

# Level 2 Diploma in Thermal Insulation (4671- 21)

October 2012 Version 1.0



## Qualification at a glance

<b>Subject area</b>	<b>Thermal Insulation</b>
<b>City &amp; Guilds number</b>	4671
<b>Age group approved</b>	16-18, 19+
<b>Entry requirements</b>	None
<b>Assessment</b>	Centre devised assignments
<b>Fast track</b>	Yes
<b>Support materials</b>	Qualification handbook
<b>Registration and certification</b>	Consult the Walled Garden/Online Catalogue for last dates

<b>Title and level</b>	<b>City &amp; Guilds number</b>	<b>Accreditation number</b>
Level 2 Diploma in Thermal Insulation	4671-21	600/6245/9

A unit route will also be available: 4671-91.



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# 1 Introduction

This document tells you what you need to do to deliver the qualification:

<b>Area</b>	<b>Description</b>
Who is the qualification for?	It is for candidates who work or want to work in the construction industry and specialise in thermal insulation.
What does the qualification cover?	It allows candidates to learn, develop knowledge and practise the skills required in a training environment in the following specialist areas: <ul style="list-style-type: none"><li>- Applying insulation to flat and cylindrical surfaces</li><li>- Erecting and dismantling accessing equipment</li><li>- Handling, moving and storing resources in thermal insulation</li><li>- Sheet metal insulation protection</li><li>- Working safely and efficiently in a thermal insulation work context</li></ul>
Is the qualification part of a framework or initiative?	It serves as the knowledge qualification in the Construction Specialist (Level 2) Apprenticeship framework, pathway 13: Thermal Insulation.
What opportunities for progression are there?	It allows candidates to progress onto the following: <ul style="list-style-type: none"><li>• Level 2 NVQ Diploma in Thermal Insulation</li><li>• Related Level 3 qualifications</li><li>• an Advanced Apprenticeship in the Construction sector</li><li>• Into employment</li></ul>

## Structure

To achieve the **Level 2 Diploma in Thermal Insulation**, learners must achieve **37** credits from the mandatory units available.

<b>Unit accreditation number</b>	<b>City &amp; Guilds unit number</b>	<b>Unit title</b>	<b>Credit value</b>	<b>Excluded combination of units (if any)</b>
<b>Mandatory</b>				
L/503/5367	201	Application of insulation to flat and cylindrical surfaces	16	N/a
A/503/5367	202	Erect and dismantle accessing equipment	1	N/a
D/504/2775	203	Handle, move and store resources in thermal insulation	3	N/a
J/503/5366	204	Sheet metal insulation protection	16	N/a
T/503/5363	205	Work safely and efficiently in a thermal insulation work context	1	N/a



## 2 Centre requirements

### Approval

To offer this qualification, new centres will need to gain both centre and qualification approval. Please refer to the *Centre Manual - Supporting Customer Excellence* for further information.

Centre staff should familiarise themselves with the structure, content and assessment requirements of the qualification before designing a course programme.

Existing centres who wish to offer this qualification must use the **standard** Qualification Approval Process.

If your centre was approved to offer the **Level 2 Certificate in Thermal Insulation (6125)**, you can apply for the new **Level 2 Diploma in Thermal Insulation (4671-21)** approval using the **fast track approval form** available from the City & Guilds website.

Centres should use the fast track form if

- there have been no changes to the way the qualifications are delivered, and
- they meet all of the approval criteria in the fast track form guidance notes.

Fast track approval is available for 12 months from the launch of the qualification. After 12 months, the Centre will have to go through the standard Qualification Approval Process. The centre is responsible for checking that fast track approval is still current at the time of application.

### Resource requirements

#### Centre staffing

Staff delivering this qualification must be able to demonstrate that they meet the following occupational expertise requirements. They should:

- be occupationally competent or technically knowledgeable in the area for which they are delivering training and/or have experience of providing training. This knowledge must be to the same level as the training being delivered
- have recent relevant experience in the specific area they will be assessing
- have credible experience of providing training.

Centre staff may undertake more than one role, e.g. tutor and assessor or internal quality assurer, but cannot internally verify their own assessments.

### **Assessors and Internal Quality Assurer**

Assessor/Internal Quality Assurer TAQA qualifications are valued as qualifications for centre staff, but they are not currently a requirement for this qualification.

### **Continuing professional development (CPD)**

Centres must support their staff to ensure that they have current knowledge of the occupational area, that delivery, mentoring, training, assessment and verification is in line with best practice, and that it takes account of any national or legislative developments.

### **Candidate entry requirements**

City & Guilds does not set entry requirements for this qualification. However, centres must ensure that candidates have the potential and opportunity to gain the qualification successfully.

