

Overview

This standard covers carrying out domestic gas heating and hot water system design.

This work must be in accordance with the current versions of the appropriate industry standards and regulations; the specification; industry recognised working practices; the working environment and the natural environment.

To meet this standard you will be able to:

- complete a full system design
- communicate the design to meet customer requirements
- take personal responsibility for your own actions and for the quality and accuracy of the work carried out.

This standard is suitable for a craftsperson or technician working independently in the gas energy supply and use sector.

Performance criteria

You must be able to:

1. identify the work area to be accessed using available information
2. identify and record the customers job requirements, comparing this with statutory and industry requirements
3. carry out a site specific risk assessment of the work, identifying hazards and the required control measures
4. survey the work site and consult diagrams as necessary for any key structural features that could affect the work
5. identify and use the correct tools for the work
6. plan and carry out all work in line with organisational policy and work procedures
7. record and report information and data to the designated person in accordance with organisational procedures
8. design a system that is the most energy efficient available
9. check and confirm that the design is compliant with relevant industry standards
10. design a system that meets the requirements of the customer
11. design a system that fits the building design
12. present and agree the design option with the customer

Knowledge and understanding

You need to know and understand:

1. the principles of health and safety in the workplace, environmental legislation and relevant regulations in relation to the work to be carried out
2. the organisations reporting lines, authorisation roles and responsibilities
3. the organisational safety rules, policies and procedures in relation to working with gas
4. the hazards associated with working with gas and how to deal with them
5. how to carry out a site risk assessment, identify hazards and assess risks of the site and proposed activity
6. how to update, report and record information in accordance with organisational procedures
7. the principles of building construction
8. the principles of heat losses and 'U' values
9. the principles and effects of ventilation
10. how to complete heat loss calculations
11. how to size radiators and other heat emitters
12. how to complete boiler sizing
13. the principles of Domestic Hot Water Service systems
14. the principles of heating and hot water system layouts
15. how to complete pump sizing to maximise efficiency of system
16. how to complete full pipe sizing of gas, heating, hot and cold water systems
17. the principles and parts of open vented systems
18. the principles and parts and advantages of sealed systems
19. the principles of heating and domestic hot water system controls to maximise the system efficiency
20. the importance of presenting and agreeing the design with the customer

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Suite Down Stream Gas, Downstream Operations

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