

CONCRETE BRICK SITE GUIDE

PD Edenhall bricks comply with the relevant British Standards and the superior standards required by the International Concrete Brick Association (ICBA). The notes detailed below give guidance in the on-site handling and usage of PD Edenhall's bricks.

DELIVERY	PD Edenhall Sales Offices will advise on load and pack sizes, weights and alternative delivery methods. Please advise PD Edenhall of any special delivery requirements at the time of ordering.
STORAGE AND HANDLING	Bricks should be stored on sound, level ground and raised clear of wet and muddy areas to prevent contamination and staining. Storage areas should be sited close to the points of work to reduce unnecessary handling and minimise damage and waste. Bricks should be protected from the weather on site and during construction including the covering of completed but uncapped brickwork. Waterproof coverings should allow circulation. These precautions will reduce the likelihood of subsequent lime bloom, shrinkage and movement. Materials used in conjunction with concrete facing bricks should also be stored under protection. Damage and wastage will be minimised by mechanical methods of distribution to the points of work. Facing bricks should be lifted and placed – not thrown and tipped.
LAYING, BEDDING AND JOINTING	The first course of bricks should be laid to a gauge rod or dry with timber joint spacers to ensure accurate setting out. Bricks should not be wetted. Too much suction should be overcome by increasing the workability of the mortar within the provisions of BS5628: Part 3: 1985. Use mortar specified by the designer. Variations in mortar mix must be avoided. Perpend and Bed Joints should be fully filled. 'Tipping' and 'furrowing' will facilitate water ingress. 'Furrowing' can also reduce the compressive strength of the walling. The specified joint profile should be formed after allowing the mortar to harden slightly. Tooling is recommended to compact the joints, improve weather resistance and reduce shrinkage in the mortar. 'Bucket Handle' is generally the most efficient joint profile. Recessed pointing is not recommended, particularly in areas of severe exposure. Keep bricks clean during laying and avoid smearing them with mortar from the joints – this can be difficult to remove subsequently. Joint finishing on a wet day requires extreme care.
BONDING	Bonding patterns should be maintained at openings. Broken bonds increase the risk of cracking.
CAVITIES	Both leaves of cavity wall construction should rise simultaneously. Cavities must be kept clean, as dirty cavities increase the risk of water reaching the inner leaf and can cause cold bridging. Cavity trays over openings should incorporate stop ends to prevent water over-run during severe weather.
WEEP HOLES	Weep holes should be provided wherever there is extensive bridging of the cavity, e.g. at lintels and floor slabs. Weep holes are recommended at the rate of one every three perpend.
INCLEMENT WEATHER	Do not lay bricks when the temperature is at or below 3°C, or when freezing may occur before the mortar has hardened. (Remember to consider air and wind temperature.) Propping and strutting of newly erected work, particularly gable ends, may be necessary during periods of high wind. Scaffolding boards should be turned back to avoid unsightly splashing of the facing work. Brickwork should be cleaned down at the end of the day.
WALL TIES	Wall ties should be simultaneously incorporated in both leaves as the work proceeds and be embedded at least 50mm into each leaf. Do not insert wall ties after bedding. Butterfly and double triangle wall ties should be laid with the drip positioned centrally in the cavity and facing downwards. Ties must fall towards the outer leaf to prevent tracking of moisture to the inner leaf. Ties should be sited at centres not exceeding 900mm horizontally and 450mm vertically in a staggered pattern. Closer spacing may be necessary for thin leaves or wide cavities. Additional ties at openings and movement joints will be necessary. These should be positioned within 225mm either side of the opening and at vertical centres not exceeding 300mm.



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MORTAR

A 1:1:6 cement: lime: sand mortar or equivalent, is usually suitable above the d.p.c. and below parapets. Different types and strengths of mortar have differing properties. In Class 3 sulphate conditions SRPC mortar should be used. Add only sufficient water to achieve workability. Mixing methods must ensure consistency of colour and strength. Use only BS-approved additives to improve workability. Use gauge boxes or similar when mixing. Do not mix by shovel. This can halve the strength of the mortar. Mixes should be used within two hours of mixing, other than in the case of retarded mortars where the manufacturer's recommendations should be observed. Mortars which have been mixed for over two hours should not be re-tempered but should be discarded, and retarded mortars should only be used with the written permission of the designer (BS5628: Part 1: 1978).

DAMP-PROOF COURSE

Damp-proof course materials must be the correct width for the job, i.e. at least the width of the wall. On external walls a projection of 6mm is recommended at the external leaf. It is essential that d.p.c.'s are bedded above and below to avoid forming a slip plane under movement. A lap of at least 150mm should be formed at joints in lengths of d.p.c.

MOVEMENT CONTROL

Guidance on movement control is contained in the I.C.B.A. booklet 'The Concrete Brick Comes of Age'. In general, unless movement control has been catered for at the design stage by discrete panel formations, it may be achieved through the provision of control joints and/or bed reinforcement. If control provisions are not indicated by the designers, it is advisable to raise this point with them before work commences. Where bed reinforcement is required as an alternative or supplement to control joints to reduce the risk of cracking, it should be bedded in the horizontal mortar joints of the brickwork. The normal positioning is in two joints above and two joints below an opening, and the reinforcement should be laid to extend 0.6m either side of the opening. Reinforcement in external leaves should be galvanised or stainless steel with a minimum mortar cover of 20mm.

CUTTING AND CHASING

Cutting can be done by bolster, mechanical saw or hydraulic guillotine. On facing work, mechanical means should be adopted to preserve a true arris. Wet cutting will help to maintain the appearance of the bricks, but if this method is used the bricks should be hosed down immediately after cutting and dried prior to laying. Chases generally should not exceed one-third of the thickness of the wall in vertical chasing and not deeper than one-sixth of the wall in horizontal chasing. Timber laths should be used as guides when using mechanical means. Goggles and dust masks should always be used when chasing concrete bricks.

PLASTERING AND RENDERING

Areas of brickwork to be plastered or rendered should have raked joints to form a key for the specified finish. For optimum adhesion a plaster bonding coat or similar should be used. Render should be applied in accordance with BS5362. A spatterdash coat may be necessary for good adhesion. If so, this should be one part cement : 2-3 parts sand applied before the undercoat. On concrete bricks the render mix should be 1 : 1.5 : 4.5 or equivalent, using clean sand. In all cases of two- or three-coat rendering, the final coat should be a weaker mix than the undercoat, or the same mix but thinner.

PAINTING

Smooth-faced bricks are suitable for painting with alkali-resisting paints, especially plastic emulsions. Brickwork should be dry and free from dust, limebloom, grease and other detritus. Oil based paints should be avoided.

PROTECTION AND CLEANING DOWN

Finished areas of wall should be covered as the work proceeds to avoid splashing and staining from other works. Before using proprietary cleaners consult PD Edenhall.



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