### **Age restrictions**

City & Guilds cannot accept any registrations for candidates under 16 as this qualification is not approved for under 16s.



## 3 Delivering the qualification

### Initial assessment and induction

An initial assessment of each candidate should be made before the start of their programme to identify:

- if the candidate has any specific training needs.
- support and guidance they may need when working towards their qualification.
- any units they have already completed, or credit they have accumulated which is relevant to the qualification.
- the appropriate type and level of qualification.

We recommend that centres provide an induction programme so the candidate fully understands the requirements of the qualification, their responsibilities as a candidate, and the responsibilities of the centre. This information can be recorded on a learning contract.

### Recording documents

Candidates and centres may decide to use a paper-based or electronic method of recording evidence.

City & Guilds endorses several e-Portfolio systems, including our own, **Learning Assistant**, an easy-to-use and secure online tool to support and evidence learners' progress towards achieving qualifications. Further details are available at: [www.cityandguilds.com/eportfolios](http://www.cityandguilds.com/eportfolios).

City & Guilds has developed a set of *Recording forms* including examples of completed forms, for new and existing centres to use as appropriate. *Recording forms* are available on the City & Guilds website.





## 4 Assessment

Candidates must:

- successfully complete one assignment for each unit

Assignments for this qualification are currently centre devised and assessment may be through a range of methods such as:

- direct observation of candidates carrying out practical tasks/activities
- short answer/multiple choice questions covering the knowledge and understanding
- oral questioning (with a record of questions and answers).

Other methods of assessment may also be used where appropriate. Centres must be able to provide evidence to the Qualification Consultant that they have assessed all learning outcomes and assessment criteria for each unit.

City & Guilds plan to introduce an assignment guide in the future which will contain an individual assignment for each unit in the qualification. This will be available on the website free of charge to all centres who have gained qualification approval.

<b>Unit</b>	<b>Title</b>	<b>Assessment method</b>
201	Application of insulation to flat and cylindrical surfaces	Assignment
202	Erect and dismantle accessing equipment	Assignment
203	Handle, move and store resources in thermal insulation	Assignment
204	Sheet metal insulation protection	Assignment
205	Work safely and efficiently in a thermal insulation work context	Assignment



## 5 Units

### Structure of units

These units each have the following:

- City & Guilds reference number
- unit accreditation number (UAN)
- title
- level
- credit value
- guided learning hours
- information on assessment
- learning outcomes which are comprised of a number of assessment criteria

## Unit 201

## Application of insulation to flat and cylindrical surfaces

<b>UAN:</b>	<b>L/503/5367</b>
<b>Level:</b>	2
<b>Credit value:</b>	16
<b>GLH:</b>	100

<b>Learning outcome</b>
The learner will: 1. be able to interpret information to select materials, components and equipment, to apply insulation to flat and cylindrical surfaces
<b>Assessment criteria</b>
The learner can: 1.1 identify typical characteristics of insulation material according to current British standards 1.2 calculate the amount of materials, components and fixings required for given tasks 1.3 maintain and care for hand tools, portable power tools and associated equipment

<b>Learning outcome</b>
The learner will: 2. be able to fit and apply rigid, slab and flexible insulation materials and finishes to pipes, ducts, flat surfaces and vessels
<b>Assessment criteria</b>
The learner can: 2.1 prepare surface areas for application of insulation materials to pipes and vessels 2.2 prepare rigid, slab and flexible types of insulation and finishing materials 2.3 apply insulation materials to pipes, ducts, flat surfaces and vessels 2.4 apply rigid, slab and flexible types of insulation and finishing materials to pipes, ducts, flat surfaces and vessels 2.5 use drawing skills to prepare insulation material 2.6 cut and apply insulation material to specified surfaces

<b>Learning outcome</b>
The learner will: 3. be able to apply safe working practices whilst applying insulation and finishes at all times
<b>Assessment criteria</b>
The learner can: 3.1 identify requirements of safety legislation 3.2 describe how to protect work and the workplace from damage 3.3 describe safe working practices for moving, handling and storing resources 3.4 carry out a risk assessment prior to the application of insulation materials and finishes 3.5 follow safe working practices when applying insulation

## Unit 202

## Erect and dismantle accessing equipment

<b>UAN:</b>	<b>A/503/5367</b>
<b>Level:</b>	2
<b>Credit value:</b>	1
<b>GLH:</b>	8

<b>Learning outcome</b>
The learner will: 1. be able to assess the requirement for general accessing equipment
<b>Assessment criteria</b>
The learner can: 1.1 describe which sort of accessing equipment is preferred for a range of situations 1.2 identify the extent of access required 1.3 identify the requirement to use accessing equipment 1.4 determine the means by which access can be achieved

