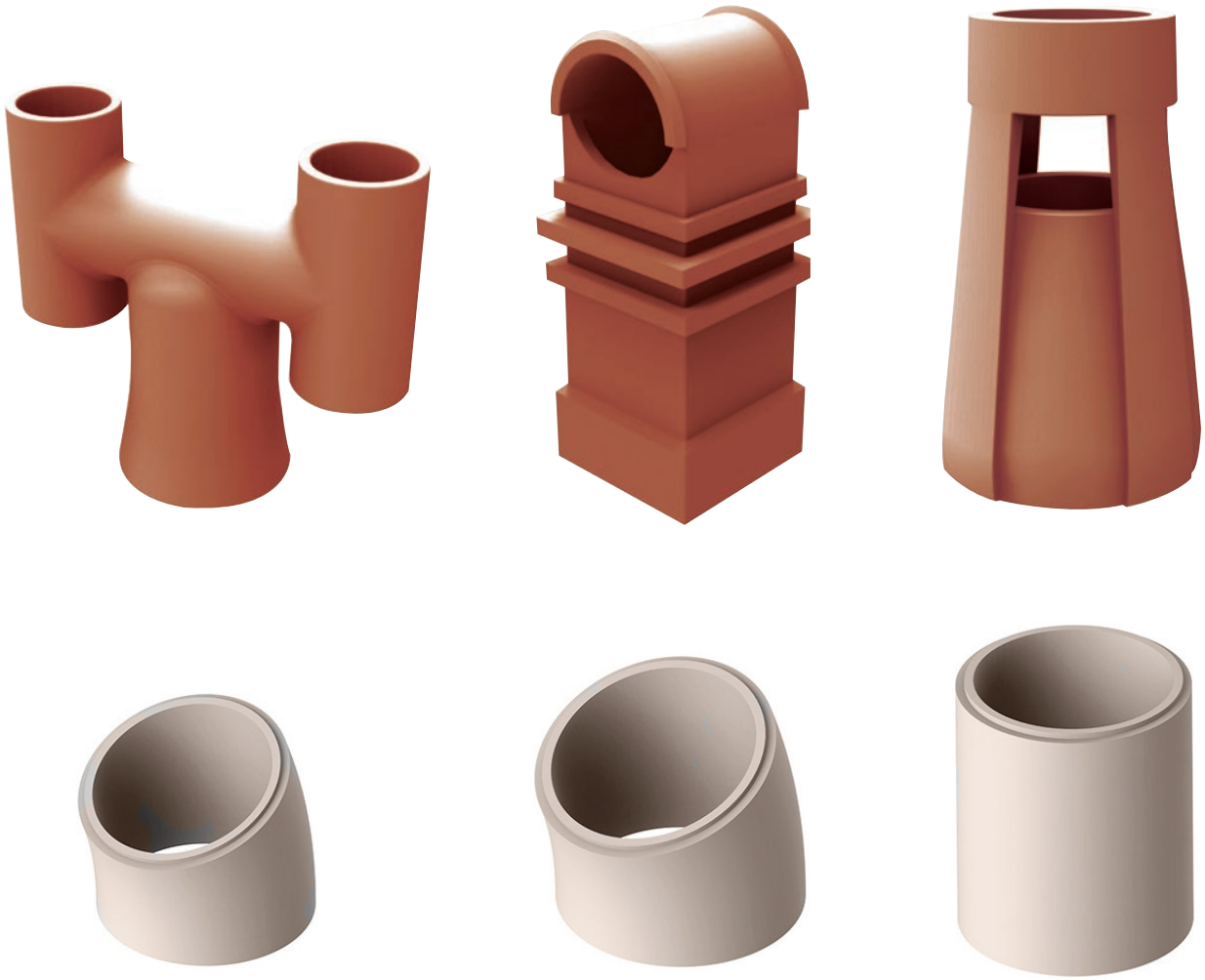
Established 1906

WT Knowles & Sons Limited

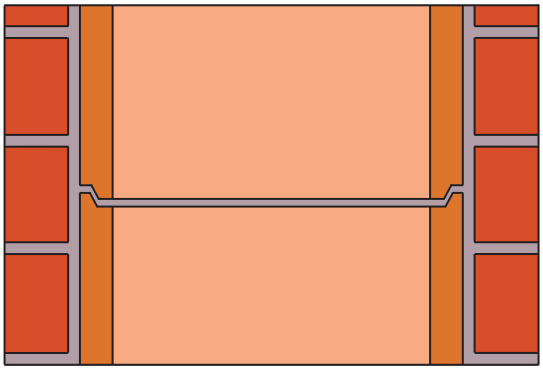
Technical Data

Flue Liners and Terminals



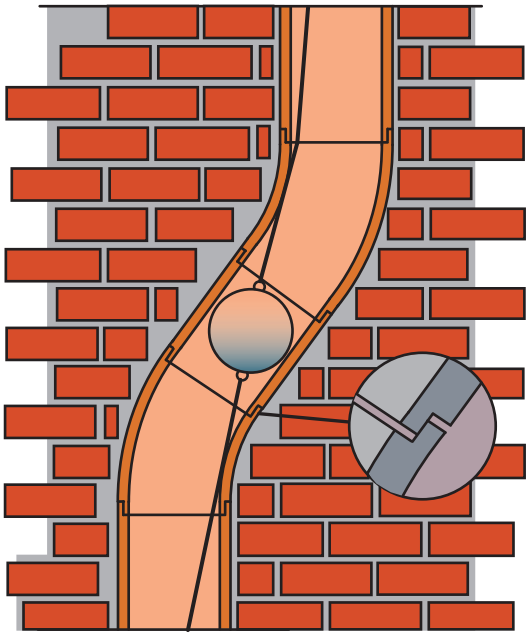
Installation - Flue Liner

All liners should be laid with the female rebate uppermost. This ensures that condensates formed from the flue gases are not able to flow out from the flue into the surrounding masonry where they would cause structural deterioration and staining of walls as well as providing a path for the possible escape of dangerous flue gases.

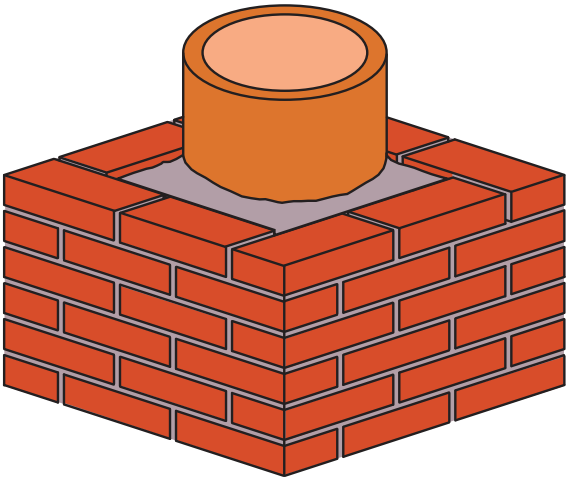


The joints between liners must be made with a fireproof mortar or manufacturer's proprietory fireproof sealant.

