FUNCTIONAL REQUIREMENTS

7.5 CHIMNEYS

Workmanship

i. All workmanship must be within the tolerances defined in Chapter 1 of this Manual.
ii. All work is to be carried out by a technically competent person in a workmanlike manner.
iii. Certification is required for any work completed by an approved installer.

Materials

i. All materials should be stored correctly in a manner that will not cause damage or deterioration of the product.
ii. All materials, products and building systems shall be appropriate and suitable for their intended purpose.
iii. The structure shall, unless specifically agreed otherwise with the Warranty provider, have a life of not less than 60 years. Individual components and assemblies, not integral to the structure, may have a lesser durability, but not in any circumstances less than 15 years.

Design

i. The design and specifications shall provide a clear indication of the design intent and demonstrate a satisfactory level of performance.
ii. Structural elements outside the parameters of regional Approved Documents must be supported by structural calculations provided by a suitably qualified expert.
iii. The materials, design and construction must meet the relevant Building Regulations, British Standards, Eurocodes and other statutory requirements.

7.5.1 Support

If a chimney is not provided with adequate support using ties, or not securely restrained, its height (measured to the top of the chimney) should not exceed 4.5 times its least horizontal dimension when measured from the highest point of intersection with the roof surface (density of masonry must be a minimum of 1,500kg/m^3).

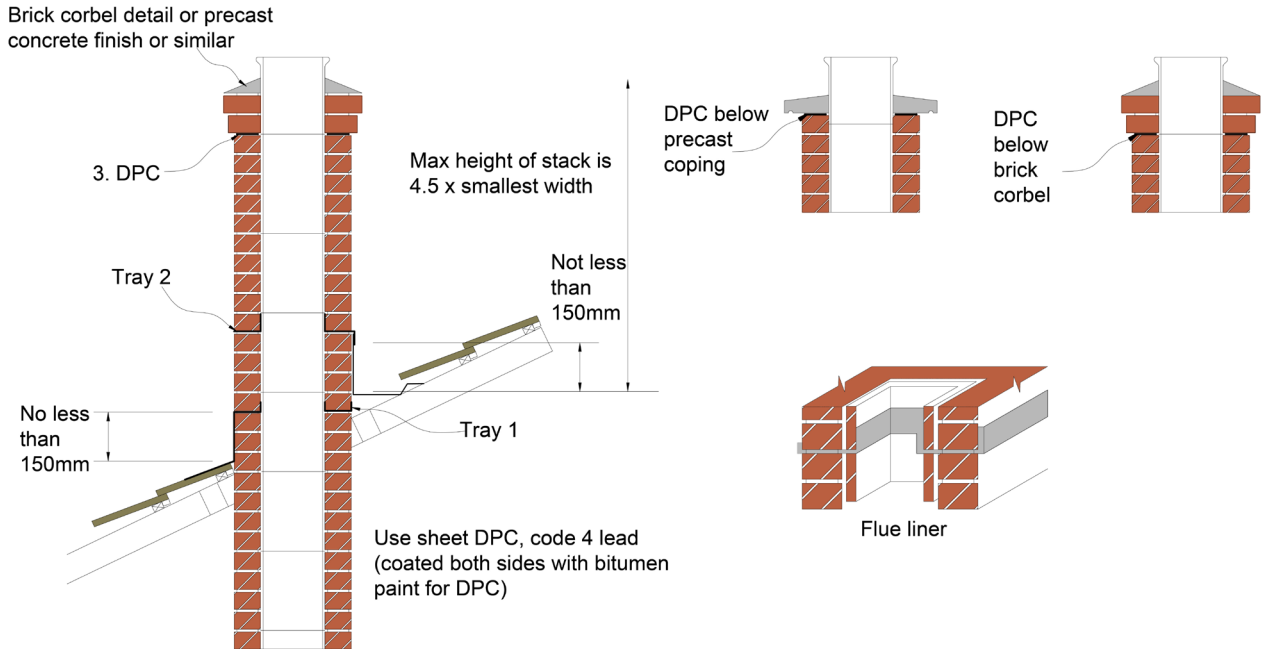

Figure 1: Typical chimney details

7.5.2 Chimneys and flues

Ensure that all gas flues terminate to the open air, i.e. flue blocks must terminate at an appropriate ridge vent or similar even where no appliance is fitted prior to the sale/occupancy of the property. To demonstrate that flues comply with Building Regulations, reports showing that flues have passed appropriate tests are to be made available.

A suggested checklist for these reports is provided in Approved Document J. Special blocks are made to accommodate gas fire flues, which tend to be slightly thicker than normal units. When used in external walls, care should be taken not to reduce the clear cavity width below 50mm.

If the chimney is in a severe exposure zone, the cavity should extend around the outside of the stack and be continuous up to roof level, as per BS 5628, Part 3: 2001. Where the chimney breast is gathered in, the lower projecting masonry should be protected with a suitable capping and cavity trays. A 50mm cavity at the back of the chimney breast is maintained to prevent rainwater penetration.

