Install Insulation to Framed Section of Buildings

Title:	**Installing Insulation to Framed Sections of Buildings**
Level:	3
Credit value:	7
GLH	70
Unique Reference Number:	J/650/7481
Aim:	The aim of this unit is to provide learners with the skills and knowledge needed when preparing for and installing insulation to roof, floor, wall and ceiling structures of contained frame and open framed components (including loft conversions or building extensions). Interpreting information, adopting safe, healthy, and environmentally responsible work practices.
Assessment	Assessment of this unit will be through the completion of a NOCN devised practical task and associated knowledge questions (written or verbal). This unit is internally assessed and internally and externally quality assured using the NOCN assessment booklet to evidence all learning outcomes.

Learning outcomes
The learner will:

1. Be able to interpret the information required in order to be able to install insulation to framed sections of buildings.

Delivery content:

The aim of this learning outcome is to provide the learners with the skills and knowledge to identify types of information, their source, accuracy, completeness and how they are interpreted in relation to installing internal wall insulation.

The learner must:

- identify **documentation,** and the details contained, in order to be able to complete given tasks.
- understand the relevance of an assessment of significance and its possible effect on the project.
- know how emergencies should be responded to in accordance with organisational authorisation and personal skills.
- identify relevant, current **legislation, standards** and official guidance and how they are applied
- interpret current **legislation** and regulations governing buildings
- identify different types of **drawings** and their purpose.
- interpret different types of **drawings** including **common scales** and symbols and hatchings used.
- read and apply measurements from the information provided.
- identify and report any inaccuracies with the supplied information in accordance with organisational procedures.
- record and report key issues that may inhibit the commencement of work.
- use manufacturers' information to appropriately use resources.

2. Be able to identify tools, equipment and materials required to install insulation to framed sections of buildings.

Delivery content:

The aim of this learning outcome is to provide the learners with the knowledge and skills to identify and select the **tools**, **equipment**, and **materials** required to install insulation to framed sections of buildings.

The learner must:

- calculate lengths and areas as required to install insulation to framed sections of buildings
- check the suitability, compatibility and characteristics of the materials, components, fixings and finishes and determine if they are moisture open or moisture closed and their impact on the building
- select the required quantity and quality of resources for appropriate methods of work
- know why the characteristics, compatibility, quality, uses, sustainability, limitations and defects associated with the resources are important and how defects should be rectified
- identify the **hazards** associated with the resources and methods of work and how they are overcome
- identify the requirements from the provided information and confirm information is correct for the given tasks
- identify how the resources should be used and how any problems associated with the resources are reported in relation to organisational procedures
- carry out checks on all resources provided to ensure they are fit for purpose and free from defects.
- report and replace any defective resources in accordance with manufacturers' guidance, legislation and organisational procedures.

3. Be able to prepare work areas and materials in order to install insulation to framed sections of buildings.

Delivery content:

The aim of this learning outcome is to provide learners with the skills and knowledge to carry out preparations in order to install insulation to framed sections of buildings.

The learner must:

- know how to carry out external and internal **pre-installation checks**
- understand the implication that the work may have on existing warranties and guarantees and how to identify them.
- interpret risk assessments to identify **hazards** and ensure any **collective protection equipment** is used correctly.
- understand the implications of **existing guarantees and warranties** that may be compromised by the installation.
- know how to inspect the internal and external areas to identify that any additional issues or **hazards** are mitigated.
- explain how to report issues and mitigating work carried out in accordance with organisational procedures.
- ensure that the work area is cleared and ready for the given tasks and surrounding areas are protected correctly.
- know the importance of protecting the work and its surrounding area against the risk of damage

- calculate the quantity of materials, length, thickness, area and wastage associated with the method and procedure to install insulation to framed sections of buildings
- select and prepare the range of appropriate **materials** required
- ensure all resources are in place and set out safely and logically for the given tasks.
- identify when **specialist skills and knowledge** are required.
- identify how to record, report and rectify **unintended consequences** not addressed in the design.

