

Water Regulations

Qualification handbook



Introduction

Cert-ain Certification Ltd. is a certification body accredited by the relevant regulatory authorities to offer a range of qualifications for operatives working in the building services engineering sector.

The Cert-ain Certification Ltd. qualifications are designed to be user-friendly for both the assessment centres delivering them and the candidates undertaking them. Our aim is to keep things as simple as possible whilst at the same time, maintaining the highest possible quality standards.

Our qualifications are designed to encourage learning and achievement, providing operatives with the appropriate knowledge and skills to help them progress in their chosen career.

Water Regulations qualification

The aim of this handbook is to provide the necessary information for those operatives wishing to undertake the Water Regulations qualification.

The handbook also aims to provide assessment centres with details of the requirements for delivering the qualifications.

Contents

Introduction	2
Water Regulations qualifications	2
Summary	3
Eligibility	3
Training	3
Reference material	4
Assessment criteria	4
Assessment process	11
Assessors	11
Internal verifiers	11
Centre approval	11
External verifiers	12
Contact details	12

Water Regulations

Summary

The Cert-ain Certification Ltd. Water Regulations qualification has been accepted by WRAS Ltd. on behalf of the Water Industry as a recognised qualification to become an approved contractor, subject to the other terms and conditions of the scheme.

All successful candidates will be issued with a Cert-ain Certification Ltd. Water Regulations certificate of competence and a photo ID card.

Eligibility

There are no formal entry requirements to attend this course however a relevant plumbing qualification such as an NVQ Level 2 or equivalent work experience, is recommended.

Individuals with any disabilities that may affect their ability to successfully complete the qualifications should inform the assessment centre on application. Assessment centres shall consider any reasonable requests for any aids or equipment that are designed to alleviate any disability providing that the required assessment standard is not compromised.

Training

Assessment centres deliver a training programme focussing on the contents of the Water Supply (Water Fittings) Regulations 1999 and the Water Regulations Guide. The training programme is designed to help operatives prepare for the assessment.

Reference material

The reference material used for the training / examination:

- Water Supply (Water Fittings) Regulations 1999
- Water Regulations Guide

Assessment criteria

1. Know and understand the requirements of the Water Supply (Water Fittings) Regulations and Water Byelaws

1.1 Explain the requirements of the Water Regulations/Byelaws (Part 1):

within the domestic environment

within the commercial, industrial environment

1.2 Explain the requirements of the Water Regulations/Byelaws (Part 2) in relation to:

the restriction on installation of water fittings

the requirements for water fittings

the notification requirements relating to any person who proposes to install a water fitting

approved contractors

1.3 Explain the requirements of the Water Regulations/Byelaws (Part 3) in relation to:

penalties for contravening the Water Regulations

relaxation of the Water Regulations

any dispute with a water undertaker

2. Know and Understand terminology used to confirm requirements of the water regulations

2.1 Explain the meanings of the following key factors within the interpretations of the Water Regulations:

backflow	flushing cistern
cistern	overflow pipe
combined feed and expansion cistern	pressure relief valve
combined temperature and pressure relief	primary circuit
contamination	secondary circuit
distributing pipe	secondary system
expansion cistern/vessel	servicing valve
expansion valve	stop valve

2.2 Identify the different types of water treatment apparatus available to dwellings

3. Know and understand the suitability of materials and substances in contact with water

3.1 Describe the situations where the following materials or substances either alone or in combination are likely to cause contamination of water:

different classes of steel pipes

copper tubes and their connections above and below ground

unplasticised PVC

polyethylene pipes

stainless steel pipes

3.2 Identify suitable fittings for use above and below ground

stop valves

drain-off valves

servicing valves

3.3 Identify suitable jointing materials and compounds

4. Know and understand the requirements for water fittings

4.1 State the fitness for purpose of water fittings in relation to:

British Standards or equivalent

immunity and protection from galvanic action

4.2 In relation to installed water fittings state the requirements for the following:

water tightness

prevention of ingress from contaminants

prevention from damage by freezing and other causes

prevention from deterioration by permeation

the supporting pipework

the fixings for water fittings

4.3 Describe the requirement for pressure testing:

metallic pipework systems

plastic pipework systems

4.4 Explain how surges within a pipework system can affect system performance in relation to:

water hammer

relief valve discharge

pneumatic accumulators

4.5 State the connection requirements for the following in relation to the installation of a pump on a supply pipe:

permissible pump output capacity

permitted siting of a pump

4.6 State the connection requirements for the following in relation to the installation of a pumped shower:

permissible pump output capacity

recommended siting of a pump

4.7 State the installation requirements for pipes and operational fittings:

located in the cavity of a cavity wall

embedded in any wall or solid floor

located below a suspended floor

below a solid floor at ground level, location and accessibility to operational fittings

