

Customer information sheet

Unvented hot water

NICEIC package includes:

- training materials
- PowerPoint
- assessment materials.

Code	Core assessments	Practical provisions page(s)
UVHW01	Unvented hot water	See appendix 1.

Introduction

All NICEIC paperwork is designed to offer maximum flexibility, maintain ease and fluidity of the assessment process and to minimise the amounts of paperwork required.

Each centre is unique in the way it presents its practical provision; as a result the paperwork may not be ideally formatted with regard to running order or task content. It is acceptable for the running orders to be altered slightly to 'better suit' the provision and layout at an individual centre; such changes must be minimal and alterations made only with the **written permission of NICEIC Certification** (this excludes any appliance identification numbers and so on which may be added to the paperwork without permission being sought).

Certificate of competence

A certificate of competence will be issued if a candidate can meet the scheme requirements, Certificates of competence will be valid for the time period specified on the certificate.

Assessment detail

This assessment is designed to examine the candidate's competence in the areas of installation, commissioning, service and breakdown, and repair of unvented hot water systems. The assessment achieves this by the use of an open book theory question paper and practical based assessment including a practical assessment workbook (PAWS) short written response type questions paper.

Reference materials

As a minimum requirement the following books must be available at the centre for candidates to use for referencing;

- NICEIC unvented training guide
- Manufacturer's instructions
- Appendix 1.

Equipment requirements

Unvented hot water systems are available in a number of different sizes and types, ranging from the simple direct fired instantaneous and storage type heaters to the more common indirect fired bulk storage systems.

Centres are required to provide a water supply capable of delivering 25 Litres per minute with a working pressure of at least 2 bar; but preferably 3 or 4 bar, is required. This may be achieved using a pumped booster set.

As an absolute minimum, centres must have at least one example of a **working unvented hot water storage system** either in package or unit form. If finances allow, it would be beneficial to have additional makes/models available especially the newer types where the expansion volume is contained within the body of the unit/package itself.

A section of pipe is required to facilitate the assessment of the criteria: "Be able to perform a soundness test to industry requirements on hot water systems pipework and components". The industry standard soundness test is a hydraulic test and NICEIC advise that for training and assessment purposes, this is achieved using a pipework rig only, the candidate MUST remove the air first prior to charging the test rig to the required pressure. Additional equipment could include examples of gas or electric inlet or outlet controlled water heaters. Examples of under and over sink storage water heaters could also be included.

In addition to these appliances, centres will require samples of the component parts used on unvented hot water systems. Sufficient quantity of these items should be held to meet the numbers of candidates being assessed such that candidates have reasonable access to items during the assessment process. A sacrificial anode both straight and articulated types, would be beneficial to training.

Whatever equipment a centre decides to install for use during the assessment process, provision must be made to incorporate a means by which the pressure regulator/pressure reducer can be "by-passed" to demonstrate its failure and the subsequent effect this can have on the other associated controls.

This can be achieved fairly simply with an installed unit or package by the fitting of a by-pass loop of pipework around the pressure regulator/pressure reducer. This should be controlled by a valve and must incorporate a non-return valve to prevent back flow.

If space permits and finances allow, a second method of achieving this objective is by the construction of a test rig designed to simulate the controls line of a typical unvented hot water system.

This is a more costly option as it requires the use of a specially fabricated small volume hot water storage vessel to allow a small volume of water to be heated close to boiling point very quickly to demonstrate what happens when excessive temperatures occur in an unvented hot water system.

There are some safety issues that need to be consider if this option is to be used.

- i) The vessel will need to be able to withstand pressures in the region of 5 bar and will need to be fabricated and tested to at least 7.5 bar pressure.
- ii) The vessel will need to be insurance tested and certificated and will then require regular re-testing to confirm its integrity, and appropriate risk assessments completed.
- iii) The water in the vessel will be raised to a temperature approaching boiling point and when the temperature/pressure relief valve operates the discharged water will need to be "safely" removed from the assessment area.

Both of the above methods will allow the candidate to demonstrate competency but from a safety point of view the use of a modified unit/package installation provides the safest option.

Another option that may be worth considering is Heatrae Sadia, which produces an excellent test rig specially designed for training purposes which could prove a simpler option than construction of your own rig.

Candidate prerequisites

Candidates should meet one of the following prerequisites for this assessment.

- Have an appropriate S/NVQ Level 2 or 3 or BTEC or equivalent
- Have an appropriate industry registration scheme, for example, Gas Safe Register, ACS, OFTEC 105E or equivalent
- Have at least two years industry experience of installation of domestic heating and hot water systems currently un-certificated skills equivalent to NVQ Level 2 or 3 supported by witness testimony from an appropriate responsible person
- Have at least two years industry experience of design and advice services of domestic heating and hot water systems to NVQ Level 2 or 3 or equivalent supported by witness testimony from an appropriate responsible person.