Flue liners are used as specified with sockets uppermost and jointed with fire-resisting mortar. Flue liners should be:

- Non-combustible.
- Reasonably smooth internally.
- Correctly jointed with mortar, with the space between the liners and the brickwork filled with weak insulating concrete, unless the

manufacturer recommends an alternative specification.
- Properly jointed at the junctions with the starter block or lintel and outlet terminal.

A notice plate containing safety information about any hearths and flues should be securely fixed in an unobtrusive but obvious position within the home.

Where a chimney forms part of a wall, the foundation should project at least 100mm wider than the chimney base and should be the same depth as the adjacent wall foundation. Factory-made insulated chimneys should have a life of at least 30 years and be designed in accordance with BS 4543 and BS EN 1859, and installed in accordance with BS 7566. Where a chimney is not directly over an appliance or opening, a soot box accessible for emptying should be formed.

7.5.3 Corrosion of lead work

Where free lime from mortar comes into contact with lead trays or flashings (due mainly to the continual saturation of the brickwork) in areas such as chimneys, the lead should be protected from corrosion by the use of a thick coat of bitumen paint covering the faces likely to be in contact with the mortar. The protection against corrosion of lead work buried in mortar is suggested in guidance issued by the Lead Sheet Association. This treatment can also reduce the staining of lead and brickwork. It is unnecessary to treat flashings buried only 40mm–50mm into mortar joints (cover flashings), as this close to the drying surface the carbonation of free lime is rapid and there is no risk of corrosion in such circumstances.

7.5.4 Chimney tray, low level

Required at low level where a cavity-walled chimney with brick shoulders is built onto an external wall, the tray prevents water that may enter the shoulders from penetrating to the inner leaf of the wall.

The material used is 1mm aluminium alloy sheet to BS EN 485-2: 1995 Aluminium and aluminium alloys. Sheet strip and plate. Mechanical properties. This has a higher melting point than lead, so is suitable for installation close to a heat source.

A high level may be required to prevent the entry of water at high level where a chimney rises through a pitched roof; suitable for new build or remedial work, this minimises disturbance to surrounding construction in remedial work.

The material used is lead sheet to BS 1178: 1982 Specification for milled lead sheet for building purposes. Code 4 as standard. Standard sizes are 800mm x 800mm, 900mm x 900mm, 950mm x 950mm, to suit either a 195mm square or 195mm diameter circular flue.

7.5.5 Lead work

Lead sheet used for roofs, flashings and weatherings should, in terms of suitability, meet the requirements of the Technical Manual, or be in accordance with BS EN 12588 or a UKAS (or European equivalent) valid third-party accreditation (e.g. British Board of Agrément, BRE, etc.) that demonstrates adequacy and durability for use (see Chapter 2.3.5).

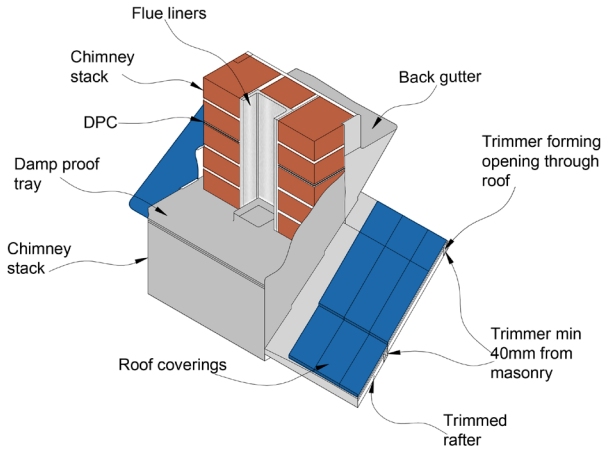

Figure 2: Typical flashing to chimneys

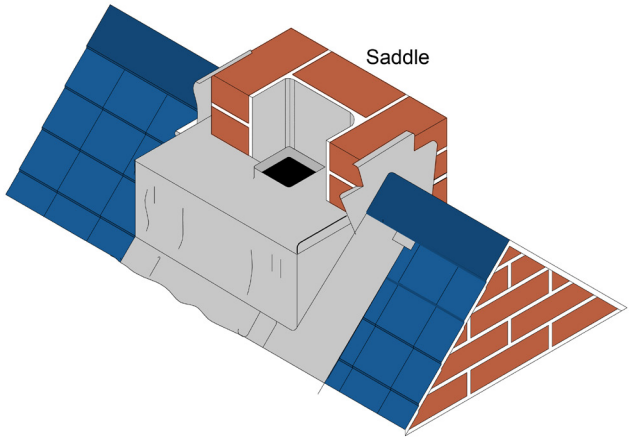

Figure 3: Flashings to chimneys at ridge