<b>Learning outcome</b>
The learner will: 2. be able to erect general accessing equipment
<b>Assessment criteria</b>
The learner can: 2.1 select appropriate tools/equipment to provide safe and secure access 2.2 prepare accessing equipment ready for use, according to safe and healthy instructions 2.3 set up accessing equipment according to regulatory/manufacturer's requirements, using recognised and approved techniques 2.4 identify the means of fixing that are to be used to support and secure equipment 2.5 secure accessing equipment according to safe and healthy instructions

<b>Learning outcome</b>
The learner will: 3. be able to dismantle general accessing equipment
<b>Assessment criteria</b>
The learner can: 3.1 dismantle accessing equipment according to regulatory/manufacture's requirements, using recognised and approved techniques 3.2 remove accessing equipment according to manufacturer's recommendations and instructions

## Unit 203

## Handle, move and store resources in thermal insulation

<b>UAN:</b>	<b>D/504/2775</b>
<b>Level:</b>	2
<b>Credit value:</b>	3
<b>GLH:</b>	20

<b>Learning outcome</b>
The learner will: 1. be able to move, position, secure and use lifting aids and kinetic lifting techniques when undertaking thermal insulation
<b>Assessment criteria</b>
The learner can: 1.1 use PPE when carrying out handling and moving activities in accordance with legislation and/or organisational requirements 1.2 identify the relevant legislation and official guidance relating to potential accidents and health hazards 1.3 use relevant technical, product and regulatory information to assess moving and handling requests 1.4 select materials, components and equipment to carry out moving and handling activities 1.5 use and store lifting aids and equipment safely and to recognised guidelines

<b>Learning outcome</b>
The learner will: 2. be able to handle and store resources to meet product information and/or organisational requirements by manual procedures and lifting aids when undertaking thermal insulation
<b>Assessment criteria</b>
The learner can: 2.1 move and store own work and that of team by manual procedures and lifting aids to recognised guidelines 2.2 move and store materials components and fixings by manual procedures and lifting aids to recognised guidelines 2.3 move and store tools and equipment by manual procedures and lifting aids to recognised guidelines 2.4 protect products and their surroundings from damage when moving and handling

<b>Learning outcome</b>
The learner will: 3. know how to dispose of waste packaging in accordance with legislation to minimise damage and maintain a clean work space when undertaking thermal insulation
<b>Assessment criteria</b>
The learner can: 3.1 describe environmental responsibilities relating to waste disposal 3.2 describe the organisational procedures for the disposal of waste packaging 3.3 describe the documentation (manufacturer's information, statutory regulations and official guidance) that must be adhered to when disposing of waste



## Unit 204

## Sheet metal insulation protection

<b>UAN:</b>	<b>J/503/5366</b>
<b>Level:</b>	2
<b>Credit value:</b>	16
<b>GLH:</b>	100

<b>Learning outcome</b>
The learner will: 1. be able to interpret information to select materials, components and equipment, to produce and install sheet metal insulation protection
<b>Assessment criteria</b>
The learner can: 1.1 identify types and application of sheet metal according to specifications 1.2 calculate the amount of sheet material, including wastage for given tasks 1.3 maintain and care for hand tools and portable power tools and associated equipment

<b>Learning outcome</b>
The learner will: 2. be able to fabricate and fit sheet metal cladding/ protection over pipe, duct and vessel insulation
<b>Assessment criteria</b>
The learner can: 2.1 use drawing skills to develop geometric shaped templates for sheet metal insulation cladding/protection 2.2 fabricate ferrous and non-ferrous sheet metal protection for insulated surfaces 2.3 fix and secure sheet metal to insulated surfaces

<b>Learning outcome</b>
The learner will: 3. be able to apply safe working practices whilst installing sheet metal insulation protection at all times
<b>Assessment criteria</b>
The learner can: 3.1 identify requirements of safety legislation 3.2 describe how to protect work and the workplace from damage 3.3 describe safe working practices for moving, handling and storing resources 3.4 carry out a risk assessment prior to the production and installation of sheet metal protection for insulated surfaces 3.5 follow safe working practices when producing and installing sheet metal protection to insulated surfaces

## Unit 205

## Work safely and efficiently in a thermal insulation work context

<b>UAN:</b>	<b>T/503/5363</b>
<b>Level:</b>	2
<b>Credit value:</b>	1
<b>GLH:</b>	7

<b>Learning outcome</b>
The learner will: 1. know relevant current statutory requirements and official guidance relating to safe and efficient working in thermal insulation
<b>Assessment criteria</b>
The learner can: 1.1 outline the procedure for recording/reporting hazards in the workplace 1.2 describe relevant safety/warning signs, including how to comply with them 1.3 describe the purpose of relevant statutory requirements and/or safety notices and warning signs displayed in the workplace 1.4 describe the safe use of fire extinguishers as appropriate to the types of fire

