



BRICK SLIPS – APPLICATION SOLUTIONS

INTRODUCTION

Brick slips are simply a thinner version of a brick that can be used to facilitate the achievement of certain architectural details, or to provide a brick veneer to structures of other materials.

They are often used internally to provide an attractive, low maintenance finish or for more rigorous requirements of external application, exposed to the weather. Fixing may be by a combination of mechanical support (additional methods of fixing) and adhesives or, in increasing situations, by adhesive alone.

TYPES OF ADHESIVE

Many adhesive companies offer technical advice on which product is best for any given application. It is important that their advice is sought and the substrate is of particular importance. Suggested manufacturers contact details are appended at the end of this document.

Although some manufacturers specialise in one type of material whilst others provide a range of types, available adhesives/mortars generally fall into the following categories for fixing to various substrates:

1. Sand/Portland cement mortar

Conventional sand/cement mortar is not recommended for slip fixing. Adequate bond strength will rarely be attained and will be much affected by the suction rate of the particular slip and of the substrate.

As above - modified by the addition of Styrene Butadiene Rubber (SBR) SBR-modified mortar is available in pre-packaged form, which should reduce the possibility of site mixing errors of the three components. The use of such materials is well documented and established and very high bond strengths are achievable if the correct procedures are followed.

2. Epoxy and polyester resin based systems.

These are capable of developing bond strengths of the high level usually associated with these materials. They have the advantage of rapid hardening but will normally need support until the initial cure has taken place. They tend to be expensive, relatively difficult to work and unsuitable for thick beds. They can also be temperature sensitive and liable to give poor strength if used beyond the optimum period after mixing.

3. Cement based adhesives.

These are capable of bond strengths nearly as high as epoxy or polyester materials. They are perhaps the most straightforward to use with little scope for error and good initial grab, reducing or eliminating the need for support. They also have working characteristics more similar to those of normal mortar.

TYPES OF BRICK SLIP

Slips can be made either by cutting from an extruded column of clay before firing in the kiln or by saw cutting from standard ready fired bricks. This latter method has the advantage of the ability to vary thickness within reason to suit the application. It is also a practical means of producing slips from hand-made and stock type moulded bricks. Corner units can also be produced and this results in aesthetically effective repairs to damaged bricks in existing buildings as well as claddings to various substrates.

4. Rubber latex based material.

Latex based materials are useful for applications where a degree of movement and vibration is anticipated, as they remain flexible when set. Tensile failure loads will tend to be lower than with other adhesives due to the low cohesive strength of the material itself, but this flexibility can be a distinct advantage in certain situations since forces are not passed directly back to the substrate. This type is relatively easy to mix and work and is particularly useful for application internally to timber surfaces.

5. Silicone based adhesives.

Used with various proprietary brick slip systems. Obviously, the suppliers preferred method of working should be closely followed and the adhesive used be suitable for the application in question.

The use of pre-assembled panels will often be preferable to individual slip fixing on site although the latter offers greater flexibility. In this case, site pointing will enable a uniform appearance to be achieved, avoiding a stitching effect between panels.

6. Fire rated adhesives

When specifying materials for use above 1.1m in Scotland and 1.8m in England, Wales and Northern Ireland (check current building regulations), components making up the wall structure must satisfy Building Regulations requirements and be classified as A2-s1, d0 or better. Adhesives have been developed to meet these requirements however it is important to understand that the thickness and quantity of material used must be strictly controlled to conform to these requirements. Using systems pre-fabricated in quality controlled conditions is often the best way to ensure the regulations are met.



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FIXING TIPS

Regardless of which type of adhesive is chosen, the following points must be observed during fixing:

The general level of workmanship and supervision needs to be of a high standard.

1. The substrate to receive the slips must be clean, dry and free from dust, mould, and oil or, in the case of concrete, loose surface laitance.
2. Nearly all adhesive systems require some form of support until the initial set has taken place. Subsequent courses may be conveniently spaced by fillets of mortar between the slips, or plastic/wooden spacers may be used. Final pointing, after the adhesive has set, should be in normal sand/cement mortar to match the in-situ brickwork but modified mortars are available for use with proprietary gun-applied systems.

3. With most adhesive types, the slips should be 'buttered' with the mix over the whole rear face to avoid any voids in the bed in which water could collect and force off the slips under freezing conditions. Proprietary systems may have different arrangements and be applied in factory conditions to specific thickness and coverage.

4. The permissible bed thickness will vary with different systems and the manufacturers recommendations must always be followed. If differences of line occur requiring a greater thickness than that recommended, an initial render coat of the adhesive may be required. Specific advice on this matter should be sought from the manufacturers of the adhesive.

5. Manufacturer's instructions and advice should be strictly followed.

MOVEMENT CONSIDERATION

It is most important that allowance be made for both vertical and horizontal movement and that compressible joints are incorporated in the design for this purpose. This is particularly relevant to brickwork infill panels to concrete framed buildings; a compressible joint must be incorporated at the top of each storey-height panel to minimise the tendency for the slip cladding to the floor slab above being squeezed off by a compression buckling effect.

MECHANICAL SUPPORT

In certain refurbishment situations it may be necessary to use mechanical support and some authorities may insist on their use. Certainly the consequences of any slips becoming detached must always be borne in mind and appropriate safeguards used. In these cases it may be necessary to specify a manufactured system that offers a fixing method instead of or as well as adhesive.

DIFFICULT DETAILING SOLUTIONS

Some design details are difficult to achieve satisfactorily by in-situ fixing. Such difficulties may be overcome by using pre-assembled components faced with slips, which can then be fixed back to the substrate.

