

REGULATED QUALIFICATION FRAMEWORK (RQF)

QUALIFICATION SPECIFICATION

LCL Awards Level 2 Award Principles of Metering for Renewable Heat Installations (601/3482/3)

1. Objective:

The qualification allows learners to continue to learn, develop and practise the skills required for employment within the Renewable sector.

The objective of this qualification is for learners to demonstrate they know and understand the requirements for metering renewable heat installations, how to select heat meter and components, where to position meters and their components, how to install heat meters, how to commission the heat meter installation and how to fault find and maintain heat meters.

The target groups for the qualification are those learners who are;

- a. Preparing for employment, new entrants to the occupation
- b. Updating occupational competence, continuous professional development and or obtaining a licence to practice
- c. Preparing for further learning or training and/or developing knowledge and or skills in a subject area who are existing workers in the occupation seeking to extend their range of work

2. Qualification Framework:

The qualification comprises of 1 mandatory Units;

Unit Title	Unit Reference Number	Type of Unit	Level	Credit Rating
{ Principles of Metering for Renewable Heat Installations L/506/4044	LCL-R2001	{Knowledge & Practical}	2	1

Qualification Structure:

- LCL Awards Level 2 Award Principles of Metering for Renewable Heat Installations
- QAN 601/3482/3
- QW C00/0647/7
- The Guided Learning Hours (GLH) are **5 hours**
- The Total Qualification Time (TQT) is **10 hours**
- The total credit required to achieve the qualification is **1**

3. Unit Grading Structure:

The learner is required to successfully achieve a pass in each unit for this qualification to be awarded.

4. Unit Specification:

LCL-R2001: Principles of Metering for Renewable Heat Installations Assessment Method {SR}

Learning Outcome 01. The learner will understand the requirements for metering renewable heat installations.

The learner can:

- 1.1 Identify when metering is required.
- 1.2 Identify types of heat meters and other system meters
- 1.3 Define the statutory legislation that applies to heat metering
- 1.4 Identify relevant industry guidance and standards (non-statutory)

Learning Outcome 02. The learner will understand how to select heat meter and components.

The learner can:

- 2.1 Define the meaning of the following terms in relation to a heat meter
Range:
 - accuracy
 - resolution
 - Q_i
 - Q_p
 - Q_s
 - calibration
 - minimum temperature difference
- 1.1 Outline how pressure drop and liquid type affects heat metering arrangements.
- 1.2 Identify the key heat meter components and their functionality
 - Calculator (integrator)
 - Flow sensors
 - Temperature sensors as matched pair.
- 1.3 Identify correct ancillary fittings

Learning Outcome 03. The learner will know where to position meters and their components

The learner can:

- 3.1 Identify correct metering component positioning arrangements
- 3.2 Relevance of, and be able to identify sources of, flow disturbance

Learning Outcome 04. The learner will know how to install heat meters

The learner can:

- 4.1 Define heat meter installation procedure
- 4.2 State importance of installing components in accordance with heat meter manufacturer instructions
 - correct orientation of flow sensor
 - correct alignment of flow sensor with direction of flow.
 - correct mounting of temperature sensors
 - maintaining the temperature sensor cable resistances

Learning Outcome 04. The learner will know how to install heat meters

The learner can:

- 4.1 Define heat meter installation procedure
- 4.2 State importance of installing components in accordance with heat meter manufacturer instructions
 - correct orientation of flow sensor
 - correct alignment of flow sensor with direction of flow.
 - correct mounting of temperature sensors
 - maintaining the temperature sensor cable resistances

Learning Outcome 05. The learner will understand how to commission the heat meter installation.

The learner can:

- 5.1 Specify the commissioning procedure in accordance with the manufacturer's instructions.
- 5.2 Specify the handover procedure to the customer
 - explanation of operation and use of meter(s) including error codes
 - handover documentation

Learning Outcome 06. The learner will know how to Fault Find and Maintain heat meters

The learner can:

- 6.1 Understand servicing and maintenance requirements
 - visual inspections of components and mechanical connections
 - verification of absence of contaminants and composition of heat transfer liquid
 - review of integrator / calculator error / fault codes
 - obtain integrator / calculator readings
 - verification of integrator / calculator readings
 - verification that any anti-tampering features are intact
 - potential requirement for re-calibration in accordance with manufacturer's instructions

5 National Occupational Standard:

This qualification has a direct relationship with the National Occupational Standards for the areas of work contained within the Unit.

6 RQF Descriptor Level {2}.

Knowledge descriptor: *(the holder can)*

Has knowledge and understanding of facts, procedures and ideas in an area of study or field of work to complete well-defined tasks and address straightforward problems.

Can interpret relevant information and ideas. Is aware of a range of information that is relevant to the area of study or work.

7 Prior qualifications, knowledge, skill or understanding which the learner is required to have before taking this qualification. (Pre-requisites)

None

8 Units which a learner must have completed before the qualification will be awarded and any optional routes.

Learners must complete the 1 mandatory unit before the qualification will be awarded.

9 Other requirements which a learner must have satisfied before the learner will be assessed or before the qualification will be awarded.

None

10 The design and delivery of the examination associated with these units are based on the following documents;

MCS Domestic RHI Metering Guidance v1.1

11 The criteria against which learners' level of attainment will be measured.

The Learning Outcomes and Assessment Criteria against which learners' level of attainment will be measured are detailed in Section 4 of this specification.

12 Planned exemptions

None

13 Specimen assessment materials.

None

14 Specified levels of attainment

Learners must pass all the mandatory units for the qualification to be awarded.

15. Other information

None

SSAs: 5.2 Construction

Review Date 31 May 2023

Assessment and Examination Terminology

AC – *Approved Centre; an examination conducted either at the approved centre or a location approved by the centre, using staff approved by the centre to conduct the examination.*

CBSR – **Closed Book** *Short Response; Short response written questions will be set by the awarding organisation and administered and marked locally at the approved centre by approved markers. Learners will be prohibited from using industry normative or informative documents.*

CE – *Customer Evidence; evidence provided by a customer in the form of a written witness statement confirming a competent performance by the learner. That evidence may also be provided by an employing supervisor or manager of the learner. Witness statements that relate to a technical competence will only be accepted from a person technically competent in that particular activity to provide the statement.*

IK – *Inferred Knowledge; inferred knowledge is assessed as part of a performance assessment by a centre approved assessor. To deem the learner as having sufficient knowledge the learner must satisfactorily pass the performance assessment.*

LE – *Learner Evidence; learner generated evidence is for example documented recordings of readings, calculations or the production of a risk assessment or other procedural document.*

MC – *Multiple Choice; set by the awarding organisation and administered and marked locally or electronically. Learners will be able to answer multi-choice questions using reference to appropriate industry normative or informative sources.*

O/L – *Online: a secure web-based assessment system (XAMS)*

OP – *Observed Performance; the assessment of a learner's performance by an approved assessor either in the learner's work place or at the approved centre or a location approved by the centre.*

OQ – *Oral Questions; oral questions may be asked by an assessor as part of a performance assessment or knowledge examination to confirm the understanding of the criteria by the learner.*

PA – *Performance Assessment; a performance assessment conducted either in the learner's work place or at the approved centre or a location approved by the centre.*

RWE – *Realistic Work Environment; an area at the approved centre or a location approved by the centre which replicates and has the features of a Work Place. The learner must not be permitted to be familiar with the simulated environment prior to undertaking assessment.*

WP – *Work Place; is the naturally occurring environment in which the learner works, typically that would be in a customer's premise where work is being paid for by the customer.*