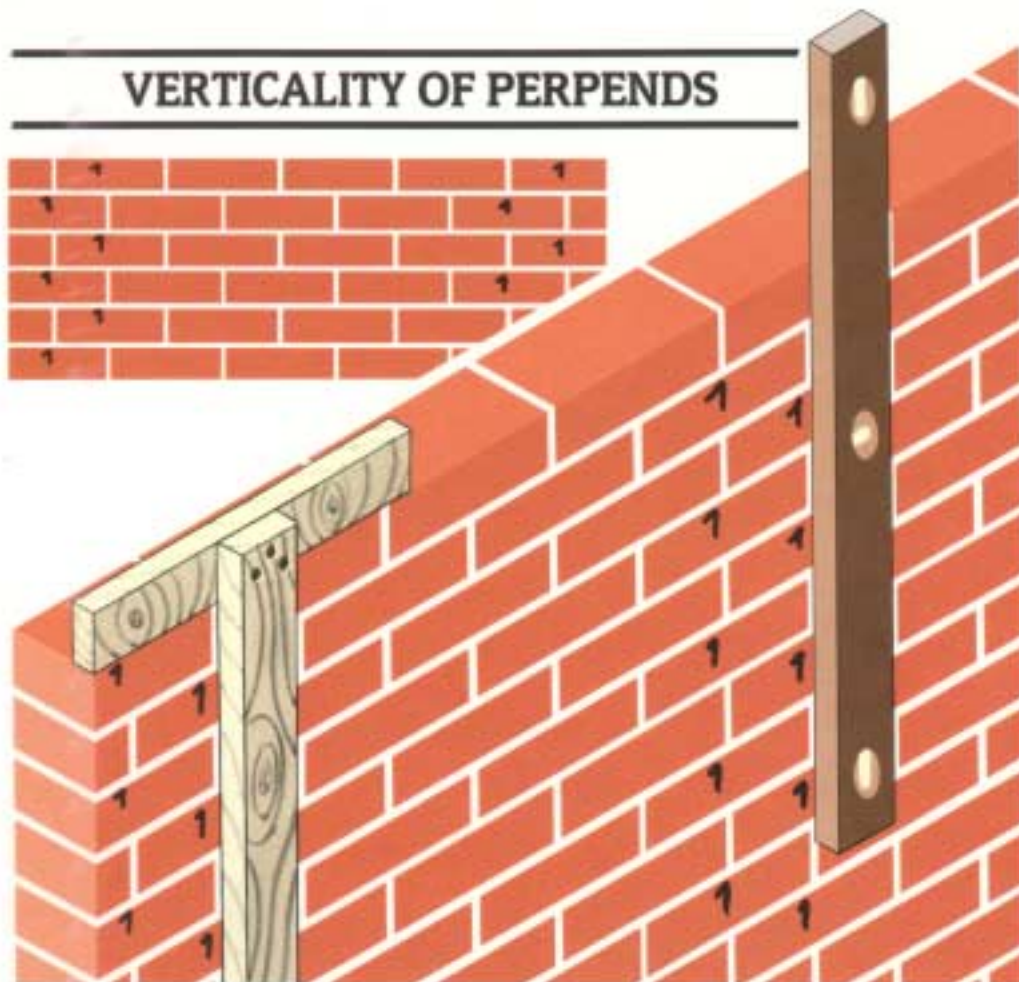


## VERTICALITY OF PERPENDS



**F**ACING BRICKWORK should, amongst other attributes, show 'plumb perpend' in the completed wall and BDA is frequently consulted about this. There is no better way of putting matters in perspective than to refer to the practical advice offered by Bob Baldwin, a Past President of the Guild of Bricklayers. Long experience of 'vertical perps', on which many have strong views and some misunderstandings, convinces him of the need to start by defining basic terms.

'Cross joint' refers to a single vertical joint between adjacent bricks in the same course and at right angles to the face. 'Perpend' in this article, refers to the vertical alignment of cross joints in alternate courses for the full height of the wall. 'Perps' is often used colloquially to describe this alignment as well as the single cross joint, so care is necessary, especially with written specifications.

