

RAT TRAP BOND

What is Rat Trap bond masonry

Rat trap bond masonry is a cost effective application of brick masonry that has been popularised in India by the Architect Laurie Baker in the last 20-30 years. In rat trap wall, the bricks are placed on edge, thereby leaving a cavity of 4" between the two leaves in case of a 10" thk wall. The bricks are placed alternate headers and stretchers as in Flemish bond. The rate trap masonry reduces cost by reducing the consumption of bricks and cement mortar for the same cubic meter of brickwork.

Where to use Rat Trap Bonded brick masonry ?

if the available in a place where bricks have a compressive strength of more than 35 kg per square centimetres and the other properties as per IS 1905-1987.

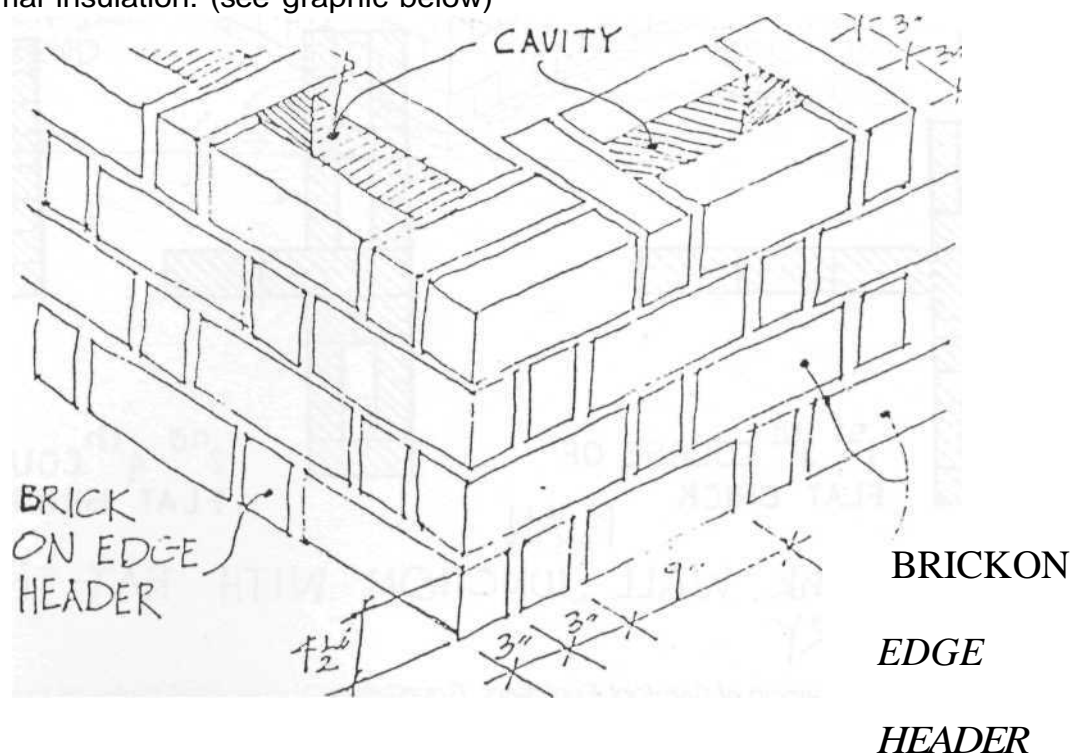
Advantages

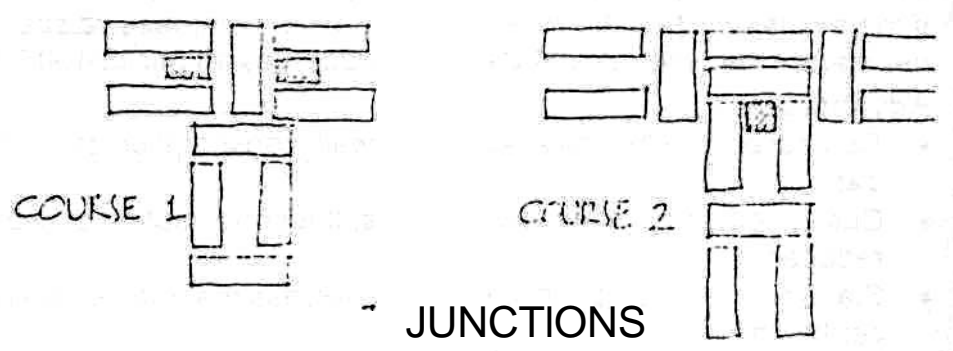
