EUSDSG3.5
Install gas pipework up to 35mm BS6891

Overview

This national occupational standard defines the competences required to install, exchange and remove gas pipework up to 35mm BS68912005 + A2:2008. This standard covers the work activities of designing, planning, installing, exchanging, disconnecting, de-commissioning and commissioning gas pipework up to 35mm.

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Performance criteria

You must be able to:

Design gas systems for installing gas pipework up to 35mm

P1 identify and record the customer's job requirements
P2 compare the customer's job requirements with statutory and industry requirements and identify any conflicting issues
P3 survey the work site and consult site diagrams as necessary for any key structural features that could affect the installation and record them
P4 check that the proposed siting of the pipework meets the manufacturers' and industry standards' requirements for location, siting and clearance
P5 check size, location and availability of all necessary input services meet the appliance manufacturers' and industry standards' requirements for
P6 ensure the design of the proposed installation is in compliance with industry standards
P7 prepare a range of design options to meet both customer and industry requirements
P8 present design options to customer using a variety of media including; written, oral, electronically and drawings
P9 consult with the customer and obtain agreement to the design option that best meets all the requirements

You must be able to:

Plan and prepare work activities for gas pipework up to 35mm

P10 produce a risk assessment and method statement which incorporates safety provisions in the work site, access to the work site, movement of the workforce, members of the public, and the movement and safe storage of materials, tools and equipment for the job
P11 survey the work site for any pre-installation damage or defects to existing building features and record it
P12 advise the property occupier of any defects found
P13 protect the work site and the building fabric against possible damage being caused during the de-commissioning and installation process
P14 get confirmation from the property occupier before the job starts to ensure that they agree the planned work
P15 check and confirm all materials, tools and equipment necessary for the de-commissioning, installation and commissioning process are available as required and are fit for purpose
P16 check and confirm that the proposed siting of the gas supply meets the appliance manufacturers' and industry standards' requirements for location, siting and clearances
P17 confirm that the gas supply, earthing supply and the provision of ventilation meet the industry standards' requirements for the installation
P18 confirm that the proposed siting of the gas supply meets industry standards' requirements in relation to other services, i.e. electricity

supply, etc

P19 carry out all necessary checks and tests to confirm the gas supply and earthing system meet the industry requirements for the installation

P20 calculate and confirm the correct sizing of pipework to ensure minimum pressure loss across installation

P21 check existing installation for any unsafe appliances and system components and apply the gas industry unsafe situations procedures as required

You must be able to:

De-commission gas pipework up to 35mm to industry standards

P22 check that conditions within the gas and earthing systems will permit safe de-commissioning

P23 select and use the correct tools and equipment for de-commissioning activities

P24 use designated safe isolation methods, tests, and procedures to de-commission gas and earthing systems and components

P25 take precautionary actions to ensure that temporarily de-commissioned appliances, systems, or components do not present a safety hazard

P26 permanently remove and disconnect appliances, gas system components and earthing system components as required

P27 after permanent removal of pipework mark any live gas pipes with a notice to indicate the pipe contains gas

You must be able to:

Install, exchange, and remove gas pipework up to 35mm to industry standards

P28 carry out preparatory work to meet the installation requirements

P29 carry out the installation processes minimising damage to customer property and building features

P30 select and use the correct tools and equipment for installation activities

P31 remove existing gas and earthing system components as required by the installation plan

P32 fabricate gas system, fittings and components as required by the installation plan

P33 position the pipework and confirm it meets the location, siting and clearances required by the appliance manufacturers' and industry standards' specification

P34 provide adequate ventilation for new or replacement pipework installations and systems as necessary

P35 provide adequate support(s) for pipework installation to conform with industry standards' specification

P36 position and protect pipework installation in and through walls to meet industry standards for sleeving and purpose designed channels

P37 position and protect pipework installation in multi-occupancy dwellings to meet industry standards' requirements. Use of fire stops, sleeving, purposed designed shafts

P38 position and protect pipework installation in protected shafts containing a stairs, lifts or other protected fire escape routes to meet industry standards' requirements. Types of pipe installation, fire stops, sleeving, purposed designed shafts
P39 position and protect external installations to meet industry standards and requirements. Protection against mechanical damage, minimum depth below ground level installations.
P40 ensure existing gas systems are clean and free of debris
P41 fix and connect gas pipework, valves, fittings and components to the supply
P42 mark any live gas pipes with a notice to indicate the pipe contains gas
P43 install additional emergency control valve (AECV) to the supply as necessary e.g. remote meter installations
P44 connect earthing system components to the supply as necessary