Brickwork is an 'art and craft' skill rather than a process of assembling components, and specifications should be written with a realistic understanding of the limitations as well as the possibilities of the craft. One unavoidable limiting factor is the inevitable variation in the lengths of bricks. It is impossible to require all perpend to be perfectly plumb and all cross joints to be 10mm wide.

To avoid 'wandering' perpend and irregular bonding, the positioning of perpend must be pre-planned at ground level and pencil marks made at suitable intervals along every course, before the next course is laid. The more accurate the bricks, the easier it is to build with regular vertical

perpend and with all cross joints close to 10mm wide throughout. With 'stocks' or other 'less accurate' bricks the perpend should be plumbed typically at intervals of every fifth or sixth brick in order to 'even-out' the size of intermediate cross joints.

The use of a contrasting colour mortar, or raked joints, emphasises any irregularities whilst matching bricks and mortar makes them less evident.

Terry Knight, Head of Professional Services at BDA, advises that any architects who have to-date little experience in specifying and building with various types of bricks can quickly gain a 'realistic level of expectation' by looking at brickwork buildings both old and new, first from afar and then by standing with toes and nose close to the wall and looking upwards to observe the perpend. By this means architects, and others, can build up a 'bank' of experience which they can call upon next time they are asked to pass judgement on brickwork when it can only be observed closely from the scaffolding.

Such an understanding will help to improve the mutual respect between bricklayers and architects and produce a quality of brickwork which can be regularly achieved by careful skilled bricklaying acceptable to the architect and his client.

Finally, brickwork should be designed and dimensioned by the architect and set out by the bricklayer foreman to multiples of the co-ordinating size of 225mm. The bricklayer should use his skill to 'even out' the width of cross joints and should **not** be instructed to work to 10mm joints.

# VIEW POINT

Design, Buildability  
and Craftsmanship

If you have any views on brickwork, design, buildability, craftsmanship etc contact Bill Villars, Consultant Editor, Brick Bulletin, 23 Selwyn Avenue, Richmond, Surrey TW9 2HB (Tel 01 940 5803) Technical Enquiries should be addressed to BDA's Technical Information Officer - Chris Powell on 0344 885651.

## RECESSED JOINTS - BEGUILING BUT TREACHEROUS

Recessed joints are often specified to give that deep shadow and character which so often enhances the appearance of brickwork - BUT - appearance is not the only consideration.

The profile and finish of mortar joints are important factors in minimising the amount of rain water which will penetrate the outer leaf to assault the defences provided to the inner leaf by the system of cavity trays and weepholes. There is no doubt that the recessed joint, particularly if left textured from the raking rather than being 'tooled', increases the amount of rain penetration especially in positions exposed to heavy wind-driven rain.

Flush joints formed by simply cutting off the surplus mortar with an upward stroke of the trowel are more rain resistant but often are left with small cracks between the mortar and the brick to encourage water penetration. The joint

finish which is most resistant to rain penetration is the flush joint which is then 'tooled' either with a special tool giving a concave "bucket handle" joint or by the edge of the trowel to give a "struck and weathered" joint. This tooling presses the mortar into intimate contact with the brick to "seal" the joint and the smooth compact surface is more water resistant.

Another problem could be created by the use of recessed joints. Bricks, classified as M or moderately frost resistant, may be at risk from frost attack if the arrisses, which will often become saturated, are subject to freeze/thaw cycling.

Finally, recessed joints should never be used in walls exposed to rain if the bricks have perforations close to the face.

If designers have any doubts they should consult the manufacturers.

# VIEW POINT

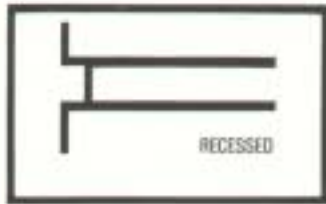
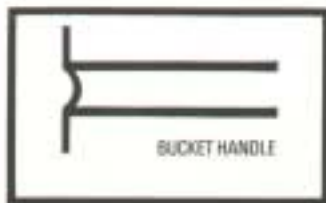
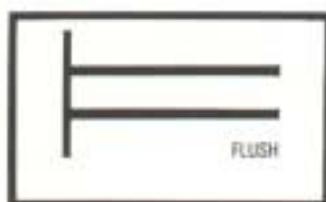
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Brickwork with recessed joints



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