

Brick Clad Chimneys: Construction Overview

The standard range of Brick Slip Chimneys manufactured by BrickFab are produced in a modern facility specifically built for the purpose of manufacturing high quality GRP coated plywood and timber framed prefabricated chimneys. Only high quality materials are used.

The standard range of chimneys is manufactured from 25mm thick brick slips cut from customer supplied bricks to ensure match.

The brick slips are bonded to the core using a One Component Elastic Adhesive specially formulated for this purpose. The adhesive conforms to all relevant British and European Standards and is resistant to damp and humid conditions and is certified for a temperature range of -40°C to +80°C (120°C for short intervals). Pull tests have been performed on the Brick Slip adhesive bond by the adhesive manufacturer and show long term durability and stability.

The Core is manufactured from high quality plywood. Plywood used in construction must meet the Construction Products Directive and BrickFab ensure that this standard is met by only using plywood that conforms to BS EN 13986. The density of this material is between 425kg/m³ and 700kg/m³. Typically 510kg/m³.

The plywood is screwed to a structural timber frame and the whole is closed to the elements and a 2 layer Glass Reinforced Plastic Resin coating applied on all external surfaces.

Pull tests have been carried out on the screw fixings and indicate that each screw will safely withstand a pull of 6000 Newton. Copies of the documentation for the tests are available.

Lifting Points are included and encapsulated into the structure (separate fixing instructions are available). Wind loading calculations have been prepared by an independent test unit indicating that the fixings provide a ten-fold safety margin, providing the fixing instructions are followed.

Lifting Eyes

Encapsulated lifting points are provided with lifting eyes. Additional sealing bolts are also provided for fitting when fixing is completed and the lifting eyes removed.

Lifting Eyes and Lifting Points exceed safety requirements by a factor greater than 2 or more in all cases.

Lifting data for individual chimneys in the range can be provided on request. Safe limits are clearly marked on lifting eyes.

Please Note:

Chimneys must be lifted and positioned by suitably qualified personnel. BrickFab will not accept responsibility or liability for any damage or injury if the lifting instructions provided with every chimney are ignored or misinterpreted.

Weights

The weight of each chimney will vary according to brick type, capping stone, and pot chosen by the customer. Full details and weight calculations for each chimney can be prepared to customers' requirement. Each chimney is weighed on leaving the factory and the pallet weight included in the total. Note that this does not include the weight of mortar for pointing.

Lucideon (Ceram) Testing on behalf of NHBC / CGMA

The testing regime includes:

Wind Load Resistance: To a serviceability level consistent with a most exposed location in the maximum wind zone in the UK and demonstrating significant safety factors before the capacity of the equipment was reached.

Hygrothermal Test: Extremes of heat:rain and freeze:thaw cycles following ETAG004 (European Guidance for Composite Systems with Rendering). Pull off values of the brick slips are very high in relation to wind loadings and the GRP panel following conditioning showed no deterioration due to the weathering.

Soak Coat Water Test: Extreme flood coat loading for three days led to no water ingress.

Lifting Eye Test and Chimney Lift: The Load capacity of the lifting eyes and their installation far exceeded the weight of the chimney which was satisfactorily lifted.

Chimney Crown Bond Strength: The resistance of the chimney crown to wind uplift was considerable in relation to likely wind loadings

The Chimneys passed the testing requirements and hence meet the test requirements of the CGMA and therefore NHBC.