

## 818 Spraying insulation to suspended floors in the workplace

<b>Level:</b>	2
<b>Value for TQT:</b>	200
<b>Learning outcomes</b> <i>The learner will be able to:</i>	<b>Assessment criteria</b> <i>The learner can:</i>
1 Interpret the given design information relating to the work and resources to confirm its accuracy, completeness and relevance to the building type, fabric and condition when spraying insulation to suspended floors.	1.1 Interpret and extract relevant information from: <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>
	1.2 Comply with information and/or instructions derived from risk assessments and method statements.
	1.3 Describe why the organisational procedures have been developed and how they are implemented.
	1.4 Explain the importance of organisational procedures to solve problems and why it is important to follow them.
	1.5 Describe different types of information, their source, accuracy, completeness and how they are interpreted in relation to: <ul style="list-style-type: none"> <li>• drawings</li> <li>• specifications</li> <li>• schedules</li> <li>• method statements</li> <li>• risk assessments</li> <li>• design</li> <li>• standards</li> <li>• manufacturers' information</li> <li>• data sheets</li> <li>• official guidance</li> <li>• current legislation and regulations governing buildings</li> </ul>

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<b>Learning outcomes</b> <i>The learner will be able to:</i>	<b>Assessment criteria</b> <i>The learner can:</i>
<p>2 Know how to comply with environmentally responsible work practices to meet current, legislation standards and official guidance when spraying insulation to suspended floors.</p>	<p>2.1 Describe their responsibilities regarding potential accidents, health hazards and the environment in relation to:</p> <ul style="list-style-type: none"> <li>• the workplace</li> <li>• below ground level</li> <li>• in confined spaces</li> <li>• at height</li> <li>• tools and equipment</li> <li>• materials and substances</li> <li>• movement and storage of materials by manual handling and mechanical lifting</li> </ul>
	<p>2.2 Describe the organisational security procedures for tools, equipment and personal belongings in relation to:</p> <ul style="list-style-type: none"> <li>• site</li> <li>• workplace</li> <li>• siting and location of vehicles</li> <li>• company</li> <li>• customer</li> <li>• access equipment</li> <li>• material and waste storage</li> <li>• the general public</li> </ul>
	<p>2.3 Explain the accident reporting procedures and who is responsible for making reports.</p>
	<p>2.4 Describe the types of fire extinguishers available when spraying insulation to suspended floors and describe how and when they are used in relation to:</p> <ul style="list-style-type: none"> <li>• water</li> <li>• CO<sub>2</sub></li> <li>• foam</li> <li>• powder</li> </ul>

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<b>Learning outcomes</b> <i>The learner will be able to:</i>	<b>Assessment criteria</b> <i>The learner can:</i>
<p>3 Comply with current, relevant legislation, standards and official guidance to carry out your work and maintain safe and healthy work practices.</p> <p><i>Continued.....</i></p>	<p>3.1 Demonstrate compliance with relevant legislation, standards and official guidance when spraying insulation to suspended floors in relation to the following:</p> <ul style="list-style-type: none"> <li>• methods of work</li> <li>• safe use of health and safety control equipment</li> <li>• safe use of access equipment</li> <li>• safe use, storage and handling of materials, tools and equipment</li> <li>• operative maintenance of installation equipment</li> <li>• specific risks to health including mental health</li> <li>• specific risks associated with ventilation (inside the property and under floor) and also including combustion appliances</li> <li>• specific risks associated with working in confined spaces</li> </ul>
	<p>3.2 Explain why, when and how health and safety control equipment, identified by the principles of prevention, should be used when spraying insulation to suspended floors in relation to:</p> <ul style="list-style-type: none"> <li>• collective protective measures</li> <li>• personal protective equipment (PPE)</li> <li>• respiratory protective equipment (RPE)</li> <li>• local exhaust ventilation (LEV)</li> </ul>
	<p>3.3 Describe how emergencies should be responded to in accordance with organisational authorisation and personal skills in relation to:</p> <ul style="list-style-type: none"> <li>• fires</li> <li>• spillages</li> <li>• injuries</li> <li>• emergencies relating to occupational activities</li> <li>• identification of and reporting of asbestos containing materials</li> </ul>
	<p>3.4 Describe how to report risks and hazards identified by the following:</p> <ul style="list-style-type: none"> <li>• risk assessment</li> <li>• personal assessment</li> <li>• methods of work</li> <li>• manufacturers' technical information</li> <li>• data sheets</li> <li>• statutory regulations</li> <li>• official guidance</li> </ul>