You must be able to:

Pre-commission and Commission gas pipework up to 35mm to industry standards

P45 confirm the complete pipework installation complies with the manufacturers' specification, industry standards, Gas Safety (Installation & Use) Regulations, British Standards and Building Regulations
P46 check that conditions within the gas system will permit safe commissioning
P47 select and use the correct tools and equipment for commissioning activities
P48 use tightness testing and purging procedures to confirm the integrity of the installed gas system and, where applicable, existing appliance(s)
P49 use purging procedures to confirm the safe supply of gas to the installed gas system
P50 use electrical testing procedures to confirm the integrity of the installed earthing system as necessary
P51 apply protective coating to pipework as necessary and to joints after gas tightness testing has been completed.
P52 reconfirm that the ventilation requirements meet industry standards for the installation
P53 check and confirm the operation of the installed gas valves and components to ensure they function safely and operate in accordance with manufacturers' instructions
P54 instruct the property occupier on the correct operation of the gas system, valves and components and provide them with their copy of any literature
P55 take precautionary actions to prevent the unauthorised use of un-commissioned gas appliances, gas systems, electrical systems and components by isolation procedures and use of warning notices

You must be able to:

Use and communicate data and information to carry out de-commissioning, installation and commissioning work

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P56 liaise with the property occupier and other people who will be affected by the work during the planning, de-commissioning, installation, and commissioning processes to minimise disturbance to the job
P57 use normative documents, industry standards, British Standards and information from manufacturers' instructions applicable to the gas system and the appliance to ensure the work is done to the specification
P58 advise of any delays to the work to any persons who are affected by the delay
P59 report any delays in the work schedules to the job supervisor
P60 advise the designated persons of any unsafe situations and actions required to remedy those situations
P61 check that the customer is satisfied with the finished job
P62 complete records and documentation confirming the safe commissioning of gas systems and components
P63 complete gas system de-commissioning records

You must be able to:

Resolve problems which could affect the de-commissioning, installation and commissioning process

P64 rectify and report deficiencies in gas and earthing input services
P65 resolve problems in accordance with approved procedures where pre-commissioning checks and tests reveal gas system or component defects
P66 resolve problems in accordance with approved procedures when gas systems and components being commissioned do not meet design
P67 resolve problems in accordance with approved procedures when the gas system and components cannot be restored to full performance

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Knowledge and understanding

You need to know and understand:

General Knowledge

K1 regulations and guidance governing health and safety in the workplace, environmental protection and the use of risk assessments

K2 legislation covering the general responsibilities of the operative for their own safety and that of others

You need to know and understand:

De-commissioning, Installing and commissioning gas pipework up to 35mm

K3 the health, safety and environmental factors which need to be incorporated in risk assessment for the domestic installation process

K4 safe access and working at heights

K5 the tools and equipment necessary to provide safe access to work at heights, or in confined spaces

K6 the methods of working which protect the building décor, customer property and existing systems and components

K7 the care and maintenance requirements of tools and equipment, and checks for safe condition

K8 the tools, equipment, materials and components required for the gas system de-commission, installation and commission – ordering, supplying, advising, checking and delivery procedures

K9 how to safely secure and store tools, equipment, materials and components to minimise loss or wastage

K10 the potential hazards that could arise from all de-commissioning, installation and commissioning activities and the checks to be carried out before work takes place

K11 the steps to take should materials, components, tools and equipment not be available at the site to commence the de-commissioning, installation and commissioning activity

K12 how and where to access the required information, i.e. normative documents, industry standards guidance documents, British Standards and manufacturers' instructions applicable to the gas system and appliance, to ensure the work is done to the specification and industry standards

K13 how to read and interpret the information contained in normative documents, industry standards guidance documents, British Standards and manufacturers' instructions

K14 how to measure and record installation and site details for prefabrication purposes

K15 how to confirm that the gas supply and earthing system requirements are adequate for the installation of the new gas system and components or, for extending the system or adding components to

