

<b>Title:</b>	<b>Understanding Domestic Retrofit</b>
<b>Level:</b>	2
<b>Credit value:</b>	3
<b>GLH</b>	21
<b>Unique Reference Number:</b>	K/618/6341
<b>Aim:</b>	The aim of this unit is to provide learners with the skills and knowledge to be able to understand the basic principles of domestic retrofit
<b>Assessment</b>	Assessment of this unit will be through the completion of a mandatory knowledge assessment (multi-choice questions)
<b>Learning outcomes</b>	
<i>The learner will:</i>	
<ol style="list-style-type: none"> <li>1. Be able to interpret domestic retrofit information specific to the work activities and resources.</li> </ol>	
<b>Delivery content:</b>	
<p>The aim of this learning outcome is to provide the learners with the knowledge to identify the main types of documents used in domestic retrofit, typical organisational structures and different types of information and how it is used.</p> <p>The learner must:</p> <ul style="list-style-type: none"> <li>• Identify the main types of documents used in the domestic retrofit industry and interpret their information, including basic: <ul style="list-style-type: none"> <li>▪ drawings</li> <li>▪ specifications</li> <li>▪ schedules</li> <li>▪ method statements</li> <li>▪ risk assessments</li> <li>▪ manufacturers' information</li> <li>▪ data sheets.</li> </ul> </li> <li>• Explain typical organisational structures in the domestic retrofit industry</li> <li>• Define the different types of domestic retrofit information, its source and how it is applied in terms of: <ul style="list-style-type: none"> <li>▪ types of construction</li> <li>▪ energy efficiency measures</li> <li>▪ design</li> <li>▪ standards</li> <li>▪ official guidance</li> <li>▪ current legislation and regulations governing buildings.</li> </ul> </li> </ul>	
<ol style="list-style-type: none"> <li>2. Be able to interpret health and safety information.</li> </ol>	
<b>Delivery content:</b>	
<p>The aim of this learning outcome is to provide the learners with the knowledge to identify the current legislation applicable to domestic retrofit, how to respond to emergencies and typical reporting procedures.</p> <p>The learner must:</p>	

- Identify the relevant current legislation, standards and official guidance applicable to domestic retrofit
- State how to respond to emergencies in the place of work in relation to:
  - fires
  - spillages
  - accidents/injuries
  - emergencies relating to work activities
  - identification of and reporting of asbestos containing materials.
- Explain typical procedures for identifying and reporting risks and hazards encountered in the workplace, including risk assessments and COSHH
- Explain typical accident reporting procedures and who is responsible for making reports.

3. Be able to identify the materials required for work activities in domestic retrofit.

**Delivery content:**

The aim of this learning outcome is to provide the learners with the knowledge to identify the key characteristics for domestic retrofit resources, how resources are selected and how to ensure they conform to specifications.

The learner must:

- State the key characteristics of the materials used in domestic retrofit
- Explain how to ensure that materials conform to specifications.

4. Be able to identify the risk of damage to the work and the surrounding area.

**Delivery content:**

The aim of this learning outcome is to provide the learners with the knowledge to keep a work area clean and tidy and protect the surrounding work area from damage and how to legally dispose of waste.

The learner must:

- Explain why it is important to maintain a safe, clear and tidy work area
- State how to dispose of waste in accordance with current legislation
- Describe how to protect work and its surrounding area from damage and adverse weather conditions.

5. Be able to understand the basic principles for domestic retrofit installations.

**Delivery content:**

The aim of this learning outcome is to enable learners to understand the basic principles for domestic retrofit, including pre-installation requirements, installation details and installation problems.