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	<ul style="list-style-type: none"> <li>Control of Substances Hazardous to Health (COSHH)</li> </ul>
4 Select the required quantity and quality of resources for the methods of work to spray insulation to suspended floors.	4.1 Select resources associated with own work in relation to materials, components and finishes, tools and equipment.
	4.2 Check the suitability, compatibility and characteristics of the materials, components and finishes, determine if they are moisture open or moisture closed and their impact on the building.
	4.3 Record and report issues or defects.
	4.4 Describe why the characteristics, compatibility, quality, uses, sustainability, limitations and defects associated with the resources are important and how defects should be rectified.
	4.5 Describe how the resources should be used and how problems associated with the resources are reported in relation to: <ul style="list-style-type: none"> <li>protective sheeting</li> <li>warning signs</li> <li>temporary barriers</li> <li>making good materials</li> <li>filling materials</li> <li>sealants</li> <li>installation equipment</li> <li>all work tools</li> </ul>
	4.6 Describe how to confirm that the resources and materials conform to the specification.
	4.7 Explain why the organisational procedures have been developed and how they are used for the selection of required resources.
	4.8 Describe how to identify the hazards associated with the resources and methods of work and how they are overcome.
	4.9 Describe how to calculate the quantity of materials required and used to ensure adequacy of fill as per the system designer specification and wastage associated with the method and procedure to spray insulation to suspended floors.

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<b>Learning outcomes</b> <i>The learner will be able to:</i>	<b>Assessment criteria</b> <i>The learner can:</i>
5 Minimise the risk of damage to the work and surrounding area when spraying insulation to suspended floors.	5.1 Protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures.
	5.2 Maintain a safe, clear and tidy work area.
	5.3 Explain why it is important to maintain a safe, clear and tidy work area.
	5.4 Dispose of waste in accordance with current legislation.
	5.5 Describe how to protect work and its surrounding area from damage by general workplace activities, other occupations and adverse weather conditions and how to minimise damage to existing building fabric.
	5.6 Explain the importance of protecting the work and its surrounding area against the risk of damage.
	5.7 Explain why and how the disposal of waste must be carried out safely in accordance with the following: <ul style="list-style-type: none"> <li>• current legislation</li> <li>• environmental responsibilities</li> <li>• organisational procedures</li> <li>• manufacturers' information</li> <li>• data sheets</li> <li>• statutory regulations</li> <li>• official guidance</li> </ul>
6 Complete the work within the allocated time when spraying insulation to suspended floors.	6.1 Demonstrate completion of your work within the estimated, allocated time and performance requirements of the system design, method statement and the required standard.
	6.2 Describe the purpose of the work programme, including the estimated and allocated time and explain why deadlines should be kept in relation to: <ul style="list-style-type: none"> <li>• types of progress charts, timetables and estimated times</li> <li>• organisational procedures for reporting circumstances which will affect the work programme</li> </ul>

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<b>Learning outcomes</b> <i>The learner will be able to:</i>	<b>Assessment criteria</b> <i>The learner can:</i>
<p>7 Comply with the given contract information to carry out the work efficiently to spray insulation to suspended floors to the required specification.</p>	<p>7.1 Demonstrate the following work skills when spraying insulation to suspended floors:</p> <ul style="list-style-type: none"> <li>• measuring</li> <li>• marking out</li> <li>• calculating</li> <li>• cutting</li> <li>• fitting</li> <li>• filling</li> <li>• positioning and securing</li> <li>• making good</li> </ul>
	<p>7.2 Use and maintain all work tools and installation equipment.</p>
	<p>7.3 Carry out external and internal pre installation checks assessing, recording and reporting issues to include:</p> <ul style="list-style-type: none"> <li>• suitable access</li> <li>• property suitability</li> <li>• structural integrity</li> <li>• dampness</li> <li>• decay</li> <li>• vents and ventilation</li> <li>• services (gas, electric, water, media cables)</li> </ul>
	<p>7.4 Recognise, record and report the key issues that may inhibit commencement of the work including but not limited to:</p> <ul style="list-style-type: none"> <li>• condition of building fabric</li> <li>• identification of any areas of potential water penetration</li> <li>• visibility and completeness of damp proof course</li> <li>• condition of window and door seals</li> <li>• height of internal floors in relation to external floor height</li> <li>• drainage and down pipes</li> <li>• protection and existence of sub floor ventilation</li> </ul>
	<p>7.5 Identify the potential risk of increased condensation following installation relating to suspended floors and how to prevent it.</p>
	<p>7.6 Check, record and report issues with under floor (cross flow) ventilation, flues, chimneys and combustion air ventilators pre and post installation.</p>
	<p>7.7 Prepare floor for insulation creating access points taking into consideration the following but not limited to:</p>

