

MASONRY ARTICULATION JOINTS.

EXTERNAL WALLS

TO MAINTAIN THE BONDING PATTERN, HALF-LENGTH BRICKS OR BLOCKS SHOULD BE USED AT ARTICULATION JOINTS IN MASONRY WALLS. THE JOINT MAY BE PACKED WITH A COMPRESSIBLE FILLER TO PROVIDE A BACKING FOR A SEALANT/CALCULKING COMPOUND TO BE PACKED OR GUNNED INTO THE JOINT. FIGURE 1. (SEMI-RIGID FOAMS, FLIP BOARD OR CORK ARE NOT SUITABLE AS PERMANENT JOINT FILLERS BECAUSE OF THEIR LIMITED COMPRESSIBILITY.) ALTERNATIVELY A TEMPORARY FILLER MAY BE USED TO KEEP THE JOINT CLEAN AND TRUE. WHEN REMOVED, A PERMANENT CIRCULAR POLYETHYLENE BACKER ROD IS FORCED INTO THE JOINT TO PROVIDE A BACKING FOR THE SEALANT FIGURE 2.

THE BACKER ROD AND THE SEALANT SHOULD BOTH HAVE ELASTIC PROPERTIES AND THE SEALANT SHOULD ALSO ADHERE TO MASONRY. FOR CLAY BRICK AN ACID-CURED SILICONE RUBBER SEALANT IS RECOMMENDED. WHILE FOR CONCRETE BRICK OR BLOCK A NEUTRAL-CURED SILICONE RUBBER IS PREFERRED BUT NOT ESSENTIAL. THESE GUNAPPLIED SEALANTS ARE AVAILABLE IN EITHER GREY OR OFF-WHITE COLOURS OR CLEAR.

WHILE ACTING AS JOINT TO ACCOMMODATE FOUNDATION MOVEMENTS, AN ARTICULATION JOINT WILL ALSO ACT AS A CONTROL JOINT. CLAY BRICKS TEND TO GROW. CONTROL JOINT FILLERS MUST THEREFORE ALLOW FOR LONG TERM PERMANENT COMPRESSION. CONCRETE OR SAND-LIME BRICKS AND BLOCKS, ON THE OTHER HAND, TEND TO SHRINK SLIGHTLY AND THE CONTROL JOINT FILLERS MUST ALLOW FOR LONG TERM TENSION.

THE NORMAL WIDTH FOR ARTICULATION JOINTS IS 10mm. SUCH JOINTS WILL ALSO ACCOMMODATE SOME EXPANSION OR CONTRACTION OF THE WALL PANELS. HOWEVER, DESIGNERS AND CONTRACTOR SHOULD CONSIDER THAT THERE IS POTENTIAL FOR GREATER MOVEMENT THAN CAN BE ACCOMMODATED BY A 10mm JOINT. FOR EXAMPLE, WITH COMBINATIONS OF LONGER PANELS (GREATER THAN 8m), CLAY BRICKS (SUBJECT TO EXPANSION POTENTIAL) AND LONG-LEVER ARMS (EG. JOINT PLACED AT THE CENTRE OF A GABLE).

TO PROVIDE SUPPORT FOR WALL PANELS, CAVITY WALL TIES SHOULD BE FIXED AT EVERY FOURTH COURSE ON EACH SIDE OF ARTICULATION JOINTS. IN ADDITION, FLEXIBLE MASONRY ANCHORS SHOULD BE INSTALLED BETWEEN ABUTTING MASONRY PANELS SO AS TO ALLOW THE JOINT OPEN AND CLOSE FIGURE 3. IF A FILLER STRIP IS USED IT SHOULD BE PLACED TO ONE SIDE OF THE FLEXIBLE ANCHORS.

