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BFCMA INFORMATION PAPER 2

CHIMNEYS IN THATCHED PROPERTIES

1 Existing Chimneys

Existing inglenook type chimneys can be a few hundred years old and will require, as part of good housekeeping, ongoing periodic inspection and maintenance.

When the chimney was built originally, the inglenook fireplace was used for heating and cooking. Large logs were burned, supported on “dogs”. The fireplace opening was, compared to modern fireplaces, very large, as was the bore size of the chimney. The chimney was parged (plastered) internally, with hair, cow dung, lime and sand. This assisted the evacuation of the flue gases by providing a smooth passage as well as sealing any openings between the brickwork which would have a detrimental effect on the up draught by cooling the flue gases.

When using modern appliances in conjunction with these large old stacks, due consideration must be given before commencing installation. As modern appliances are more efficient and use more of the heat that used to go up the chimney, it would be advisable to liaise with the supplier/installer. They could advise you if they thought it necessary to fit a register plate in order to seal off a large flue gather in conjunction with a canopy.

The alternative is to install a closed stove with a connecting flue pipe through the register plate, which will assist the up draught by cutting out the large volume of excess air created with the large fireplace opening.

It may also be necessary to reduce the bore size of the chimney, although it must never be less than the outlet size of the spigot from the heating appliance.

2 Relining an Existing Chimney

Traditionally brick chimneys were built as an integral part of the building structure and it was thought that they would be serviceable for the life of the building. With changes in modern living patterns and the increased demand for a more comfortable and economic life style, the existing traditional brick chimney may have become both inefficient and possibly dangerous. The Building Regulations only made it mandatory to have a refractory clay or concrete flue liner in new chimneys in 1965.

Relining a chimney with refractory chimney components offers both longevity of service and proven performance. Pumice and clay flue liners manufactured by members of the BFCMA have been tested to British and European Standards and have been successfully used for more than 50 years.

Flexible multi fuel double skinned liners, not to be confused with single skin liners for gas only, are factory made from two overlapping strips of high grade stainless steel to give a smooth sealed flueway. They are simply lowered down or pulled up the chimney and can go around most bends. Whilst their slim profile enables quick installation into chimneys where other systems might not fit, their life can be reduced if abnormally high temperatures, corrosive soot or condensate deposits are created and allowed to accumulate in the flue.

When relining a chimney with these materials, it may be necessary to break into the stack at various points to gain access to the flue-way. This gives a good opportunity to assess the condition of the existing brickwork and carry out remedial work. The inclusion of the liner and surrounding insulating backfill will improve the insulation properties of the stack, reducing the heat transmission through to the thatch.

The smaller flue size will, however, have a corresponding effect on the size of the fireplace opening and appliance that can be installed. If the bore size is too small, smoke spillage will occur into the room. A general rule of thumb for fireplace openings up to 500mm x 550mm is a ratio of 8 to 1 fireplace opening size to chimney bore (cross sectional area). For larger sizes of open fire, or closed appliances that can be used as an open fire, BS6461 Part 1 recommends that the cross sectional area of the flue should be between 14% and 16% of the free, unobstructed area of the fire opening.

3 Building Control

If a new appliance is fitted or new work is to be done to the chimney, the building work must not be undertaken without prior notification to the Local Authority. They will confirm that what you propose is in compliance with Document J of the Building Regulations, and are therefore looking after your safety.

If the work is to be carried out by a person classed by the Building Regulations as a “Competent Person”, who has shown you their authorisation from say, HETAS, for solid fuel; or other recognised authorities such as CORGI, for gas; and OFTEC, for oil; (other bodies such as NACE and NACS may be added); they are allowed to carry out the work without seeking Building Control approval before commencing the work.

The contractor will supply you with documentation on completion of the work confirming their competency from one of the Government Authorised bodies such as:

HETAS	Heating Equipment Testing & Approval Scheme
NACE	National Association of Chimney Engineers
NACS	National Association of Chimney Sweeps

When the work has been completed, the contractor will give you a document/checklist, showing the work carried out. We suggest you keep this in a safe place and pass it on to your solicitor when selling the property, as it may form part of documentation required in the future.

4 New Chimneys

4.1 Pumice, Concrete and Clay Chimneys

Any traditionally “Custom” built or factory made “System” complete chimney block system must be built to current Building Regulations Document J (which can be downloaded from the BFCMA website: www.feta.co.uk/bfcma).

The uses of refractory chimney components offer both longevity of service and proven performance tested to new European standards. Both pumice and clay flue liners have been successfully used for more than 50 years.

