

SOLID FUEL and WOOD FUEL HEATING

A CUSTOMER'S GUIDE TO CURRENT BUILDING REGULATIONS FOR BOTH NEW AND REPLACEMENT HEATING AND HOT WATER SYSTEMS IN DOMESTIC DWELLINGS IN ENGLAND AND WALES

This leaflet will deal primarily 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. It is designed to give customers sufficient information to enable them to proceed to make sensible, fuel efficient choices which will be legal under the Regulations. We would however recommend that you seek the advice of a HETAS registered competent person to discuss the merits and suitability of different systems before choosing your appliance and that you purchase from a reputable supplier.

The Building Regulations in England and Wales determine the operational efficiency and safety of buildings. They cover methods and materials used in construction, elements of fire and hazard protection to be incorporated into the dwelling and the operation, safety and efficiency of services within the Building.

Building Regulations apply both to the design and build of new homes and buildings but also to some extensions to them and to the installation and replacement of certain services in existing buildings.

Competent Persons - Part J of the Building Regulations

Under Part J, Combustion Appliance and Fuel Storage Systems, there are established a number of Competent Persons Schemes designed to facilitate the installation of certain services to the building, which are described as "controlled services". Building Control consent is required prior to installation or replacement of these services. However, by using a registered Competent Person, the householder does not need to seek Building Control Consent with a consequent saving of time and expense. The installer certifies the appliance is installed in accordance with the Building Regulations and issues a certificate, copies of which go to the householder, the Competent Persons Scheme operator and the relevant Building Control Department.

Competent Persons for solid fuel and wood burning appliances will be registered with HETAS, which is the specialist scheme dealing with wood and solid fuel installers or some such other Competent Persons Scheme provider as authorised from time to time under the Regulations. As the industry lead scheme provider for solid fuel, we shall describe how the HETAS scheme operates. Other scheme providers are expected to operate in a similar way once they commence registration. HETAS operates 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 you

require. The categories are: dry appliances, full systems (i.e. appliances with boilers) and chimney lining (check registration for what kinds of lining the engineer is registered to do and see our leaflet “Lining Old Chimneys”). There are further categories such as “Maintenance” and “Technical Consultant”. These two categories 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 0845 601 4406.

In addition to the competent persons scheme, Part J covers the safety aspects of installations.

These include:

- Detailed guidance on the construction and size of the hearth*
- Details of the height and position of the chimney and methods for testing for leakage
- Regulations about the required ventilation 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 (e.g. size of constructional hearth).

*separate leaflet available from the SFA.

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

Central Heating and Hot Water Systems

It may come as a surprise to some that Part L 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 and carbon 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”. This “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 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, if the choice is solid fuel heating, compensatory measures may have to be taken elsewhere.

For existing dwellings, such complex calculations are not required. There are however some “rules”. The rules 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.

All solid fuel appliances installed must however meet the following criteria: the efficiency must be at least the minimum required by HETAS Ltd for that type of appliance. HETAS minimum efficiencies are published on their website and in their Official Guide. These minimum efficiencies are *gross efficiencies*. Because of the recent necessity to meet this requirement, you may find the efficiencies quoted in some of the literature from appliance manufacturers are *net*. (See below on where to obtain information on the gross efficiencies of 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 both fuel efficiency and carbon emissions.

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 an efficiency 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 also below).

The efficiency of any heating system can be improved by fitting appropriate controls. Modern controls for gas and oil systems are highly sophisticated and responsive. 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. These may include room and radiator thermostats. A HETAS engineer will be able to suggest what is suitable. Wood pellet boilers are very efficient and include many of the more sophisticated controls seen on oil and gas boilers. They are hopper fed and therefore very suitable for heating larger dwellings.

Solid mineral fuel and wood fuel space heating appliances.

Any appliance fitted must be at least as efficient as that required by HETAS 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. If you intend to add a chimney to a dwelling, this will reduce the air tightness of the building. To conform to Building Regulations, more insulation may be required to compensate, unless a wood stove is selected.

Minimum Efficiencies

Prior to the recent Amendment to Part L of the Building Regulations, there were no minimum efficiencies for solid fuel or wood fuel appliances. These minimum efficiencies are now a statutory requirement. In addition, 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. The manufacturers have, however, until a future date (expected to be July 2007, by which to obtain the mark. After this date, 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. Any manufacturer which has already gone through this process can apply to HETAS to have its appliance efficiencies listed on the HETAS website. Concerns about climate change are likely to influence future changes to Building Regulations and the promotion of energy efficiency in the home. It would therefore be prudent to select the most efficient appliance suitable for your needs.

Choice of Fuel and the Clean Air Act

Your choice of appliance type will vary according to the fuel you intend to use. Logs will give you the greatest choice and small anthracite the least. However, under the Clean Air Act, you may only burn an authorised smokeless fuel if you are in a smoke control area, unless the appliance chosen is itself authorised under the Act to burn wood or coal. A list of authorised appliances and authorised fuels can be viewed at www.uksmokecontrolareas.co.uk. Not all appliances described as clean burning and environmentally friendly are authorised. Wood in the form of logs or pellets is not an authorised fuel.

You should also consider suitable storage for your chosen fuel. Solid Mineral Fuel can be bought or delivered in prepacked sacks, but will be cheaper if bought in open sacks and stored in a coal bunker. All logs should be well seasoned and benefits from storage that keeps it dry but allows 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.

Under the Low Carbon Buildings Programme, there may be grants available for the installation of pellet stoves and boilers and larger wood fuelled boilers. Visit www.lowcarbonbuildings.org.uk. There are a number of criteria that have to be met to obtain a grant and specialist advice from a HETAS/LCBP accredited engineer for the installation of such appliances should be sought. The availability of suitable pellets should be checked prior to installation.

Chimneys, Chimney Lining and Data Plates

There is no Regulation that requires that a pre-existing chimney 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, therefore, a number of reasons why you might be advised to have it lined-

- If the chimney is leaking
- If the installation instructions of the appliance manufacturer tell you to line the chimney
- To produce a better draw on the chimney by reducing the diameter of the flue but to not less than the minimum size limits of current regulations.

If any work done to the chimney, including installing a liner, is done in connection 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. Prefabricated chimneys and various types of chimney lining systems which meet the requirements of the Building Regulations are listed in the HETAS Guide and on the website.

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 liner) must affix a “Data Plate” somewhere in the dwelling (usually near to where the services enter the building). This plate gives information about the chimney and hearth, stating what fuels it is suitable for, its type and diameter. The installation date and installer name and address will also appear.

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 ADL1B (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 Heating Compliance Guide”, to which we have referred to above. This may be downloaded from www.planningportal.gov.uk/uploads/br/BR_PDF_DOMHEAT.pdf.

The Energy Savings Trust in association with the Building Research Establishment (BRE) also publish a range of best practice guides. Those for solid fuel and wood fuel heating are in course of revision and preparation.

Information about grants under the Low Carbon Buildings Programme can be found at www.lowcarbonbuildings.org.uk.

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 or available from the Solid Fuel Association.

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 0845 6345626.

Other SFA leaflets available to download or from the Association:

Guide to the Hearth Regulations

Guide to Ventilation Requirements for Solid Fuel Appliances

Lining Old Chimneys

Guide to Solid Fuels

Guide to Designing Solid Fuel into Homes

The SFA/HETAS technical helpline is 0845 6014406.

July 2007

Issued by the Solid Fuel Association

www.solidfuel.co.uk

e-mail sfa@solidfuel.co.uk

Telephone 0845 6014406