

Building Regulations and Solid Fuel Heating

A consumer guide to the current regulations applicable to new and replacement domestic heating and hot water systems in England and Wales

This leaflet deals with the requirements for new and replacement solid fuel systems in existing or extended dwellings. It provides a basic understanding of what is and is not permitted under the Regulations. It is not a guide to installation. We would always recommend that advice is sought from a competent installer to discuss the merits and suitability of different systems and that the appliance is purchased from a reputable supplier.

1. Introduction to the Building Regulations

The Building Regulations in England and Wales determine the operational efficiency and safety of buildings. They cover methods and materials used in construction, fire protection and the operation, safety and efficiency of services within the building.

Building Regulations apply to new build, extensions to existing buildings and to the installation and replacement of certain (controlled) services such as heating.

2. Building Regulations Part J and Competent Persons

Under Part J 'Combustion Appliance and Fuel Storage Systems', there were established a number of Competent Persons Schemes designed to facilitate the installation of what are described as "controlled services". Controlled services include solid fuel heating systems and chimneys.

Building Control consent is required prior to installation or replacement of these services unless the work is carried out by a member of a Competent Persons Scheme. A competent person carries out the work and issues a certificate which confirms that the work done is in accordance with the Building Regulations. Copies are distributed to the householder, the Competent Persons Scheme operator and the relevant Building Control Department.

There are a number of competent person schemes operators that are recognised by Government. One such scheme is HETAS which specialises in wood and solid fuel. Schemes include different categories of membership covering different types of installation and it is therefore necessary to check that the engineer is registered to do the particular type of work required. The categories covered by HETAS include dry appliances, full systems (i.e. appliances with boilers) and chimney lining. There are further categories such as "Maintenance" and "Technical Consultant" which are not regulated and are simply added for the convenience of consumers who are seeking engineers to carry out this particular type of work. A list of currently

registered engineers is available on the HETAS Ltd website www.hetas.co.uk or by telephoning the SFA helpline on 01773 835400.

In addition to the Competent Persons Scheme, Part J covers the safety aspects of installations including:-

- Detailed guidance on the construction and size of the hearth*
- Details of the height, position and construction of the chimney and methods for testing.
- Ventilation requirements for solid fuel appliances*
- Proximity of combustible material to an installation
- Fuel storage arrangements

These Regulations must be complied with, unless the installation instructions of the appliance manufacturer provide for greater safety. In some places, the Regulations quote British Standards and confirm that adherence to the relevant British Standard will suffice to satisfy Building Regulations. The British Standards may differ slightly from what is stated in the Regulations.

Chimneys, Chimney Lining and Data Plates

There is no automatic requirement for an existing chimney to be lined. However, the installer of any appliance must satisfy him/herself that the chimney is suitable for the appliance and the fuel. There are a number of reasons why a chimney may need to be lined-

- If the chimney is leaking (A smoke soundness test should be carried out as a matter of course)
- If the installation instructions of the appliance manufacturer require it
- To produce a better draw on the chimney by reducing the diameter of the flue but not less than the minimum size requirements of current regulations nor the appliance flue outlet size.

If any work undertaken on the chimney, including installing a liner, is done in conjunction with the installation of a heating appliance, then that work is itself a part of the controlled service and must be undertaken by a Competent Person or receive Building Control Consent.

Note also that any alteration to a fireplace which renders it capable of being used for a different fuel – e.g. from gas to solid fuel or wood, is subject to Building Regulations

The installer (or chimney lining contractor) must affix a 'Notice Plate' somewhere in the dwelling (usually near to where the services enter the building). This plate gives information about the chimney and hearth e.g. what fuels it is suitable for, its type and diameter. The installer name and address and date of completion should also be included.

3. Conservation of Fuel and Power - Part L of the Building Regulations

Selection of Central Heating and Hot Water Systems

Part L of the Building Regulations regulates the type of heating and hot water system that may be put into new dwellings or as replacements in existing dwellings. The objective is to have installed the most energy efficient system possible. The choice of both the system and the fuel is therefore important. Very complex calculations have to be made when designing new dwellings to ensure they reach the “target carbon emissions rate”. The TCER is based on a typical dwelling of the same size in the same area of the country. The builder will have choices to make to ensure the building complies. If he wants more windows, he may have to increase the level of insulation in the house. Wood fuel is generally accepted as carbon neutral and the choice of a wood stove in a new build house will allow more flexibility of choices of other energy and carbon saving elements. Solid mineral fuels have a higher carbon content so compensatory measures may have to be taken elsewhere. Both wood burning and multifuel stoves will give a carbon credit when specified as secondary heating.

For existing dwellings, such complex calculations are not required. There are however some rules which differ slightly depending on whether the replacement central heating system is to run on the same fuel as the one it replaces, or a different fuel is to be selected.

Minimum Efficiencies for Solid Fuel Appliances

The efficiency of all solid fuel appliances must be at least the minimum figure listed in Section 1.8 of The Domestic Building Services Compliance Guide for that type of appliance. All HETAS approved appliances conform to these standards and are listed on their website and in the Official HETAS Guide. These are shown as **gross efficiencies**, you may find some efficiencies quoted in appliance manufacturers’ literature are shown as **net**. As a guide, to convert from net to gross simply multiply the net figure by 0.9.