As work progresses, any mortar ingress into the flueway should be wiped clean. This ensures a smooth passage for the flue gases and for sweeping. It can be achieved by using a coring ball, as shown below. This operation should not be delayed until the chimney is finished as the mortar may have hardened and be difficult to remove.



The space between the outside of the flue liner and the chimney stack should be filled with insulating material such as a weak lime mortar or lightweight insulating concrete.

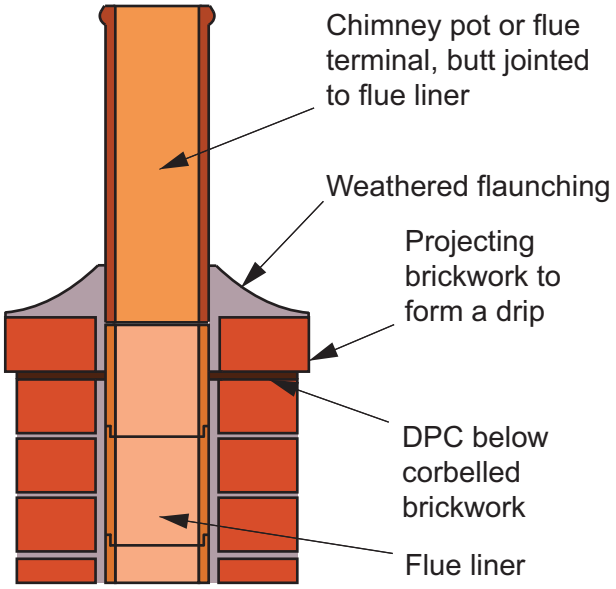


Installation - Terminal

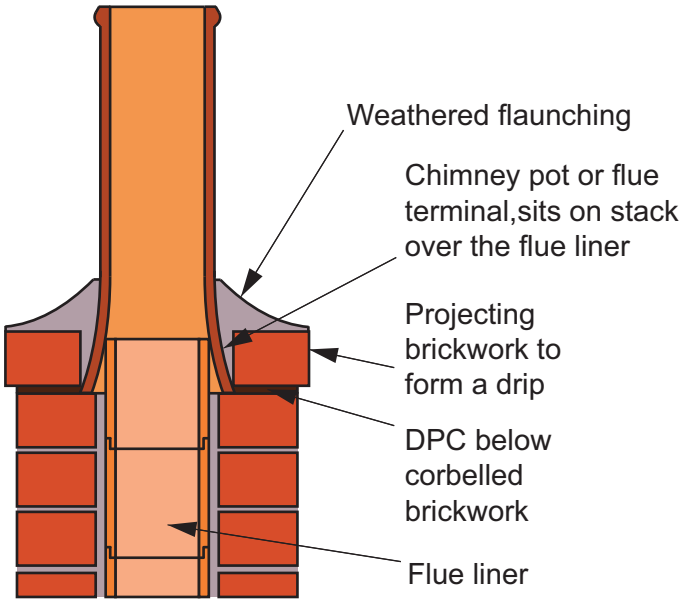
The chimney terminal (or "pot") is an important component of a chimney system. It takes the flue gas outlet away from the turbulence created by the bulk of the chimney stack and can reduce the likelihood of water ingress. Also, it can put the flue outlet above the high pressure zone which causes downdraught problems.

