

Connect solid fuel appliances to flue system

Overview

This standard is about the inspection, preparation and connecting of a solid fuel appliance up to 50kW to a domestic, or commercial flue ways or chimney services and systems designed to operate under negative flue pressure, those without internal electronic control systems and those not intended to be connected to plastic flue systems.

This will include the interpretation of current relevant statutory standards, information, and adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components, tools and equipment, in accordance with the work area and the organisational procedures which are equal to or exceed the current statutory and legislative documentation and specifications

This standard is for people working in the occupational area of Chimney Occupations and can be used by operatives, supervisors and managers

A description of terms in bold font in this National Occupational Standard can be found in the Glossary which should be used as a reference point

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Performance criteria

You must be able to:

Interpretation of information

P1 interpret the information relating to the work and resources to confirm its relevance for the following:

- documentation and specifications
- drawings
- schedules
- contract information
- pre-installation surveys
- risk assessments
- method statements

Safe work practices

P2 comply with the relevant legislation, official guidance and organisational procedures, to carry out your work and maintain safe, healthy and environmentally responsible work practices relating to the following:

- methods of work
- safe use of health and safety control equipment relevant to the task being undertaken and the working environment
- safe use of access equipment and working platforms
- safe use, storage and handling of materials, tools and equipment
- specific risks to health including mental health
- specific risks associated with asbestos containing materials
- specific risks associated with silica dust, mortars and sealants

Selection of resources

P3 select the required quantity and quality of resources for the methods of work:

- materials, components and fixings
- tools and equipment
- access equipment

Minimise the risk of damage

P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area by:

- protecting the work and its surrounding area from damage
- maintaining a safe, clear and tidy work area
- disposing of waste in accordance with current legislation and industry best practice

Meet the contract specification

P5 comply with the contract information to carry out the work efficiently to the required specification by the following:

- demonstrating work skills to measure, cut, position, secure, test and connect solid fuel appliances to a flue system
- using and maintaining all hand and power tools and ancillary equipment
- inspecting and preparing work areas and work activities for connecting an appliance to a flue system,
- inspecting and testing the siting and installation of solid fuel appliances in

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accordance with statutory and manufacturer's requirements including open and inset fires

- identifying adequate ventilation to support correct performance
- reporting identified defects to the appropriate party
- carrying out suitable performance tests to ensure intended function and combustion
- advising end user of correct fuels, efficient use of appliance and importance of regular servicing and maintenance

Allocated time

P6 complete the work within the estimated, allocated time in accordance with organisational procedures, the programme of work and to meet the needs of other occupations and/or client

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Knowledge and understanding

You need to know and understand:

P1 Interpretation of information

K1 why organisational procedures have been developed to report and rectify inappropriate information and unsuitable resources, and how they are implemented

K2 the types of information, their source and how they are interpreted in relation to:

- documentation and specifications
- drawings
- schedules
- contract information
- pre-installation surveys
- risk assessments
- method statements

K3 the range of relevant digital services, tools and systems, and how they are used

K4 the importance of organisational procedures to record, report and solve problems with the information and why it is important to follow them

P2 Safe work practices

K5 information for current legislation and official guidance and how it is applied

K6 the types of fire extinguishers and how and when they are used in relation to water, CO₂, foam, powder

K7 how emergencies should be responded to and reported in accordance with organisational authorisation and personal skills in relation to:

- fires, spillages and injuries
- emergencies relating to occupational activities
- identification and reporting of asbestos containing materials

K8 the organisational security procedures for tools, equipment and personal belongings in relation to:

- operative
- site
- workplace
- vehicles
- company
- customer
- the general public
- other occupations within the workplace

K9 how to report risks and hazards identified by the following:

- methods of work
- risk assessment
- personal assessment
- manufacturers' technical information
- statutory regulations
- official guidance
- Control of Substances Hazardous to Health (COSHH)

K10 the accident reporting procedures and who is responsible for making the report

K11 why, when and how health and safety control equipment identified by the

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principles of prevention should be used in relation to:

- collective protective measures
- personal protective equipment (PPE)
- respiratory protective equipment (RPE)
- local exhaust ventilation (LEV)

K12 how to comply with environmentally responsible work practices to meet current legislation and official guidance when dealing with potential accidents, health hazards and the environment in relation to working:

- in the workplace
- below ground level
- in confined spaces
- at height
- with tools and equipment
- with materials and substances
- whilst moving and storing materials by manual handling and mechanical lifting
- when installing solid fuel appliances

P3 Selection of resources

K13 why the characteristics, quality, uses, sustainability, limitations and defects associated with the resources are important and how defects should be reported and rectified

K14 the organisational procedures to select resources, why they have been developed and how they are used

K15 how to confirm the resources and materials conform with the specification

K16 how the resources should be used and how any problems associated with the resources are reported in relation to:

