefits of air-tightness in dwellings in domestic retrofit					

	2.3 List four different reasons why domestic dwellings may have a high air leakage rate			
	2.4 Explain the importance of planned ventilation in domestic retrofit works			
	2.5 State one advantage for a ventilation system used in domestic retrofit works			
	2.6 State one disadvantage or risk factor for a ventilation system used in domestic retrofit works			
	2.7 Name an alternative to the Low Pressure Pulse method that directly measures the air infiltration of a building			
3. Know the Industry Standards, Building Regulations and Legislation governing Air Pressure Testing in Domestic Dwellings	3.1 Identify the appropriate Building Regulations to cover air-tightness testing in the UK including what they cover and where they apply			
	3.2 Outline the relevant Publicly Available Specification (PAS) for domestic air-tightness testing in the UK including what they cover and where they apply			
	3.3 Outline the two different methods of air-leakage testing approved under Building Regulations			
	3.4 State how accurate both systems are and how the weather conditions relate to this			
	3.5 List a range of Health and Safety related information and guidance applicable to air-tightness testing in domestic dwellings			
	3.6 State how to respond to incidents and emergencies in the workplace including: <ul style="list-style-type: none"> • Slips, trips and falls • Musculoskeletal injuries through manual handling • Vehicle accidents • Fire • Discovery or suspicion of dangerous materials e.g. asbestos • Discovery of infestations or nests 			
	3.7 State the calibration requirements of the Pulse pressurisation and measurement equipment			
4. Understand how to interpret specific information in preparation for air-tightness testing activities	4.1 List the main types of technical information, work instructions and documentation used in air-tightness testing in the domestic retrofit industry including how to obtain them and how they are used			
	4.2 Explain why it is important that equipment used complies with specification and the methods of work instructions are followed			

	4.3 List the instrumentation required to measure the volume of air released and the pressure differential created			
	4.4 List the occupational roles of other stakeholders, who maybe, involved in/engaged with air-tightness testing on domestic dwellings			
	4.5 Explain how to complete basic pre-installation checks on internal and external features of the building prior to carrying out air-tightness testing			
	4.6 Explain how to record and report any issues that may be identified with materials, building, installation or test activities that can affect the air-tightness test			
	4.7 Identify and list reasons why it is important that any remediation works are completed in a dwelling before air-tightness testing is undertaken			
5. Understand how to calculate the envelope area and volume of a building, using either building plans or by onsite measuring	5.1 Provide calculations on a minimum of three building envelope areas, as defined in the current version of the BS EN ISO 9972.			
	5.2 Provide calculations on a minimum of three internal volumes of a conditioned space e.g. directly heated space, cooled or mechanically ventilated).			
6. Understand how to carry out air-tightness activities in domestic housing stock	6.1 Describe how to prepare and conduct an air-tightness test on a domestic dwelling including tools, equipment and activities conducted for sealing up leakage points			
	6.2 Give an example of a sequencing strategy for conducting air tests on various residential buildings			
	6.3 Explain what may indicate additional specialist skills and knowledge are required to carry out Air Permeability Testing and what to do if the need occurs			
	6.4 Carry out the software preparation including building data, equipment inputs and the desired number or sequential air pulse steps			
	6.5 Conduct a live supervised test of a single-zone building using the pulse system			
7. Understand how to evaluate the effectiveness of air-tightness testing in domestic retrofit activities	7.1 Explain what constitutes a vali test when using Pulse to conduct air tightness test on a domestic dwelling			
	7.2 Define what to do in the event of a failure to meet any of the test criteria			

Notes

Notes



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