<b>Learning outcome</b>
The learner will: 2. know your personal responsibilities for working safely and efficiently in thermal insulation
<b>Assessment criteria</b>
The learner can: 2.1 describe the use of personal protective equipment according to legislation and/or organisational requirements for thermal insulation 2.2 outline what is required of individuals when working in the thermal insulation industry 2.3 describe how to behave safely in the workplace, including as an individual and when working with others

<b>Learning outcome</b>
The learner will: 3. understand procedures for maintaining the security of the thermal insulation workplace
<b>Assessment criteria</b>
The learner can: 3.1 outline security procedures which relate to the working day 3.2 describe security procedures which relate to the completion of the day's work 3.3 explain security procedures which relate to the unauthorised personnel, including other operatives and the general public 3.4 assess security procedures which relate to theft

<b>Learning outcome</b>
The learner will: 4. know how to plan, organise and adopt safe and healthy work practices
<b>Assessment criteria</b>
The learner can: 4.1 outline the requirements of planning for safe working 4.2 describe organisational procedures in case of accident 4.3 describe organisational emergency procedures, including fire

<b>Learning outcome</b>
The learner will: 5. know how to plan and carry out productive, efficient working practices
<b>Assessment criteria</b>
The learner can: 5.1 describe statutory requirements and/or official guidance for the thermal insulation and the work area



## Appendix 1 Sources of general information

The following documents contain essential information for centres delivering City & Guilds qualifications. They should be referred to in conjunction with this handbook. To download the documents and to find other useful documents, go to the **Centres and Training Providers homepage** on [www.cityandguilds.com](http://www.cityandguilds.com).

**Centre Manual - Supporting Customer Excellence** contains detailed information about the processes which must be followed and requirements which must be met for a centre to achieve 'approved centre' status, or to offer a particular qualification, as well as updates and good practice exemplars for City & Guilds assessment and policy issues. Specifically, the document includes sections on:

- The centre and qualification approval process
- Assessment, internal quality assurance and examination roles at the centre
- Registration and certification of candidates
- Non-compliance
- Complaints and appeals
- Equal opportunities
- Data protection
- Management systems
- Maintaining records
- Assessment
- Internal quality assurance
- External quality assurance.

**Our Quality Assurance Requirements** encompasses all of the relevant requirements of key regulatory documents such as:

- Regulatory Arrangements for the Qualifications and Credit Framework (2008)
- SQA Awarding Body Criteria (2007)
- NVQ Code of Practice (2006)

and sets out the criteria that centres should adhere to pre and post centre and qualification approval.

**Access to Assessment & Qualifications** provides full details of the arrangements that may be made to facilitate access to assessments and qualifications for candidates who are eligible for adjustments in assessment.

The **centre homepage** section of the City & Guilds website also contains useful information such on such things as:

- **Walled Garden:** how to register and certificate candidates on line
- **Qualifications and Credit Framework (QCF):** general guidance about the QCF and how qualifications will change, as well as information on the IT systems needed and FAQs
- **Events:** dates and information on the latest Centre events
- **Online assessment:** how to register for e-assessments.

## Useful contacts

<b>UK learners</b> <b>General qualification information</b>	<b>T: +44 (0)844 543 0033</b> <b>E: learnersupport@cityandguilds.com</b>
<b>International learners</b> General qualification information	T: +44 (0)844 543 0033 F: +44 (0)20 7294 2413 E: <b>intcg@cityandguilds.com</b>
<b>Centres</b> Exam entries, Certificates, Registrations/enrolment, Invoices, Missing or late exam materials, Nominal roll reports, Results	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: <b>centresupport@cityandguilds.com</b>
<b>Single subject qualifications</b> Exam entries, Results, Certification, Missing or late exam materials, Incorrect exam papers, Forms request (BB, results entry), Exam date and time change	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 F: +44 (0)20 7294 2404 (BB forms) E: <b>singlesubjects@cityandguilds.com</b>
<b>International awards</b> Results, Entries, Enrolments, Invoices, Missing or late exam materials, Nominal roll reports	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: <b>intops@cityandguilds.com</b>
<b>Walled Garden</b> Re-issue of password or username, Technical problems, Entries, Results, e-assessment, Navigation, User/menu option, Problems	T: +44 (0)844 543 0000 F: +44 (0)20 7294 2413 E: <b>walledgarden@cityandguilds.com</b>
<b>Employer</b> Employer solutions, Mapping, Accreditation, Development Skills, Consultancy	T: +44 (0)121 503 8993 E: <b>business@cityandguilds.com</b>
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