

Stone coursing and wall ties

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Question

When building a cavity wall with 150mm coursed stonework outer leaf and a 225mm coursed blockwork inner leaf, providing wall ties at maximum 300mm vertical centres at reveals, cannot be achieved. How should this be addressed?

Considerations

- Coursing heights between the inner and outer leaf bed joints only coincide at every 450mm centres vertically.
- NHBC Standards clause 6.1.18 gives the minimum requirements of wall ties necessary in a masonry cavity wall construction. Equivalent minimum wall tie density or maximum spacing of wall ties are given in Table 10 of clause 6.1.18 and this applies to stone masonry cavity wall construction. Increased wall tie densities may be required with studded inner leaf construction (e.g. TF or LSF) or as a design requirement.
- NHBC Standards clause 6.1.18 states wall ties at jambs openings, movement joints etc. should be within 225mm of opening and not more than 300mm vertical spacings.
- PD 6697 'Recommendations for the design of masonry structures to BS EN 1996-1-1 and BS EN 1996-2' states that at unbonded edges of cavity walls additional wall ties should be used at a rate of one tie per 300mm height or equivalent, placed not more than 225 mm from the edge.
- Technical Guidance document 6.1/31 refers to 'wall ties at jambs with full fill cavity board insulation' and the placing of wall ties in pairs within 225 mm of an opening and at 450mm vertical centres.

Answer

Following the same logic as described in TG 6.1/31 wall ties at unbonded edges such as jambs to openings or edges of movement joints, can be installed at 450mm centres when installed in pairs in the same bed joint and within 225mm of the edge of the opening/joint.