The terminal should be embedded into the top of the stack by 125 mm or one quarter of the height of the terminal, whichever is the greater.

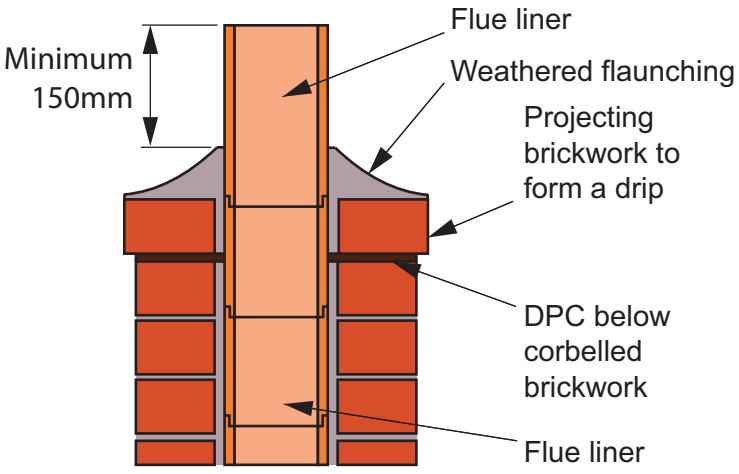
A straight sided terminal should be butted against the top of the last liner as shown opposite



A tapered terminal should be fitted over the last liner as shown below. Note that the top of the last liner lies within the corbelled brickwork in this case.



A terminal may be formed by extending the flue liner to project above the top of the stack as shown below. It is recommended that at least 150 mm projects above the flaunching.



A flue terminal should always be used to obtain a satisfactory chimney performance. The chimney should not be terminated with just a mortar flaunching.

Fitting Instructions for each chimney pot are available on the website.

Terminal Range

A wide range of decorative terminals is available from WT Knowles.

Testing

Check new chimneys for blockage and soundness before use.

Gently lower a coring ball through the flue to determine that it is free from blockage, as shown earlier for clearing fresh mortar from the bore.

Use a smoke test to check for leakage.

Close up any fitted appliance. Warm the chimney flue for about ten minutes using a blowlamp or similar heating device.

Put two smoke pellets in the appliance firebox (or bottom of the chimney or the appliance recess) and light.

Close the appliance when smoke is formed and allow the smoke to make its way up the chimney. If an open fire is fitted or if the recess is empty, seal the recess using a piece of board sealed at the edges. When smoke is visible from the terminal, seal it, using an inflatable plug or polythene bag.

Remember to remove the seal after the test.

Check for leakage throughout the length of the chimney by examining the chimney breasts and adjacent walls. Leakage may occur at some distance from a fault. Pay particular attention to barge overhangs and eaves to see leakage through wall cavities.

Performance - Site Situation

Leaking flue gases and condensates show up clearly as ugly, permanent stains on chimney walls which can be the indicators of structural deterioration. Clay flues safely contain all combustion products causing no harm to the structure.

Condensing gases within a flue and terminal can have a corrosive effect on certain materials.

The acidic nature of flue gases can severely corrode concrete whereas clay flue terminals and liners are unaffected.

A test for Acid Resistance is included in BS EN 13502:2002 and the test details are included in Clause 12.4.

This test is carried out on actual pieces of a clay flue terminal to simulate the effects of an acid condensate on the clay.

A Freeze/Thaw test is described in Clause 12.5 which is also carried out on pieces of a clay flue terminal.

W T Knowles clay flue terminals have been tested and certified by BSI as compliant for Acid Resistance and Freeze/Thaw testing demonstrating performance and durability.

The BSI certificate is included on the website under Technical Information

Design Guidance

Further detailed design guidance is available in BS EN 15287-1:2007 + A1:2010 and the relevant parts of the The Building Regulations - Approved Document J:2010.

Remember

Clay flue liners and terminals are.....

- Heat resistant
- Acid resistant
- Freeze/thaw resistance
- Suitable for all domestic fuels
- Proven in use for over 70 years (much more for terminals!)
- Made to a British Standard

Technical Help

For technical assistance, price and availability contact:-

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