Arches and underslung soffits—Hyperlite, Precast, Prefabricated and Nexus® Ibstock Kevington offer a range of BBA accredited structural and non-structural arches to satisfy your project requirements. Available in various lengths and heights and brick slip arrangements.

Chimneys - Faststack®

BBA accredited pre-fabricated chimneys using brick slips on a pre-formed GRP substrate are popular on housing developments where there is no real need for a working fireplace. The local vernacular is maintained as the ready made chimney can be pointed on site and hoisted into position saving on time and bricklaying expertise.

Internal decorative brickwork -Bricktile™

Aimed at internal applications, Bricktile offers an attractive range of brick slips supplied in boxes of 10 for smaller projects and ease of handling. Bricktile comes in full tile, half tile or angled formats.

Fastwall®

Fastwall incorporates clay brick slips bonded onto a standard size-format GRP backing panel, which is then fixed back to the substrate. Ideal for hard to reach places such as gables and dormers or where traditional brickwork is not suitable.

Brickwork Components

Brickwork Components provide the appearance of feature brickwork using slips bonded to a concrete block backing. Laying the blocks traditionally, the arrangement of brick slips on the face results in decorative detailing normally requiring a highly skilled bricklayer.

MechSlip

BBA accredited, non-combustible mechanically secured brick slip cladding system. Assemble on site with aluminium carrier system and profiled brick slips.

For further information on all of these product solutions, please call the Design and Technical Helpline on **0844 800 4576** or visit our website **www.ibstock.com**

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POINTING UP

After brick slips or the slip clad components are in position pointing can be carried out using the traditional mortar and trowel method or, for larger expanses, a gun injection pointing system will give speedier results.

Follow the manufacturers guidance. Sometimes the suction rate of the brick slip may require reducing by spraying with a little clean water before application. Trial any mortar pointing application on an inconspicuous area first.

SOLUTION	SUITABILITY	FIXING
Brick slips (available in thicknesses from approx. 20mm up to 50mm – check with the Ibstock Kevington Specials Team for thickness suitable to chosen brick type.) ikspecials@ibstock.co.uk	General coverage on substrates such as existing stable masonry, concrete, OSB. Slips to EN 771-1 www.ibstockbrick.co.uk/brick-slips/	Structural Adhesives Ltd www.structuraladhesives.co.uk
		Apollo Adhesives www.apollo.co.uk
		Chemfix www.chemfix.co.uk
Bricktile™ ikspecials@ibstock.co.uk	General coverage on substrates such as existing stable masonry, concrete, OSB. Slips to EN 771-1 www.ibstockbrick.co.uk/bricktile/	Ceresit - internal applications www.ceresit.com
		Ardex - internal applications www.ardex.co.uk
Brickwork Components ikspecials@ibstock.co.uk	Brick slips in chosen arrangement on concrete block backing.	Slips adhered in factory conditions – supplied ready to point on site. www.ibstockbrick.co.uk/brickwork-components-2/
Hyperlite Arch designteamleicester@ibstock.co.uk	BBA certified -Brick slips with various arrangements on a lightweight insulated backing for low rise applications.	Slips adhered in factory conditions – supplied ready to point on site. www.ibstockbrick.co.uk/kevington/arches/
Nexus® Structural Arches & Soffits nexus@ibstock.co.uk	BBA certified -Brick slips with various arrangements on structural steel backing.	Slips adhered in factory conditions – supplied ready to point on site. www.ibstockbrick.co.uk/kevington/nexus/
Nexus XI Structural Arches & Soffits nexus@ibstock.co.uk	BBA certified-Brick slips with various arrangements mechanically fixed to structural steel backing. Fire rating A2-s1, d0	Slips adhered and mechanically fixed in factory conditions – supplied ready to point on site. www.ibstockbrick.co.uk/kevington/nexus/
Precast Arches & Soffits nexus@ibstock.co.uk	BBA certified -Brick slips cut into a dovetail positive key bonding profile.	Concrete cast around positive key creating a monolithic structure – supplied ready to point on site. www.ibstockbrick.co.uk/precast/
Prefabricated Concrete Arches & Soffits nexus@ibstock.co.uk	BBA certified -Brick slips with various arrangements on a concrete backing.	Slips adhered in factory conditions – supplied ready to point on site. www.ibstockbrick.co.uk/kevington/arches/
Faststack® Chimneys designteamleicester@ibstock.co.uk	BBA certified - Brick slips on a GRP chimney ready to point on site and hoist into place.	Slips adhered in factory conditions – supplied ready to point on site. www.ibstockbrick.co.uk/kevington/chimneys/
Fastwall® designteamleicester@ibstock.co.uk	Brick Slips on a GRP backing – standard size formats ready to fix onto timber or steel frame.	Slips adhered to GRP in factory conditions – supplied ready to point on site. www.ibstockbrick.co.uk/fastwall/
MechSlip designteamleicester@ibstock.co.uk	BBA certified -Brick slips mechanically fixed to aluminium backing system. Fire rating A1.	System assembled on site and pointed after assembly. www.ibstockbrick.co.uk/kevington/mechslip/
Pointing solutions	Easipoint - Gun injection pointing system	www.easipoint.co.uk
	Parex - Gun injection pointing system	www.parex.co.uk

For further information or advice regarding this topic please contact Ibstock's Design & Technical Helpline on **0844 800 4576** or email **technical@ibstock.co.uk**