Differences between English bond and Flemish bond

Sr No.	English Bonds	Flemish bond
1	This bond consists of headers and stretchers laid in alternative courses.	This bond consists of headers and stretchers laid alternatively in each course.
2	It is strongest of all the bonds.	It is less strong for walls having thickness more than 13 ½ inches.
3	It provides rough appearance especially for one brick thick walls.	It provides good appearance for all thickness of walls.
4	There are no noticeable continuous vertical joints in the structure built in this bond.	There are partly continuous vertical joints in the structure built in this bond.
5	Much attention is not required in providing this bond.	Special attention is required in providing this bond.
6	Progress of work is more.	Progress of work is less.
7	It is costly because the use of brick bats is not allowed.	It is economical because brick bats are allowed for forming this bind.

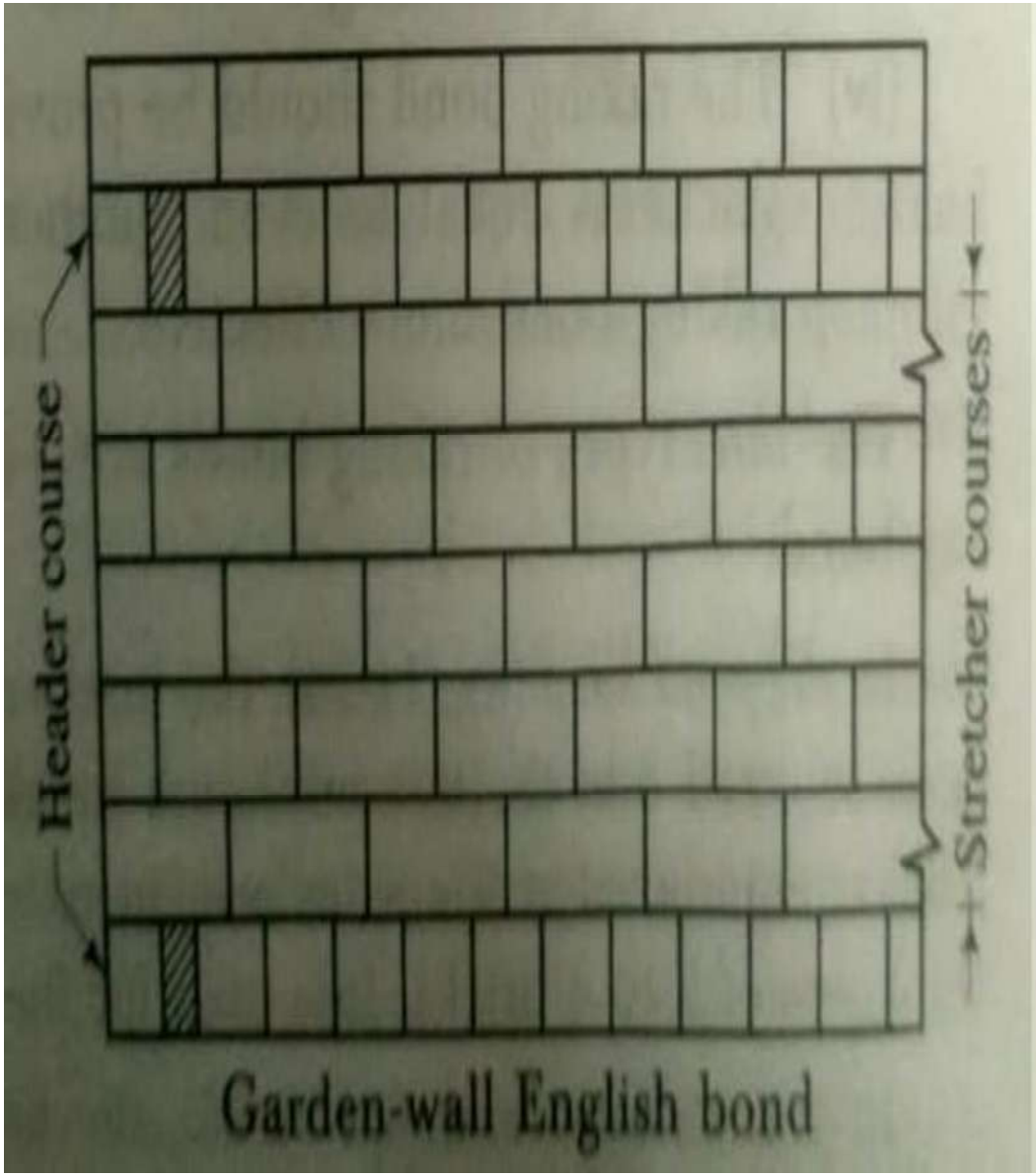
5.GARDEN WALL BOND

- This bond is used for constructing one brick thick garden walls, boundary walls, and other walls such as outer leaves of cavity walls to provide goodappearance.
- The height does not exceed 2 m.