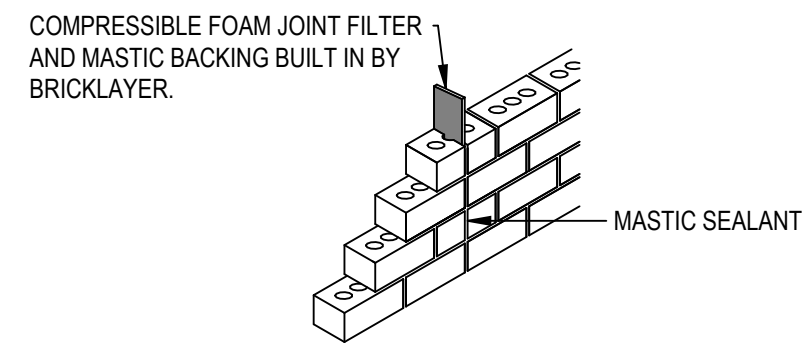


FIGURE 1
ARTICULATION JOINT DETAIL
EXTERNAL MASONRY WALL

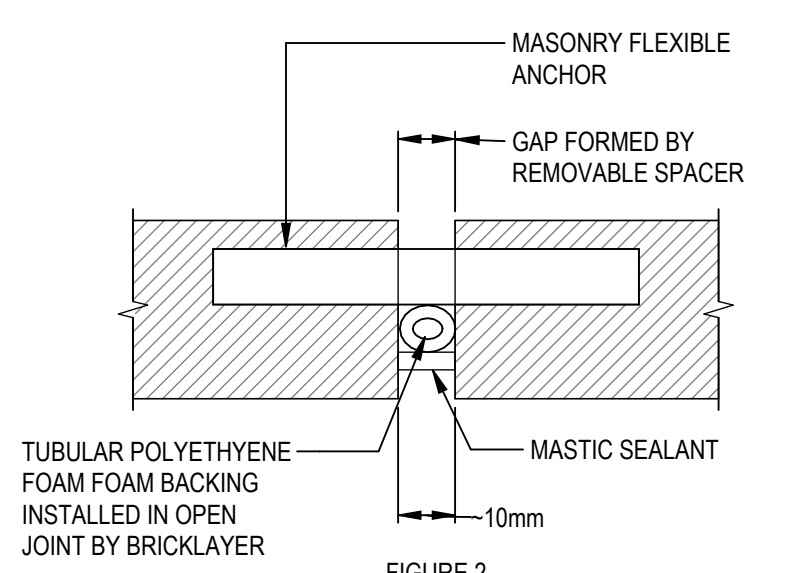


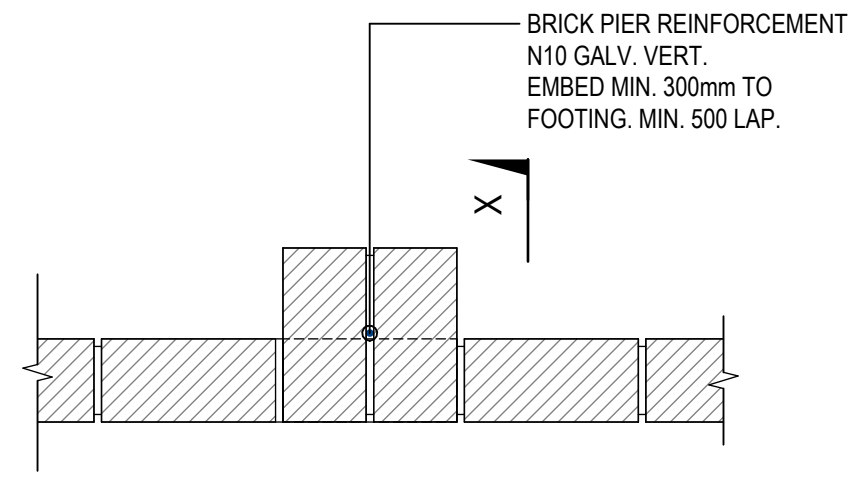
FIGURE 2
ALTERNATIVE ARTICULATION
JOINT DETAIL EXTERNAL MASONRY WALL

WINDOWS

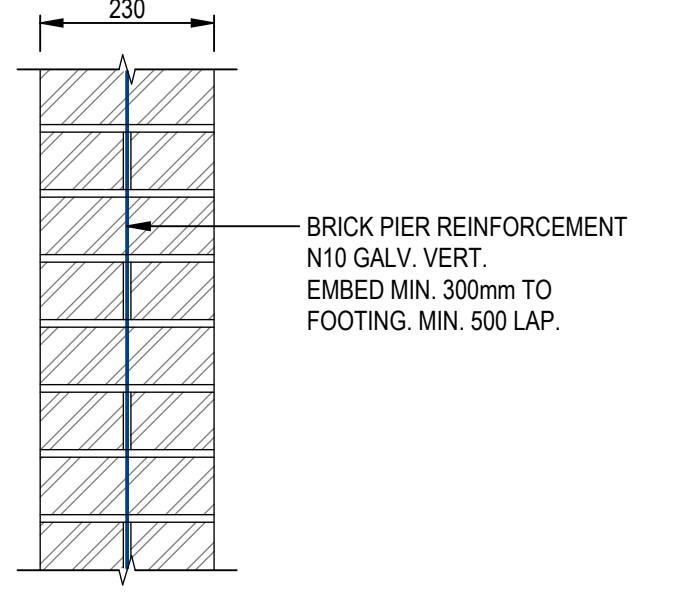
IN DOMESTIC SCALE BUILDINGS MOST ARTICULATION JOINTS CAN BE COMBINED WITH WINDOW OPENINGS. THE CONT. VERT. ARTICULATION JOINT, RUNNING FROM FOOTING TO ROOF, CAN BE PROVIDED ON THE LINE OF THE WINDOW LAMB. ON WINDOWS LESS THAN 1.5m WIDE THE ARTICULATION NEEDS BE PROVIDED ONLY ON ONE SIDE OF THE WINDOW IF THE DISTANCE TO THE NEXT JOINT IS LESS THAN 5m. IF PANELS ON ONE SIDE OR BOTH SIDES OF THE WINDOW, WITH LARGER WINDOWS, JOINTS MAY ALSO BE PROVIDED ON EITHER SIDE OF FIGURE 4. IT IS ESSENTIAL THAT A GAP IS LEFT TO ENSURE THAT MOVEMENT IS POSSIBLE. ONE METHOD OF ACHIEVING THIS WHILE STILL PROVIDING SECURE FIXING TO THE WALLING IS TO PROVIDE TWO 6mm DIA. GALV. STEEL RODS 250mm LONG, BENT TO PROVIDE 75mm RETURNS WHICH ARE STAPLED TO THE WINDOW FRAME. THE LONGER ENDS ARE HEAVILY GREASED AND HAVE THE ENDS TAPED SO AS TO PROVIDE A FREE SPACE OF 10mm. THE PRACTICE OF BUILDING BRICKWORK HARD AGAINST WINDOW FRAMES AT THE LOCATION OF AN ARTICULATION JOINT IS NOT ACCEPTABLE.