The learner must:

- Explain how to carry out basic external and internal pre-installation checks in regard to domestic retrofit
- List the basic general building defects including but not limited to:
  - salt contamination
  - causes of dampness
  - rain penetration
  - rising damp

- internal moisture vapour
- damaged services
- structural defects.
- Describe how the methods of work for domestic retrofit are carried out to meet the specification, relating to the following:
  - checking materials against specification
  - how to record and report issues or defects with the materials
  - the need to ensure that all necessary repairs are completed prior to installation
  - the implications that **basic** types of construction and materials have on the introduction of energy efficiency measures with specific reference to:
    - roofs
    - walls including internal and external finishes
    - floors
    - windows and doors
    - chimneys and fireplaces
    - flues and combustion ventilation
    - fabric interfaces
    - building services and associated EEM improvements.
  - basic sequencing for the installation of energy efficiency measures
  - typical problems associated with domestic retrofit installations, including:
    - water ingress
    - thermal bridging and bypassing
    - condensation
    - lack of attention to detail at corners, junctions, edges and interfaces
    - condensation
    - air tightness and air leakage
    - ventilation and air flow
    - mould and fungal decay
  - how to identify what and when specialist skills and knowledge is required.

6. Be able to understand how to carry out basic domestic retrofit installations

**Delivery content:**

The aim of this learning outcome is to provide the learners with the basic knowledge of how to install insulation to internal and external solid walls, cavity walls, roofs, suspended and solid floors and windows and doors.

The learner must:

- State the importance of team work and communication
- Explain how to carry out the following work skills when installing internal insulation systems including: preparation, measuring and marking out, calibrating, cutting, fitting/fixing/securing, sealing and finishing insulation materials.
- Explain how to use and maintain hand tools, portable power tools and ancillary equipment
- Describe the processes for preparing and installing domestic retrofit systems, including:
  - roofs
  - pipes, tanks and/or cylinders access hatches
  - internal and external solid wall insulation
  - cavity walls
  - suspended and solid floors.

## Scope of Training

The Scope of Training identifies areas that must be covered during the delivery of this unit. This is the minimum that is expected but tutors are expected to include other areas, knowledge of which will benefit their learners, based on location, types of work available and from the tutor's own professional experience.

	<b>Requirements</b>	
<b>Domestic retrofit Information</b>	<ul style="list-style-type: none"> <li>• Drawings</li> <li>• Specifications</li> <li>• Schedules</li> <li>• Method Statements</li> <li>• Risk Assessments</li> <li>• Manufacturers' Information</li> <li>• Data Sheets</li> </ul>	<ul style="list-style-type: none"> <li>• Types of Construction</li> <li>• Energy Efficiency Measures</li> <li>• Design</li> <li>• Standards</li> <li>• Official Guidance</li> <li>• Current Legislation and Regulations Governing Buildings</li> </ul>
<b>Health and safety</b>	<ul style="list-style-type: none"> <li>• H&amp;S and accidents in the construction industry</li> <li>• Key health and safety legislation relevant to and used in a domestic retrofit</li> <li>• Employee and employer responsibilities under the Health and Safety at Work Act</li> <li>• The role of the HSE</li> <li>• Sources of relevant H&amp;S information</li> <li>• Safety induction and toolbox talks</li> <li>• Personal induction.</li> </ul>	<ul style="list-style-type: none"> <li>• Types of emergencies that could occur in the workplace and how to deal with them</li> <li>• The importance of asbestos awareness, the dangers and how it is controlled.</li> <li>• Types of risks and hazards</li> <li>• Basic principles of risk assessments</li> <li>• Various substances hazardous to health and the appropriate precautions that need to be taken.</li> <li>• RIDDOR</li> <li>• How accidents and near misses are reported</li> <li>• Basic records.</li> </ul>
<b>Retrofit material</b>	<ul style="list-style-type: none"> <li>• Typical materials used in domestic retrofit for insulation to: <ul style="list-style-type: none"> <li>▪ Pitched and flat roofs</li> <li>▪ Internal and external solid walls</li> <li>▪ Cavity walls</li> <li>▪ Floors.</li> </ul> </li> <li>• Key characteristics of insulation materials</li> <li>• Typical documentation used for specifying resources and materials</li> <li>• How they are used to ensure compliance</li> </ul>	
<b>Protecting the work area</b>	<ul style="list-style-type: none"> <li>• Hazards associated with untidy work areas, slips, trips and falls</li> <li>• Risk to self, co-workers and members of the public</li> <li>• Typical waste disposal methods used in the workplace</li> <li>• Licensed and unlicensed waste</li> <li>• How to protect the work area: <ul style="list-style-type: none"> <li>▪ Dust sheets</li> <li>▪ Removal of items</li> <li>▪ Plastic sheeting</li> <li>▪ Foot coverings.</li> </ul> </li> </ul>	