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	<ul style="list-style-type: none"> <li>• safe systems of work</li> <li>• minimising damage</li> <li>• checking existing services</li> <li>• building construction and heritage significance</li> <li>• customer safety</li> </ul>
	7.8 Check for hidden utilities.
	7.9 Maintain integrity of membranes.
	7.10 Remove and minimise damage to floorcoverings.
	7.11 Ensure the minimum void area air space is maintained by removing debris.
	7.12 Clear and safeguard existing and install additional ventilation in accordance with the design and installation checks and report back issues which impact the ventilation assessment.
	7.13 Protect the building occupants and their property.
	7.14 Confirm pre-installation material checks are within specified parameters to include checking and reporting defects.
	7.15 Rectify defects in preparation of insulation measures.
	7.16 Assemble, operate, clean and disassemble installation processing equipment.
	7.17 Calibrate equipment to measure density, flow and quality tests.
	7.18 Spray insulation to suspended floors.
	7.19 Maintain existing sound-proofing.
	7.20 Install and maintain fire resistant barriers.
	7.21 Complete post installation checks in accordance with the design, method statement and installations operations manual and report issues to include but not limited to safeguarding the combustion ventilation and report defects.
	7.22 Provide post installation advice and guidance to building occupants including homeowner packs.
	7.23 Handover and sign off to the customers satisfaction.
	7.24 Clean and disassemble installation processing equipment and pack away for transportation.
	7.25 Work at height using access equipment