Chimneys should be constructed as near to the ridge as possible with the outlet terminating at least 600mm above the ridge. If the chimney is not central to the ridge, the outlet should terminate at least 1800mm above the highest breakout point on the roof. A height greater than the minimum of 1800mm may be required to satisfy the requirements of Part J of the Building Regulations. Flue liners and surrounding insulating backfill must always be used. Whilst a minimum thickness of masonry (excluding the liner) from the inside of the flue to the outside of the stack is given as 100mm in Building Regulations Document J, it can be advisable to increase this to at least 200mm where the stack passes through the thatch, or consult the flue liner manufacturer for further guidance.

The use of modern block system chimneys should also be considered; many of these have the advantage of long life ceramic liners together with in-built insulation and tested performance. The square outer casing is a structural component and the separation of the inner and outer component allows for thermal movement.

Many “system” chimneys also utilise back ventilation between the insulation and outer wall which helps in reducing the surface temperature of the outer casing.

4.2 Prefabricated Insulated Metal Chimneys, Approved to British and European Standards

Factory made stainless steel insulated chimneys are quick and easy to install. Products used must comply with current British or European Standards. Comprehensive information is available from manufacturers’ literature. See list of BFCMA members’ web page.

5 Chimney Fire

A chimney fire is avoidable. Although the chimney is made of robust material, a chimney fire in excess of 1000° C is so hot, the inside of the stack will be glowing red. Very few materials can withstand this heat without a change in their molecular structure. The main strength of the products we have discussed is that they have been tested to withstand **a** chimney fire, **not** multiple fires. If a fire has taken place in the chimney, please have it checked to establish if it needs remedial work. The chimney will have done its job. You and your family are safe and the property is safe. It may not be able to withstand another severe fire as well.

Should a chimney fire have occurred in the chimney, a fully 'competent person' should need to check the chimney before further use; a qualified competent contractor, as mentioned above, or competent contractor/ chimney sweep, such as a N.A.C.S. member.

6 To assist in avoiding fires

Use dry wood, at least two years old, stored under cover to keep the rain off. The advantage in this is that it gives more useful heat. Also the smoke from young wood gives off tars in the smoke, which then condenses on the chimney lining. The tars not only contain acids but also, when cool, build up layer upon layer to reduce the bore size. If this catches fire, it can be quite prolonged and severe.

Have the chimney swept regularly (see section on cleaning).

7 Chimney termination

To comply with diagram 2.2 of Approved Document J of the UK Building Regulations, the chimney should be terminated not less than 1.8m above the surface of the thatch.

Open-ended flues provide the most effective means of smoke product evacuation. However, where a spark arrestor is used, regular maintenance must be carried out against the build up of soot and tar, which must be an ongoing process.

The chimney pot must be bedded in, in accordance with British Standard 6461 Part 1 and manufacturer's installation instructions.

Any part of the chimney that penetrates the roof must be assembled or built to manufacturer's instructions and the structural requirements of the Building Regulations.

8 Cleaning

All chimneys need to be swept and maintained, at least twice a year, and always at the start of the heating season. Possibly more as necessary, in accordance with the maturity of the wood being burned.

Where a metal chimney is to be cleaned, avoid the use of mild steel brushes and chemical cleaners. The BFCMA would strongly recommend the use of a qualified chimney sweep.

9 Other sources of information

RHM Technology has prepared an extensive guidance for chimneys in thatched roofs. They can be contacted (www.rhmtech.co.uk) for a copy (and advice of cost) of their comprehensive report. Specification for materials and Treatment of Thatch (ref: CI 39/3/2866).

10 Useful Associations

British Flue and Chimney Manufacturers Association

Telephone 0118 940 3416

www.feta.co.uk/bfcma web site giving details of Part J of Building Regulations and contact details of Manufacturing Members.

HETAS (Heating Equipment Testing and Approval Scheme)

Telephone 01462 634721

www.hetas.co.uk

John Albion and Partners – Insurers of Thatched Properties.

Telephone 01603 788050

Email: mail@johnalbion.co.uk

National Association of Chimney Engineers

Telephone 01773 599095

www.nace.org.uk

National Association of Chimney Sweeps

Telephone 01785 811732

www.chimneyworks.co.uk

National Association of Master Thatchers

Telephone 01844 281568

<http://nsmt.hypermart.net>

National Fireplace Association

Telephone 0121 200 2100

www.nfa.org.uk

Solid Fuel Association

Telephone 0845 601 4406

Eee.sfa@solidfuel.co.uk

Safety Officers of Town or District Fire Brigade

Contact via local telephone directory

The above information is given as representing good practice, but Approved Document J of the UK Building Regulations and manufacturer's installation instructions should always take precedence.

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