FULL HEIGHT WINDOWS, OR WINDOWS WITH INFILL PANELS BELOW THE SILL, ELIMINATE THE NEED TO FORM AN ARTICULATION JOINT IN MASONRY. INSTEAD, THE ARCHITRAVE COVERS THE FULL HEIGHT GAP BETWEEN WINDOW AND WALL WHICH ACTS AS THE ARTICULATION JOINT.

MASONRY IS NOT RECOMMENDED ABOVE WINDOW HEADS WHEN BUILDING ON REACTIVE SOIL. FOR THIS REASON THE OPENINGS SHOWN HERE EXTEND TO THE WALL PLATE OR EAVES LINING. IF THE WINDOW ITSELF CANNOT BE TAKEN TO THIS HEIGHT, THEN AN INFILL PANEL SHOULD BE PROVIDED, BEAMS OVER WINDOWS, SPANNING BETWEEN ARTICULATED WALL PANELS, SUPPORTING A TOP PLATE SHOULD BE ALLOWED TO SLIDE TO AND FRO ON THE MASONRY WALLS ON BOTH SIDES.



TYPICAL REINFORCED PIER DETAIL
SCALE 1:10



SECTION X-X
SCALE 1:10

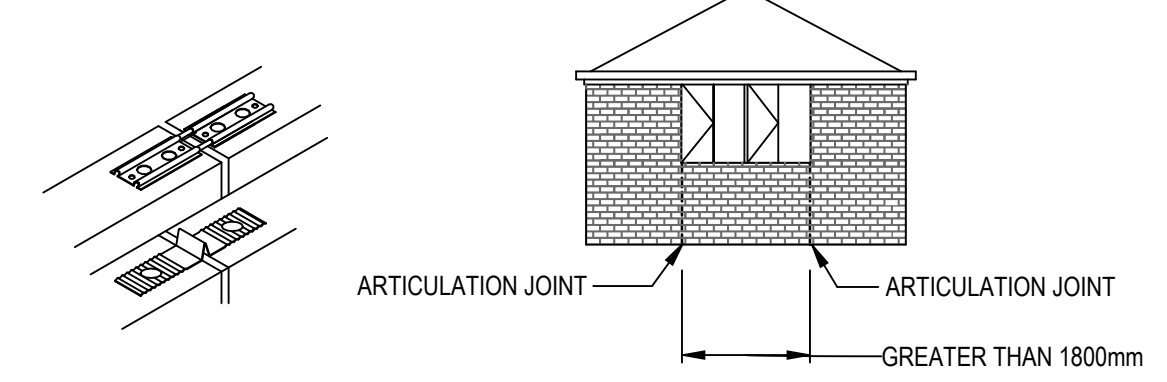


FIGURE 3
TWO TYPES OF MASONRY
FLEXIBLE ANCHORS

FIGURE 4
ARTICULATION JOINTS AT
WIDE WINDOW/DOOR OPENINGS

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Title
MASONRY DETAILS - SHEET 1

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Drawn by
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Date
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As indicated @ A0

Status
TENDER

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