<p><b>Information specific to contracts</b></p>	<ul style="list-style-type: none"> <li>• Overview of the assessment process for domestic retrofit</li> <li>• Retrofit assessors</li> <li>• Retrofit coordinator</li> <li>• Typical external and internal pre-installation checks</li> <li>• Equipment required</li> <li>• Methods of recording and reporting</li> <li>• Typical examples of common building defects</li> <li>• Basic cause and effect of common building defects</li> <li>• Typical remedies of common building defects</li> <li>• Potential defects to materials, components and finishes and how to report them, including fire safety considerations</li> <li>• Typical pre-installation repairs that may need to be carried out</li> <li>• Typical installation details and examples of good/bad practice related to energy efficiency measures in terms of:             <ul style="list-style-type: none"> <li>▪ roofs</li> <li>▪ walls including internal and external finishes</li> <li>▪ floors</li> <li>▪ windows and doors</li> <li>▪ chimneys and fireplaces</li> <li>▪ flues and combustion ventilation</li> <li>▪ fabric interfaces</li> <li>▪ building services and associated EEM improvements.</li> </ul> </li> <li>• Typical work programmes for installing energy efficiency measures.</li> <li>• How to achieve continuity of the insulation in order to prevent:             <ul style="list-style-type: none"> <li>▪ Water ingress</li> <li>▪ Poor energy efficiency</li> <li>▪ Thermal bridges</li> <li>▪ Fire safety issues.</li> </ul> </li> <li>• Typical problems associated with domestic retrofit installations, including:             <ul style="list-style-type: none"> <li>▪ water ingress</li> <li>▪ thermal bridging and bypassing</li> <li>▪ condensation</li> <li>▪ lack of attention to detail at corners, junctions, edges and interfaces                 <ul style="list-style-type: none"> <li>▪ condensation</li> <li>▪ air tightness and air leakage</li> <li>▪ ventilation and air flow</li> <li>▪ mould and fungal decay.</li> </ul> </li> </ul> </li> <li>• The potential impact that retrofit measures can have on the building fabric, including:             <ul style="list-style-type: none"> <li>▪ building defects</li> <li>▪ mould growth</li> <li>▪ wet and dry rot</li> <li>▪ condensation</li> <li>▪ fire safety</li> </ul> </li> <li>• Types of specialist skills and knowledge within the sector:             <ul style="list-style-type: none"> <li>▪ Retrofit Academy</li> <li>▪ FMB</li> <li>▪ IAA</li> </ul> </li> </ul>
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	<ul style="list-style-type: none"> <li>▪ UKCMB</li> <li>▪ CSE (Centre for Sustainable Energy)</li> <li>▪ Green register</li> <li>▪ LABC</li> <li>▪ Trustmark</li> <li>▪ BAFE Fire Safety Register.</li> </ul>
<p><b>Installation processes</b></p>	<ul style="list-style-type: none"> <li>• Team working</li> <li>• Methods of communication</li> <li>• Customer service</li> <li>• Safeguarding</li> <li>• Processes and techniques for: preparation, measuring and marking out, calibrating, cutting, fitting/fixing/securing, sealing and finishing insulation materials.</li> <li>• Tools used to carry out the following work skills when installing insulation systems: removing measuring, marking out, calibrating cutting, fitting/fixing/securing, levelling filling finishing, positioning, sealing and securing insulation materials.</li> <li>• Safe use and maintenance of tools</li> <li>• Installation techniques for the following methods:             <ul style="list-style-type: none"> <li>▪ roofs</li> <li>▪ pipes</li> <li>▪ tanks and/or cylinders access hatches</li> <li>▪ internal and external solid wall insulation</li> <li>▪ cavity walls</li> <li>▪ suspended or solid floors.</li> </ul> </li> </ul>

### Scope of Assessment

Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge.

- This is a knowledge only unit and will be assessed by an end assessment consisting of 35 multi-choice questions
- An assessment specification has been develop outlining the number of assessment questions for each assessment criteria
- Time allowed for the 35 questions is 50 minutes
- The pass mark is 25 out of 35.