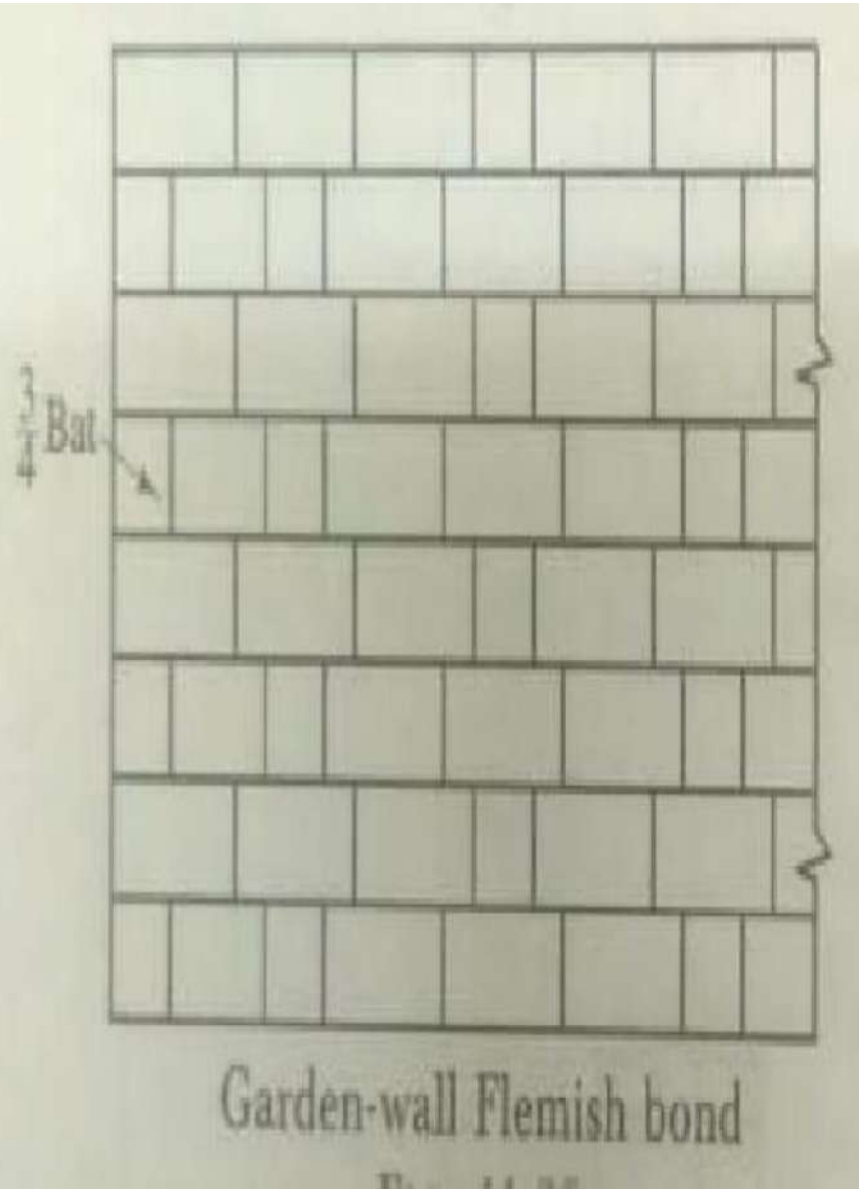
- Two types Flemish bond:-

  (i) English garden wall bond

  (ii) Flemish garden wall bond



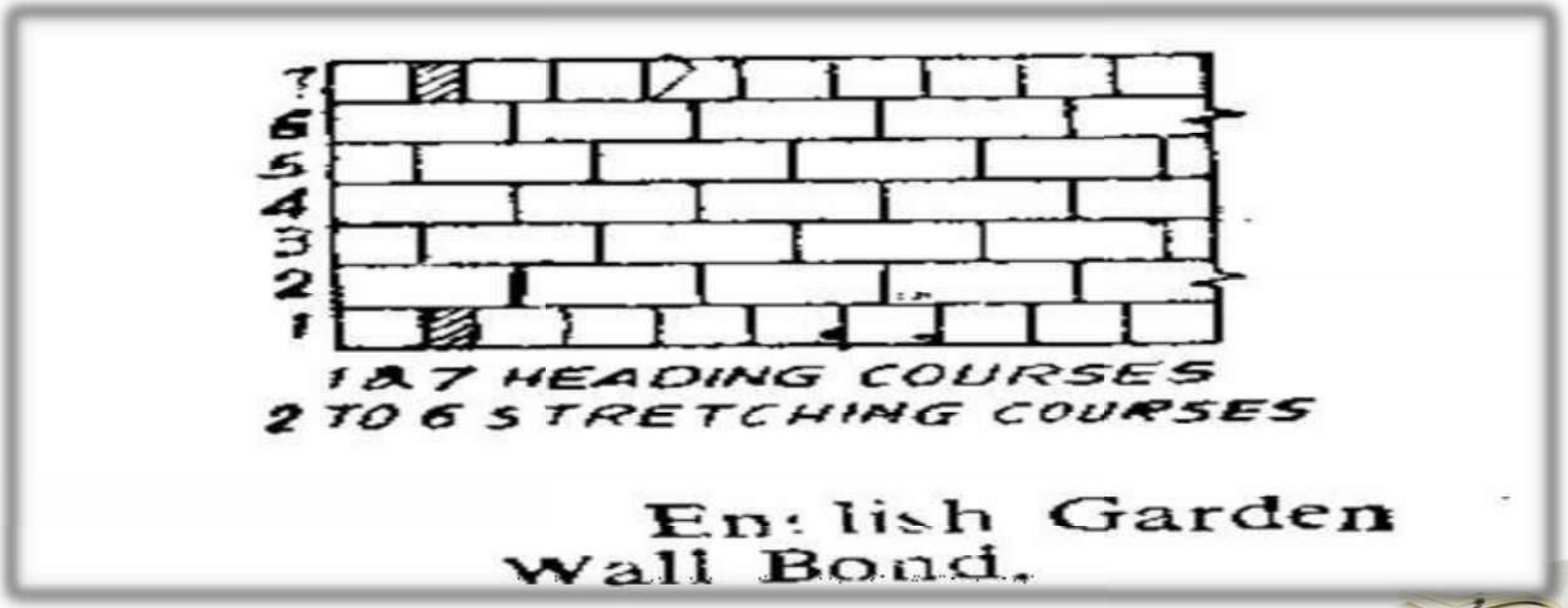
Garden-wall English bond



Garden-wall Flemish bond

(i) English garden wall bond:-

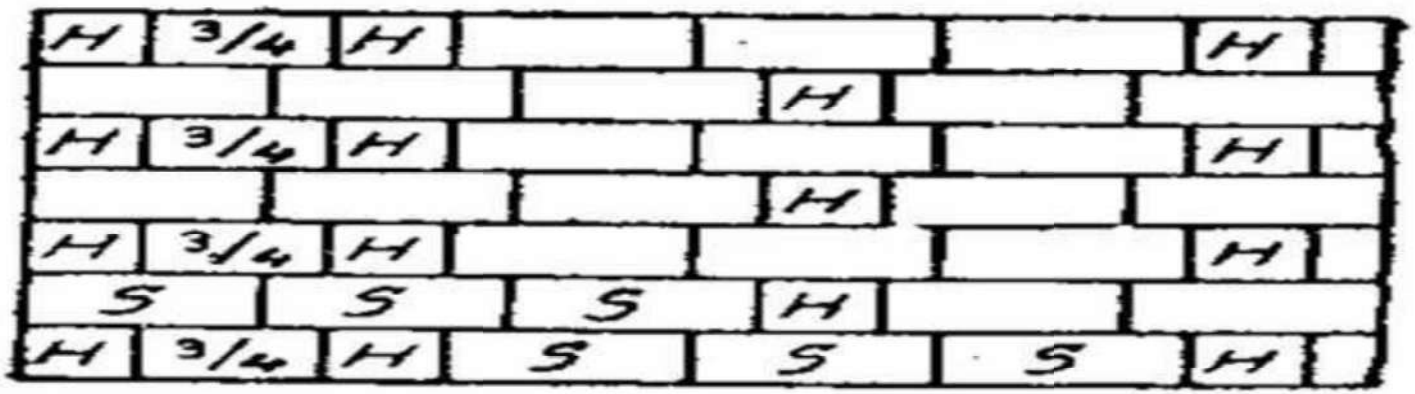