4. Be able to carry out the installation of insulation to framed sections of buildings.

Delivery content:

The aim of this learning outcome is to provide the learners with the skills and knowledge to install insulation to framed sections of buildings in accordance with the specification, method statement and task sheet to an industry acceptable standard

The learner must:

- select appropriate insulation
- remove any existing rotten timber, insulation, plasterboard, vapour barrier or breather membrane as appropriate
- prepare framed area and replace any defective studs and/or other materials
- measure, mark and cut boards according to drawings
- install insulation system according to method statement to required standard using adhesive, spray, placed and/or mechanical fixing methods.
- seal and finish appropriately.

5. Be able to complete works following installing insulation to framed sections of buildings.

Delivery content:

The aim of this learning outcome is to provide the learners with the skills and knowledge to complete work.

The learner must:

- explain and demonstrate how to complete **post installation checks**
- identify why and how the disposal of waste must be carried out safely in accordance with the following
    - current legislation
    - environmental responsibilities
    - organisational procedures
    - suppliers and manufacturers' information
    - data sheets
    - statutory regulations
    - official guidance
- explain why it is important to provide post installation advice and guidance to building occupants and clients including homeowner packs
- leave the work area in a safe and clean condition, using **collective protective measures** as appropriate
- ensure that work and the surrounding area is protected from the risk of damage
- complete all final paperwork as required and file correctly.

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.

Assessment:

The Assessment Workbook is available from NOCN.

	Requirements		
Documentation	Current legislation relating to health and safety Job specification Method statements Data sheets	Risk assessments Manufacturers guidance Building regulations Schedules	
Drawings	2D and 3D drawings BIM related models Site and location plans	Assembly plans Section plans	
Common scales	To include: 1:5, 1:10, 1:20, 1:50, 1:100 and 1:500		
Tools	Masonry drill Screw drivers Snips Measuring tape Snap off knife Screw gun Stud finder Electric tester	Battery drill Spirit level Lazer level Keyhole saw Sealant gun Mesh holders Saws Sealant gun	Hammer Grips Nail gun Foam board saw Expanding foam gun Chalk lines Retractable knife
Equipment	Scaffold Working platform Pencil Plumb bob	Sweeping brush Step ladder Hop up Door / window covers	Dust sheets Floor protector rolls Cloths / rags Ladder Door / window covers
Materials	Waste bags / bin Masking tape Adhesive Vapour barrier	Disposable covers Insulation rolls Nails Insulation boards	Screws Mechanical fixings Wall plugs Sealants
Personal protective equipment	Steel toe-capped boots Gloves Goggles Hard hat	High-visibility clothing Respiratory protection Hearing protection Skin protection	
Collective protective equipment	Signage Barriers Sheeting	LEV (Local exhaust ventilation)	
Hazards	Slips, trips and falls Working at height Confined spaces Manual handling Cuts and abrasions Dust inhalation Heat	Hazardous substances Fire Electrical equipment and leads Plant and equipment Chemical injuries Fumes	

Protection	Signage Barriers Plastic/hessian sheeting Public protection equipment	PPE LEV Masking materials
Special skills and knowledge	Fire safety Electrical Media cables Signal receiving equipment Junction boxes	Asbestos Radon Heritage Ecology Ventilation Flue
Unintended consequences	The existence of thermal Bridges, thermal bypassing Water ingress Ventilation Condensation Unsuitable access Property suitability Structural integrity Dampness Penetrating damp	Rising damp Decay Vents and ventilation Architectural features Condition of down pipes Wall moisture content Damp proof course height above floor level Condition of ground and suspended floor joists
Finishes	Dash finishes Synthetic renders Non-synthetic renders Proprietary pre-cast finishes Paint finishes	Brick slips Brick effect render to external wall insulation systems including door and window reveals
Pre installation check	Assessing, recording and reporting issues to include: • suitable access • property suitability • structural integrity • dampness • decay • vents and adequate ventilation	• services (gas, electric, water, media cables) • architectural features • vegetation • rainwater goods • loose surface finishes • external cracking • water ingress • damp proof course
Post installation checks	Compliance with specifications, Resistance to water penetration, Anchorage, Fixing,	Vents, Services (gas, electric, water, Media cables)
Existing guarantees and warranties	Wall ties Windows Cills Doors	Damp proof course Renders Tyrolean coatings Silicone weather proof coatings

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