4.8 State the following installation requirements for pipes entering a building:

depth of pipework

insulation requirements

protection of pipework

4.9 State the installation requirements for underground pipework in relation to:

pipes laid underground

pipes laid over an underground obstruction

pipes under an underground obstruction

pipes supplying water to a building below street level

pipes beneath a stream

4.10 Explain the terms 'concealed fitting' and 'dezincification resistant material'

5. Know and understand the design and installation requirements for a water supply system

5.1 State factors to be taken into consideration in the design of a water supply system in relation to:

total daily consumption

maximum and average flows required

availability of mains supply

mains pressure variance

water storage capacity where needed

transient or surge pressures

environmental issues surrounding area and supply

5.2 Describe types of distribution system available for the following within a dwelling:

direct fed system

indirect fed system

combination of direct and indirect fed systems

5.3 Explain the methods of preventing the contamination of water fittings and the water contained within them when passing through contaminated environments

5.4 State the distribution temperature of cold water

5.5 State the installation requirements relating to stop valves for the following:

individual properties

locations within premises supplied with water

blocks of flats supplied from a common supply pipe

blocks of flats with separate supply pipes to each flat

5.6 State the installation requirements for the provision, operation and location of servicing valves in relation to the:

inlet to float operated valve (FOV)

outlet of storage cisterns

inlet to appliances

accessibility of servicing valves

methods of operation

5.7 State the installation requirements for the provision of draining taps in relation to:

location

accessibility

types of draining taps

5.8 State the requirements with respect to dead legs and redundant fittings

5.9 State the requirements for pressure testing the following different systems:

systems that do not include any plastic

systems that include plastic pipes

5.10 Explain the reason for the flushing of a system installation

5.11 State when system disinfection is required

6. Know and understand the requirements for prevention of cross connection to unwholesome water

6.1 State the meaning of unwholesome water in relation to:

rainwater

recycled water

any fluid not supplied by a water undertaker

6.2 State the requirements for identifying an unwholesome water system so that it is readily distinguishable from a wholesome system in relation to:

colour coding for pipes and fittings

labelling for pipes and terminal fittings

6.3 Identify the correct arrangement for connecting a wholesome water supply to a re-use system

7. Know and understand the fluid categories

7.1 Define the five fluid categories

8. Know and understand the requirements for backflow prevention

8.1 State the requirements for the arrangements or devices to prevent the cross connection to unwholesome water

8.2 Identify devices or arrangements used for backflow, back pressure and back siphonage prevention and their suitability

9. Know and understand the guidance clauses relating to backflow prevention

9.1 Describe the requirements whereby water can flow back into a supply or distributing pipe

9.2 Explain the terms 'upstream' and 'downstream'

9.3 Identify the method of protection against the backflow of water into a supply or distributing pipe without the need for a mechanical backflow prevention device

9.4 Describe installation requirements for a mechanical backflow protection device relating to:

accessibility of the mechanical backflow protection device

location within the premises

the requirement to not be buried in the ground

vented and verifiable

devices with relief outlets not being installed in chambers below ground or where liable to flooding

the installation of line strainers

the lowest point of discharge from the ground

termination with a Type AA air gap

9.5 State the requirements for appliances supplied through or incorporating a pump

9.6 State the requirements for the installation of a bidet or appliance with a hand held spray in relation to:

ascending spray type

over rim type

spray handset fittings used with bidets and WC's

9.7 Explain the requirements for a water supply to a manually operated WC or urinal using a pressure flushing valve when supplied from a supply pipe or distributing pipe