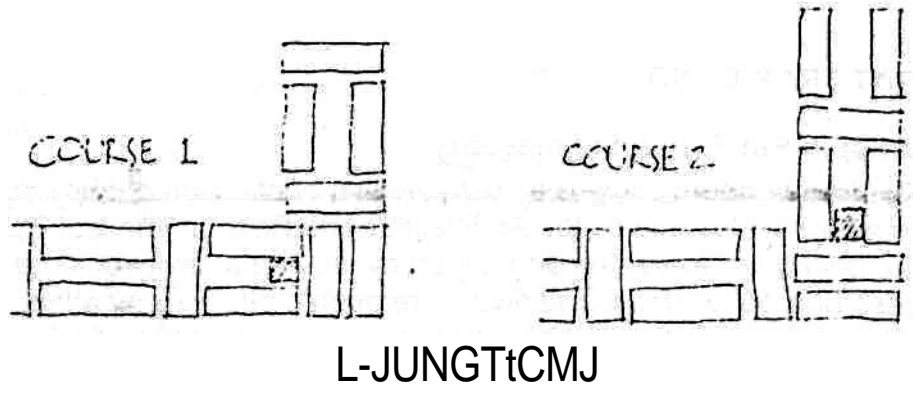
- Compared to a 10" thick solid brick wall, consumption of brick is reduced by 25% in rat trap.
- Due to reduction in number of bricks, the consumption of cement mortar is also reduced.
- Stability of wall is not affected as the excess material is eliminated from around the centre line.
- Acts as a good thermal insulator due to the cavity in the wall.
- Plastering of the outside face is not needed as well as inside plaster is minimised since both surfaces are fair faced.

Limitations

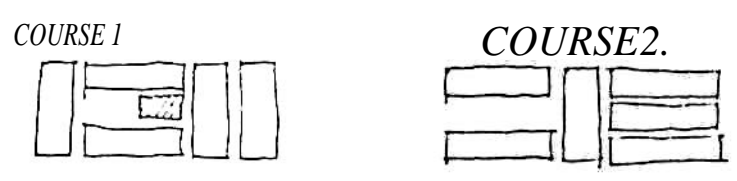
- Not a good sound insulator.

The rat-trap bond is a masonry technique that reduces brick and mortar consumption. Bricks are placed with a 3" cavity between two leaves of brick-on-edge. The cavity provides for thermal insulation. (see graphic below)