- protective equipment and screens
- connecting flue pipes and adaptors
- heat shields
- fixings and fittings
- fire cement
- mortars
- sealants
- insulation materials
- hand and power tools and ancillary equipment

K17 how to identify the hazards associated with the resources and methods of work and how they are overcome

K18 how to calculate the quantity length and area associated with the method and procedure to connect solid fuel appliances to the flue system

P4 Minimise the risk of damage K19 how to protect work and its surrounding area from damage and the purpose of protection from general workplace activities, other occupations and adverse weather conditions and how to minimise damage to existing building fabric

K20 why and how the disposal of waste must be carried out safely in accordance with the following

- environmental responsibilities
- organisational procedures

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- manufacturers' information
- statutory regulations
- official guidance

K21 why it is important to maintain a safe, clear and tidy work area

P5 Meet the contract specification

K22 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 environmentally responsible work practices, procedures and skills relating to the method and area of work in relation to the following:

- the relevance of an assessment and how to recognise specific requirements for structures of special interest, traditional construction, hard-to-treat buildings and buildings of historical significance
 - how to inspect, prepare and connect open and closed solid fuel appliances up to 50kW to a flue system, in accordance with statutory and manufacturer's instructions
 - how to identify the correct heat output from an appliance to meet the requirements
 - why it is important to inspect and test chimney and appliance performance and confirm it meets statutory requirements, manufacturers and industry standards
 - why it is important to ensure there is access for sweeping and inspection
 - the importance of flue designation and how to check that the flue is compatible with the appliance and its intended use
 - why it is important to confirm that the ventilation requirements meet the statutory and industry standards for the installation
 - why it is important to make provision in accordance with statutory and manufacturer's instructions for an alert to the release of carbon monoxide
 - why it is important to ensure permanent access to installation data is available
 - why it is important to protect the area surrounding the work
 - how to work safely with, around and in close proximity to plant and machinery
 - how to use work tools and equipment
 - how to work at height using access equipment
 - how and why operative care and maintenance of work and power tools and equipment is carried out
 - why it is important to ensure the end user understands the correct and safe operation of the appliance in accordance with statutory and manufacturer's instructions
 - how to achieve good solid fuel appliance operating practice and efficient combustion
 - how to identify suitable solid mineral and wood fuel and its storage in accordance with manufacturer's instructions
 - how to identify, report and resolve problems that could affect the installation process
 - how to complete all records and documentation in line with statutory and organisational requirements
 - how to work safely with, around and in close proximity to plant and machinery
- K23 the principles of combustion to include

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- adequate fuel quality
 - combustion temperature
 - sufficient combustion air
 - combustion performance effects on emissions
- K24 the principles of chimney flue draught and design

- mechanical ventilation
- natural flue draught (convection)
- forced flue draught (mechanical)
- effective flue height
- effective flue area
- impact of bends and restrictions
- interaction with building envelope and topography
- meteorological effects

K25 the importance of team-work and communication, organisational procedures with respect to site behaviours, and how to respond to inappropriate site behaviours

K26 the needs of other occupations associated with connecting solid fuel appliances to flue systems

P6 Allocated time

K27 the programme of work to be carried out including the estimated and allocated time and why deadlines should be kept

K28 the types of progress charts, timetables and estimated times and the organisational procedures for reporting circumstances which will affect the work programme

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Glossary

Organisational procedures

Organisational

Insurances – public, product and employers liability, professional indemnity

Company documents

contract for the work, safety management plan, Construction Design and Management regulations, environmental policy, complaints procedure, information privacy and security policy, management structure

Work area

The area where the equipment will be installed and all areas affected by the work extending to topographical features and meteorological conditions

Services and systems

Chimney and flue systems, appliances, ventilation systems and appropriate utilities

Documentation and specifications

Manufacturers' instructions for all equipment that forms part of the work

architect's plans and site-specific documentation

local building rules and regulations

Party Wall legislation

Clean Air Act

Environment Act

Smoke Control Zones

Permitted Development

Conservation Areas

Heritage status

Areas of Outstanding Natural Beauty

Sites of Special Scientific Interest

specific requirements of insurance underwriters

Building regulations in England and Wales, particularly ADJ but also ADA, ADB, ADF, ADL and AD7

Building Standards Technical Handbook in Scotland

Technical Booklets in Northern Ireland, particularly B, D, E, F1, F2, K and L

BSEN's particularly 8303, 15287, 1856, 16510, 1251, 3376, 4834, 12815, 13229, 13240, 15250

Note: Technical and BSEN documents may be withdrawn or superseded during review programmes, it is therefore important to check the currency and validity of all such documents to ensure the correct version is being referenced.

Appliances

Solid fuel burning appliances up to 50kW output including but not limited to the following:

- open fires
- free standing room heaters
- inset room heaters
- free standing cookers
- independent boilers
- slow heat release stoves

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