K16 how to confirm that the provision of ventilation meets the industry standards' requirements for the installation e.g. in voids, shafts, ducts, etc
K17 how to calculate correct sizing of pipework to ensure minimum pressure loss across installation
K18 checks and tests to confirm suitability of the gas supply
K19 checks and tests to confirm suitability of the earthing system, including the installation and positioning of the main equipotential bonding
K20 safe isolation methods, tests, and procedures for temporary and permanent de-commissioning of gas systems, earthing systems and components, including the use of temporary continuity bonds
K21 the precautions to ensure that de-commissioned gas and earthing systems do not prove a safety hazard
K22 measures to prevent de-commissioned gas systems being brought into operation utilising safety and warning notices
K23 the need to liaise with others whose procedures or routines may be affected by the suspension of the gas system operation
K24 the points in the de-commissioning, installation and commissioning process where co-operation and liaison with other trades and property occupier may be required
K25 the industry practices and work standards for fabricating and installing gas pipework, valves, systems and components to comply with the manufacturers' specification, industry standards, Gas Safety (Installation & Use) Regulations, British Standards and Building Regulations
K26 the types of pipe materials suitable for carrying gas - steel, malleable iron, copper, tracpipe, polyethylene & lead, etc
K27 the types of pipe fittings suitable for carrying gas – capillary, compression, push-fit, union joints & screwed joints
K28 the industry practices and work standards for jointing materials and fittings suitable for carrying gas, including connecting to lead composition pipes
K29 the safety precautions to take when jointing materials and fittings - Including COSHH
K30 the industry practices and methods of bending pipe materials suitable for carrying gas i.e., bending methods of copper pipe, tracpipe and stainless steel flexible pipe (anacondas)
K31 the industry practices and methods of bending copper pipework to set measured distances to include; double sets/offset bends, 90degree bends, crank sets/passover bends, etc.
K32 the positioning and fixing requirements for gas pipework, valves, systems and components to comply with the manufacturers' specification, industry standards, Gas Safety (Installation & Use) Regulations, British Standards and Building Regulations
K33 installation of gas pipework to ensure it meets the industry standards' requirements for; location, siting, clearance requirements and

relationship to other services, i.e. electricity supply, etc

K34 the industry practices and work standards of providing adequate support(s) for pipework installation to conform with industry standards'

K35 the positioning, protection and fixing methods for gas pipework, valves, systems and components in; floors, ducts, through walls, buried in walls, multi-occupancy buildings and protected shafts containing stairs, lifts or other protected fire escape routes, to comply with industry standards, Gas Safety (Installation & Use) Regulations, British Standards and Building Regulations e.g. sleeving, purposed designed channels, fire stops, purposed designed shafts, etc

K36 the industry practices and work standards for pipe installation within suspended & joisted floors including methods of lifting & replacing floorboards and chipboard flooring

K37 the industry practices and work standards for pipe installation in concrete floors

K38 the installation and protection of external installations to meet industry standards requirements e.g. protection against mechanical damage, minimum depth below ground level, etc

K39 the procedures and work methods for connecting to input services including; gas, earthing systems and ventilation

K40 the procedures and work methods of connecting pipework, valves and components to both new and existing gas systems and appliances

K41 the procedures and work methods to ensure correct gas pipe identification

K42 the process and procedures, equipment and legislative requirements for applying tightness testing and purging to gas appliances, systems and components – See Unit 3.6 or 3.20

K43 the process and procedures, equipment and legislative requirements for applying electrical tests to earthing systems and components to ensure safe functioning e.g. earth continuity checks

K44 the procedures for checking the correct operation and performance of gas systems, valves and components and checking against the design specification to ensure safe functioning

K45 the routines and sequences for commissioning gas systems, valves and components

K46 how to complete all installation and commissioning documentation and records to be left with the property occupier i.e., Benchmarks, Landlord/Home owner gas safety record, etc

K47 the system handover procedures and demonstrating the operation of gas systems, valves and components to end users

K48 the steps to take when problems arise in the work activities

K49 job management structures and methods of reporting and recording job progress or problems delaying progress

K50 how to safely collect and dispose of system contents that may be hazardous to health or the environments e.g. waste products such as

asbestos, insulation, etc.

K51 how and where to access the required information, i.e. Industry regulations regarding the safe disposal of system contents that may be hazardous to health or the environment e.g. Special Waste Regulations, Hazardous Waste Regulations, Control of Asbestos at Work Regulations, etc.

K52 how to isolate unsafe gas appliances, gas systems and components and application of the gas industry unsafe situations procedure

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Additional Information

Behaviours

1. Treat people with civility
2. Is receptive to new ways of working
3. Conforms to industry standards, practices and procedures
4. Take pride in delivering high quality work
5. Take personal responsibility for resolving problems in your area of work

Glossary

“Gas pipework” refers to pipework suitable for carrying gas; Copper, Steel, Malleable Iron, Tracpipe, Polyethylene, and Lead pipework, including the Associated Fittings/Jointing of materials.

“Work Site” refers to the area where the work will take place and all areas affected by the works

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