Appliances not approved by HETAS may still be suitable, but the efficiency should be verifiable by the installer or Building Control.

Rules for Selecting Replacement Appliances

If you are replacing an existing solid fuel central heating appliance, then you should replace it with one that is no less efficient than the one it replaces. An open fire with back boiler will rarely match the efficiency of a closed appliance and should therefore not be contemplated as a replacement central heating system unless it can be demonstrated it will be more efficient. A modern multifuel stove with back boiler will usually be more efficient than an open fire with back boiler and should be considered on the grounds of fuel efficiency, carbon emissions, controllability and safety.

If you are contemplating changing the fuel you use, you should be aware that the Regulations do not allow you to replace a very efficient and low carbon system for a system that produces higher levels of carbon dioxide. A calculation has to be made which takes into account the efficiency of the old appliance and the carbon index of the fuel, compared with the replacement. The most efficient multifuel boilers may well compare favourably with older gas and oil boilers. Wood fuel boilers (logs and pellets) will almost always be an acceptable alternative under the Regulations. This is because the carbon neutrality of the fuel compensates for efficiencies lower than a Band A or B rated gas or oil condensing boiler. Remember, however, that a wood fuelled appliance needs to have DEFRA “exemption” if fitted in a Smoke Control Area as wood is not a naturally clean burning fuel. See below ‘Choice of Fuel and the Clean Air Act’.

Selection of Appropriate Controls

The efficiency of any heating system can also be improved by fitting appropriate controls. Modern controls for gas and oil systems are fairly sophisticated and responsive. By comparison, controls for solid fuel systems are more modest. You should, however, choose a solid fuel boiler which has a thermostat and contemplate other controls appropriate to the complexity of the system you are fitting. This will generally include room thermostat, timer and thermostatic radiator valves on some radiators. A HETAS engineer will be able to suggest what is suitable. Wood pellet boilers are very efficient and include many of the more advanced controls seen on oil and gas boilers. They are hopper fed and are often suitable for heating larger dwellings.

Space Heating

Space heating appliances must be at least as efficient as the figure specified in the Domestic Building Services Compliance Guide for that type of appliance. The least efficient type of appliance – the open fire – may be fitted in an existing fireplace for space heating, although a closed appliance will supply heat more efficiently.

The Importance of Minimum Efficiencies

Minimum efficiencies are now a statutory requirement. European legislation requires that appliances are tested for conformity to harmonised European standards in order for them to obtain a CE mark necessary for the free movement of the goods throughout Europe. Any efficiency figures quoted by appliance manufacturers will be those measured and third party verified in accordance with the European Standard and will be gross.

4. Choice of Fuel and the Clean Air Act

Your choice of appliance type will vary according to the fuel you intend to use. Under the Clean Air Act some areas are classified as smoke control areas. In a smoke control area, only authorised smokeless fuel can be burnt unless the appliance itself has been exempted by DEFRA to burn wood or coal in a smokeless zone. A list of authorised appliances and authorised fuels can be viewed at:-

<http://smokecontrol.defra.gov.uk/appliances.php?country=e> and
<http://smokecontrol.defra.gov.uk/fuels.php?country=e>

Important Note: Not all appliances described as clean burning and environmentally friendly are authorised. Wood in the form of logs or pellets is a naturally smoky fuel and is not authorised for burning in smoke control areas under normal circumstances.

Fuel Storage

Suitable storage is necessary for the chosen fuel. Solid Mineral Fuel can be bought or delivered in pre-packed bags but will be cheaper if bought in open sacks and stored in a coal bunker. All logs should be well seasoned and stored under cover to keep it dry but with a free flow of air around it. Wood pellets must be stored in a moisture free environment. Some large pellet boilers may require an external fuel silo to feed the hopper.

5. Building Regulations Part P – Electrical Work

Certain kinds of electrical work may only be undertaken by persons registered as competent under Part P. There are a number of bodies offering schemes. Some installers of solid fuel appliances will be registered to do this work through the various schemes, but some may not and will either arrange for a suitably qualified person to undertake the electrical work or ask you to engage such a person.

Further information and useful publications

Copies of Building Regulations can be downloaded from www.planningportal.gov.uk or available in libraries. The main Parts are Part ADJ and Parts ADL1A (new dwellings) and ADLIB (existing dwellings) and ADF (ventilations).

In order to assist installers to comply with the Building Regulations Parts ADL1A and ADL1B, there is also published the Domestic Building Services Compliance Guide, to which we have referred to above. This may be downloaded from - www.live.planningportal.gov.uk/uploads/br/domestic_building_compliance_guide_2010.pdf

The Energy Savings Trust in association with the Building Research Establishment (BRE) also publish a range of best practice guides.

A list of smokeless fuels and appliances exempted under the Clean Air Act can be found listed separately for England and Wales, Scotland and Northern Ireland on www.uksmokecontrolareas.co.uk.

A list of HETAS minimum appliance efficiencies and HETAS registered engineers is on the HETAS Ltd website www.HETAS.co.uk. Also available on the site is the HETAS Official Guide to Approved Solid Fuel Products and Services. This latter is updated on an annual basis and may be purchased as a hard copy from HETAS Ltd. Telephone 01684 278170.

Many other publications are available from the SFA either to download or direct from the Association.

The SFA Technical Helpline is 01773 835400

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