

Overview

This standard is about designing the installation of dry solid fuel **services and systems** up to 50kW output that operate under negative flue pressure and those **appliances** without internal electronic control systems. It covers the design of all flue systems that are not made from plastic.

This will include complying with the **documentation and specifications, organisational procedures** for performance and environmental outcomes in accordance with the **work area** and customer's needs.

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

	Review intended requirements	
Performance criteria <i>You must be able to:</i>	P1	identify and clarify the key operating requirements and implications of the dry solid fuel installation
	P2	evaluate the potential for adaptation to accommodate new equipment where there is an existing system, site structures and features
	P3	review the feasibility of proposed adaptations against documentation and specifications , technical, legal and cost criteria
	P4	identify the relevant operating factors which will influence the design of the dry solid fuel installation for new systems
	P5	ensure that a risk assessment is carried out for incorporation in planning, schedules of work, testing and commissioning procedures
	P6	review documentation and specifications for siting the dry solid fuel installation and the impact this will have on the final design
	P7	ensure your plans allow access for service, maintenance and repair to meet the documentation and specifications
	P8	identify different design options for evaluation which meet documentation and specifications and organisational procedures , including: <ul style="list-style-type: none"> • assessing the work area • the level of heat output required • environmental impact
	P9	discuss the different design options with all relevant parties to establish if they are technically feasible and cost-effective including: <ul style="list-style-type: none"> • providing full information and options available to all relevant parties for them to make an informed decision
	Select design options for the dry solid fuel installation	
	P10	agree and fully cost a plan of action including the removal and disposal of any equipment or material that is to be replaced or will no longer be part of the installation
P11	ensure your design meets the key operating requirements identified from inspection reports and site surveys with particular reference to environmental outcomes	

Performance criteria <i>You must be able to:</i>	P12	perform calculations to determine the required heat output, flue performance and ventilation requirements
	P13	include a means of detection of Carbon Monoxide release from the dry solid fuel installation into the design to meet the documentation and specifications
	P14	ensure that sufficient data is left with the dry solid fuel installation and is permanently available to meet the documentation and specifications
	P15	introduce all appropriate measures for the safe removal and disposal of existing equipment which comply with current legislation
	P16	agree the final design with all relevant parties ensuring it is compliant with the documentation and specifications
	P17	obtain and record the agreement on the design proposals from all relevant parties
	P18	produce drawings, specifications, schedules of work, component lists, testing and commissioning procedures
	P19	select all the materials and equipment identified by the drawings, specifications, schedules of work, component lists, testing and commissioning procedures along with purchasing options including cost and lead time information
	P20	arrange for all materials and equipment to be provided to meet contract requirements and the project program
	P21	amend the design to account for unforeseen issues, update all relevant parties, agree any alterations to time schedules and update design records

	P1 Review intended requirements	
Knowledge and understanding <i>You need to know and understand:</i>	K1	all relevant health, safety and environmental factors including how to carry out a risk assessment
	K2	the documentation and specifications and organisational procedures
	K3	different types of dry solid fuel installations, their performance, application and environmental capabilities
	K4	different types of dry solid fuel appliance , their usage and fuel types
	K5	how to identify the requirements from inspection reports, site surveys, documentation and specifications and organisational procedures
	K6	all technical criteria for adapting existing equipment
	K7	the ways of costing and scheduling equipment adaptations
	K8	appropriate alternative ways to meet the requirements
	K9	the importance of getting agreement to the design proposals from all relevant parties
	K10	the principles of combustion to include: <ul style="list-style-type: none"> • adequate fuel quality • combustion temperature • sufficient combustion air • combustion performance effects on emissions
	K11	the principles of chimney flue draft and design: <ul style="list-style-type: none"> • mechanical ventilation • natural flue draft • forced flue draft • adequate chimney draft to evacuate the products of combustion • effective flue height • effective flue area • impact of bends and restrictions • impact of flue outlet position • interaction with building envelope and topography • meteorological effects
	K12	why it is important to provide a means of detection of Carbon monoxide (CO) release from the dry solid fuel installation

Knowledge and understanding <i>You need to know and understand:</i>	K13	why it is important to ensure that sufficient data is left with the dry solid fuel installation and is permanently available
	P2 Select design options for the dry solid fuel installation	
	K14	how to interpret and apply inspection reports, site surveys, the documentation and specifications and organisational procedures to enable selection of the design options
	K15	how to calculate the performance of components to meet the heat output, flue performance and ventilation requirements
	K16	methods of presenting design information to customers, users, installers and all relevant parties by means of drawings, specifications, schedules of work, component lists, testing and commissioning procedures
	K17	the range of information that is required to carry out design work across new and existing buildings, domestic and commercial
	K18	positioning requirements for dry solid fuel installations and standard system layouts including flue termination position
	K19	the access requirements to allow service, maintenance and repair of dry solid fuel installations
	K20	how to select components with the correct flue designation for the application
	K21	how to provide suitable isolation of other services connected to the installation

Glossary	<p>Organisational requirements</p> <p>Organisational Insurances – public, product and employers liability, professional indemnity</p> <p>Company documents contract for the work, safety management plan, CDM, environmental policy, complaints procedure, information privacy and security policy, management structure</p> <p>Work site The area where the equipment will be installed and all areas affected by the work extending to</p>
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	<p>topographical features and meteorological conditions</p> <p>Services and systems Chimney and flue systems, appliances, ventilation systems and appropriate utilities</p> <p>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</p> <p>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.</p>
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		<p>Appliances Solid fuel burning appliances up to 50kW output including but not limited to the following:</p> <ul style="list-style-type: none">• open fires• free standing room heaters• inset room heaters• free standing cookers• independent boilers• slow heat release stoves
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COSVR827
Design dry solid fuel installation



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