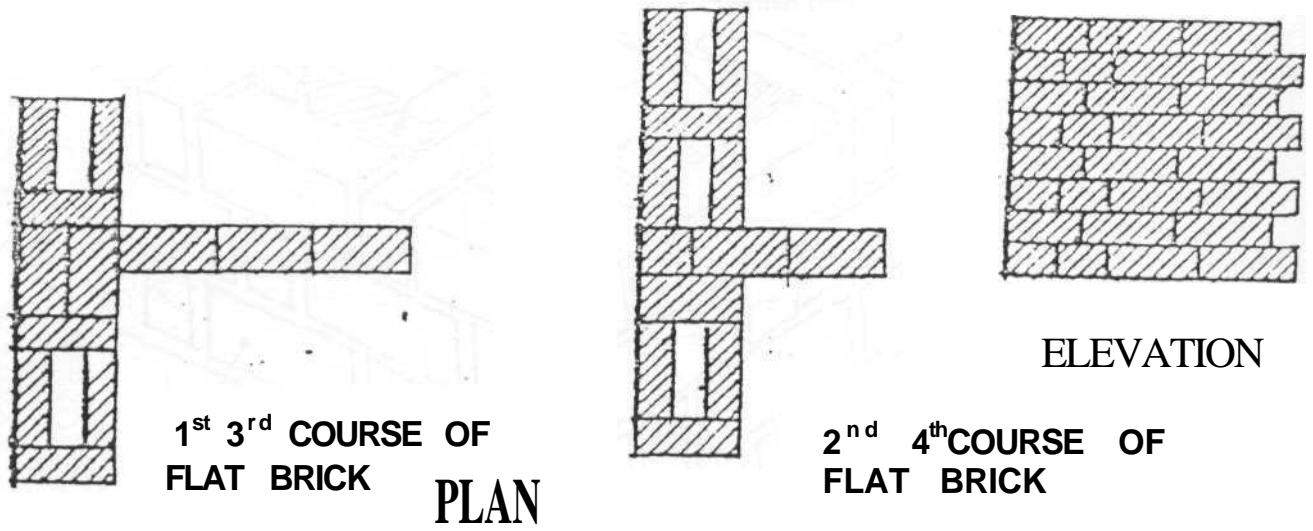




JOINTS IN
RAT-TRAP
BONDING



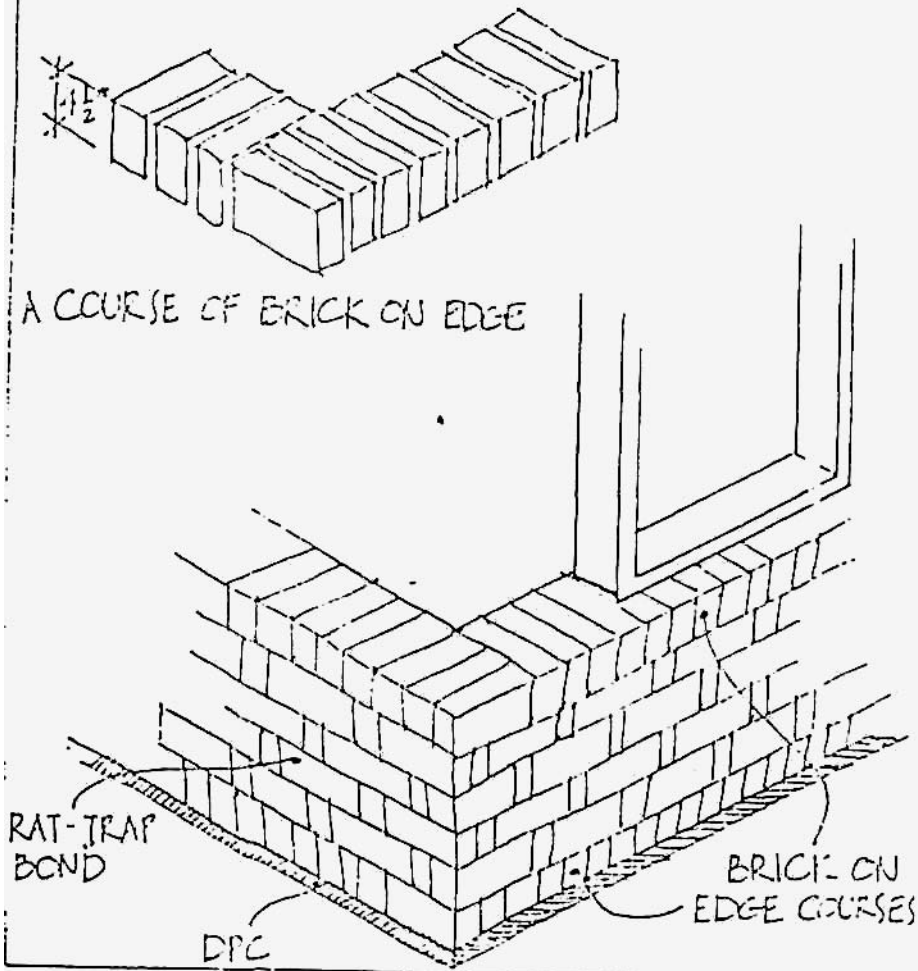
END WALLS (DOORS ARCHES c/c)



115 mm thk. WALL JUNCTION WITH RAT-TRAP BOND MASONRY

SOME TIPS ON RAT-TRAP BOND

BRICK-ON-EDGE COURSES SHOULD BE PROVIDED IN THE FIRST COURSE, AT SILL LEVEL, AT LINTEL LEVEL AND AT ROOF LEVEL



Extracted from
PRINCIPLES OF CONSTRUCTION
BASIC PARTS OF BUILDING'S
WALLING AND OPENINGS
GRAM VIKAS
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