9.8 Explain the requirements for tap outlets in relation to:

single outlet taps

combination tap assembly outlets

fixed shower heads over basins, baths and bidets

9.9 Explain the requirements for a sink in a non domestic environment

9.10 Identify the requirements for submerged inlets to baths and washbasins in:

a dwelling

a non-dwelling

9.11 Identify the requirements for the installation of a drinking water fountain

9.12 Identify the requirements for the installation of washing machines, washer-dryers and dishwashers in relation to:

a dwelling

a non-dwelling

9.13 State the requirements for the installation of hose pipes for:

a house garden

commercial installations

9.14 Explain when whole site and zone protection are required

9.15 State the requirements for fire protection systems in relation to:

direct fed sprinkler systems with no additives

direct fed sprinkler systems with additives

elevated storage cisterns with or without additives by gravity

elevated storage cisterns with pumped outlet with or without additives

dual feed cisterns with water from the water undertaker and from another source

9.16 State the requirements when applied to the following commercial and industrial applications:

pumped supply to laboratory fittings

separation of wholesome water from supplementary sources

separation of wholesome water from water that has been used

water supply taken directly from a supply pipe to a ship

water supply taken by gravity from storage on a quayside

water supply pumped from storage on a quayside

water taken from a hose union tap on a quayside

10. Know and understand the installation requirements for cold water services

10.1 Describe the installation requirements and methods of connection for water fittings in relation to:

float operated valves

inlets to cisterns

outlets from cisterns

warning and overflow pipes

cold water storage cisterns

11. Know and understand the installation requirements for hot water services

11.1 Describe the installation requirements and methods of connection for water fittings in relation to:

directly heated unvented hot water systems

indirectly heated unvented hot water systems

independent water heaters

methods of accommodating expanded water in a hot water system

maximum temperature within a hot water system

hot water distribution temperatures

temperature of hot water at terminal fittings and surfaces of hot water pipes

11.2 State the requirements for discharge pipes from safety devices

11.3 State the requirements for discharge pipes from expansion valves

11.4 State the requirements for vent pipes from a primary circuit

11.5 State the requirements for vent pipes from a secondary hot water storage system

11.6 State the requirements for vented systems requiring dedicated storage cisterns or mechanical safety devices

11.7 State the methods of filling closed circuits

12. Know and understand the installation requirements for WC's, flushing devices and urinals approved for use

12.1 Identify the installation methods and requirements for the operation of WC pans in regard to:

single flush cisterns

dual flush cisterns

single flush siphonic outlet

dual flush siphonic outlet

drop and flap valves

dual flush cistern capacities

operating instructions for dual flush cisterns

pressure flushing valves

cistern water line marks

requirements for warning pipes

internal overflows

12.2 Explain methods for flushing urinals in relation to:

manually operated cisterns

automatically operated cisterns

pressure flushing valves

12.3 Describe methods for filling a urinal cistern in relation to:

manual infill

electronic sensor

pressure pad

time switch

frequency of flushing

12.4 State the requirements for urinal cistern filling rates for:

a single urinal bowl

a urinal stall or slab serving two or more urinals

12.5 State the requirements for the renewal of a WC cistern installed before 1st July 1999

13. Know and understand the types of bath, sink, showers and taps and their location and installation requirements

13.1 State the requirements for drinking water points in premises

13.2 State the requirements for drinking water supplies in relation to:

water supplied from a supply pipe

water supplied from a pumped supply pipe

water supplied from a storage cistern

water that has been softened and used for drinking purposes

13.3 State the requirements for waste outlets from appliances

14. Know and understand the consumption limitations for washing machines, dishwashers and other appliances

14.1 State the upper limits of water consumption for domestic:

horizontal axis washing machines

washer – driers

dish washers

15. Know and understand the requirements for water supplied for outside use

15.1 State the installation requirements for animal drinking troughs or bowls in relation to:

methods of controlling the inflow to a trough or bowl

the siting of servicing valves

backflow protection

15.2 State the installation requirements for ponds, fountains and pools in relation to:

impervious liners and water tightness

temporary connections to ponds, pools and fountains

Assessment process

Operatives will be required to successfully complete a multi-choice examination that will take approximately 1 hour to complete. The pass-rate is 100%, operatives are allowed up to 3 attempts.

1. The pass rate for the examination is 100%
2. If the candidate does not achieve 100% on the first attempt, they will be allowed a second attempt at the questions that they got wrong on the first attempt
3. If the candidate does not achieve 100% on the second attempt, providing they have achieved over 80%, they will be orally questioned by the assessor to establish their competence
4. Candidates not achieving 80% after the second attempt or 100% after oral questioning will be deemed to be unsuccessful
5. Unsuccessful candidates will be required to retake the assessment in its entirety

Assessors

Assessors shall be approved by Cert-ain Certification Ltd. They must be occupationally competent and hold a current Water Regulations qualification.

Assessors must also hold one of the following assessor qualifications:

- D32 or A1
- Level 3 certificate 'assessing vocationally related achievement' or suitable equivalent

Internal verifiers

Internal verifiers shall be approved by Cert-ain Certification Ltd. They must be occupationally competent and hold or be working towards one of the following internal verifier qualifications:

- D34 or V1
- Level 4 award 'internal quality assurance of assessment processes and practice' or suitable equivalent

Centre approval

All centres delivering the Water Regulations qualification are subject to approval and monitoring to ensure that they have the appropriate personnel and facilities in place to deliver a fair and impartial training and assessment process. The Cert-ain Certification Ltd. external verifier shall carry out quality assurance of the training, assessment and internal verification process that includes sampling of:

- training and assessment facilities
- candidate records
- assessment decisions

External Verifiers

External verifiers shall hold or be working towards one of the following qualifications:

- D35 or V2
- Level 4 certificate 'external quality assurance of assessment processes and practices' or suitable equivalent

Contact details

If you would like any further information relating to the Cert-ain Certification Ltd. qualifications, please contact:

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