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<p>7 Comply with the given contract information to carry out the work efficiently to spray insulation to suspended floors to the required specification.</p>	<p>7.26 Describe how the methods of work to meet the specification, are carried out and how problems are identified and reported by the application of knowledge for safe, healthy and environmental work practices, procedures and skills relating to the method and area of work relating to the following:</p> <ul style="list-style-type: none"><li>• the suitability, compatibility and characteristics of the materials, components and finishes, and determine if they are moisture open or moisture closed, their impact on the building and their appropriateness to the design and physical application</li><li>• how to record and report issues or defects with the materials, components and finishes</li><li>• why it is important to carry out external and internal pre-installation checks</li><li>• how to carry out external and internal pre-installation checks, assessing, recording and reporting issues to include:<ul style="list-style-type: none"><li>- suitable access</li><li>- property suitability</li><li>- structural integrity</li><li>- dampness</li><li>- decay</li><li>- vents and ventilation</li><li>- services (gas, electric, water, media cables)</li></ul></li><li>• why it is important to ensure that all necessary repairs are completed prior to installation</li><li>• how to recognise, record and report the key issues that may inhibit commencement of the work including but not limited to:<ul style="list-style-type: none"><li>- condition of building fabric identification of any areas of potential water penetration</li><li>- visibility and completeness of damp proof course</li><li>- condition of window and door seals</li><li>- height of internal floors in relation to external floor height</li><li>- condition of roof</li><li>- damaged or spalled brickwork</li><li>- rain and waste water goods</li><li>- protection and existence of sub floor ventilation</li><li>- cavity width and identification of any debris</li></ul></li><li>• how to identify when specialist skills and knowledge are required and report accordingly including but not limited to:<ul style="list-style-type: none"><li>- fire safety</li><li>- electrical</li></ul></li></ul>
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	<ul style="list-style-type: none"><li>- asbestos</li><li>- Radon</li><li>- heritage</li><li>- archaeological and architectural features</li><li>- ecology</li><li>- ventilation</li><li>- exposure &amp; topography</li><li>• the relevance of an assessment of significance and how to recognise specific requirements for structures of special interest, traditional construction, hard-to-treat buildings and historical significance</li><li>• how to identify, record, report and rectify unintended consequences not addressed in the design, including but not limited to the existence of: thermal bridges, thermal bypassing and water ingress, inadequate ventilation and condensation risk</li><li>• why it is important to avoid unintended consequences</li><li>• how to check, record and report issues with under floor (cross flow) ventilation, flues, chimneys and combustion air ventilators pre and post installation</li><li>• why it is important to explain installation procedure to building occupants to include but not limited to the following:<ul style="list-style-type: none"><li>- scope and work programme</li><li>- safety requirements during the installation process</li><li>- protection of property and personal items</li><li>specific benefits and implications to include homeowner information</li><li>- agreed standards of making good</li></ul></li><li>• the implications of existing guarantees and warranties that may be compromised by the installation to include but not limited to:<ul style="list-style-type: none"><li>- timber treatments</li><li>- replacement wall ties</li><li>- injected damp proof course</li><li>- under floor and central heating systems</li><li>- Radon barriers</li><li>- electrical wiring</li><li>- services</li></ul></li><li>• how to identify and follow the installation quality requirements</li><li>• how to work with, around and in close proximity to plant and machinery</li><li>• how to direct and guide the operations and movement of plant and machinery to ensure protection of a safe working environment</li></ul>
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	<ul style="list-style-type: none"><li>• why it is important to recognise the potential risk of increased condensation following installation relating to suspended floors and how to prevent it</li><li>• how to prepare a floor for insulation, creating access points taking into consideration the following but not limited to:<ul style="list-style-type: none"><li>- safe systems of work</li><li>- minimising damage</li><li>- checking existing services</li><li>- building construction and heritage significance</li><li>- customer safety</li><li>- archaeology</li></ul></li><li>• how to check for hidden utilities</li><li>• the importance of ensuring all work to services (gas, electric, water) is carried out by suitably qualified people</li><li>• how to maintain integrity of membranes</li><li>• how to remove and minimise damage to floorcoverings</li><li>• why it is important to ensure the minimum void area air space is maintained by removing debris as required</li><li>• why it is important to clear and safeguard existing and install additional ventilation if required in accordance with the design and installation checks and report back issues which impact the ventilation assessment</li><li>• how to protect the building occupants and their property</li><li>• how to assemble, operate, clean and disassemble installation processing equipment</li><li>• how to calibrate equipment to measure density, flow and quality tests</li><li>• how to spray insulation to suspended floors</li><li>• how to ensure pre-installation material checks are within specified parameters to include checking and recording batch number and reporting defects</li><li>• the different types of air and vapour control layers and breather membranes , where and how they should be used and why it is important to install them correctly</li><li>• the importance of ensuring the integrity of air and vapour control layers and breather membranes following installation and the need to maintain continuity</li><li>• why it is important to immediately record and report unforeseen events including but not limited to equipment malfunctions, situations and faults not identified in the original design</li></ul>
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	<ul style="list-style-type: none"><li>• how to ensure existing cross flow ventilation is maintained within the floor void</li><li>• how to maintain existing sound-proofing</li><li>• how to install and maintain fire resistant barriers</li><li>• why it is important to minimise thermal bridging through compliance with design detail ensuring a consistent level of insulation of the area being insulated</li><li>• why it is important to complete post installation checks in accordance with the design, method statement and installations operations manual and report issues to include but not limited to safeguarding the combustion ventilation and report defects</li><li>• why it is important to provide post installation advice and guidance to building occupants including homeowner packs</li><li>• how to handover and sign off to the customers satisfaction</li><li>• how to clean and disassemble installation processing equipment and pack away for transportation</li><li>• how to use all work tools and installation equipment in line with manufacturers and system specifications</li><li>• how to work at height using access equipment and harness systems</li><li>• how and why maintenance of all work tools and installation equipment is carried out</li></ul>
	<p>7.27 Describe the needs of other occupations and the importance of team work and communication when spraying insulation to suspended floors.</p>

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Additional information about this unit	
Assessment Guidance	<p>This unit must be assessed in a work environment, in accordance with the ConstructionSkills' Consolidated Assessment Strategy for Construction and the Built Environment.</p> <p>Assessors for this unit must have verifiable, current industry experience and a sufficient depth of relevant occupational expertise and knowledge, and must use a combination of assessment methods as defined in the Consolidated Assessment Strategy.</p> <p>Workplace evidence of skills cannot be simulated.</p>
Sector Subject Areas	5.2 Building and Construction
Availability for use	Shared unit
Unit guided learning hours	100
Assessment	10