- The garden wall bond in which a heading course is provided after 3 or 5 stretching courses is called "**English Garden Wall Bond**".



English Garden Wall Bond.

(ii) Flemish garden wall bond:-

- In this bond a header is provided after 3 or 5 stretches in each course.
- This bond is also known as "**Sussex or Scotch Bond**".



Flemish Garden Wall Bond

6.RAKING BOND

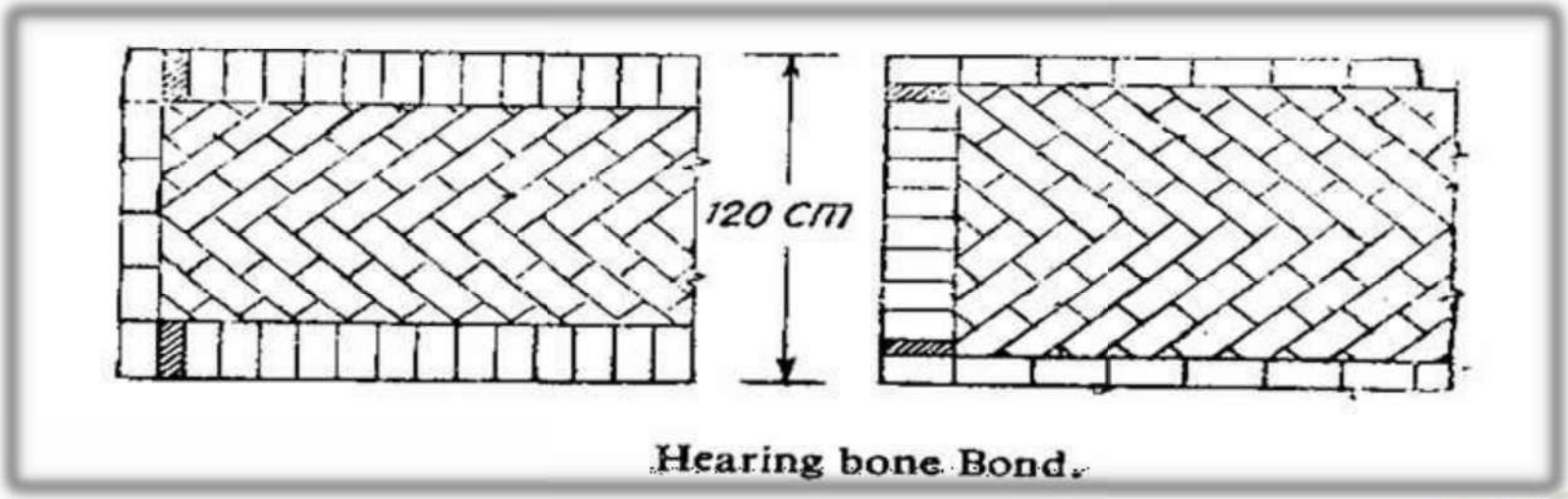
- It this type of bond alternate course are placed in different directions to get maximum strength in the wall.
- Two types Flemish bond:-

  (i) Herring wall bond

  (ii) Diagonal wall bond

(i) Herring Bone Bond

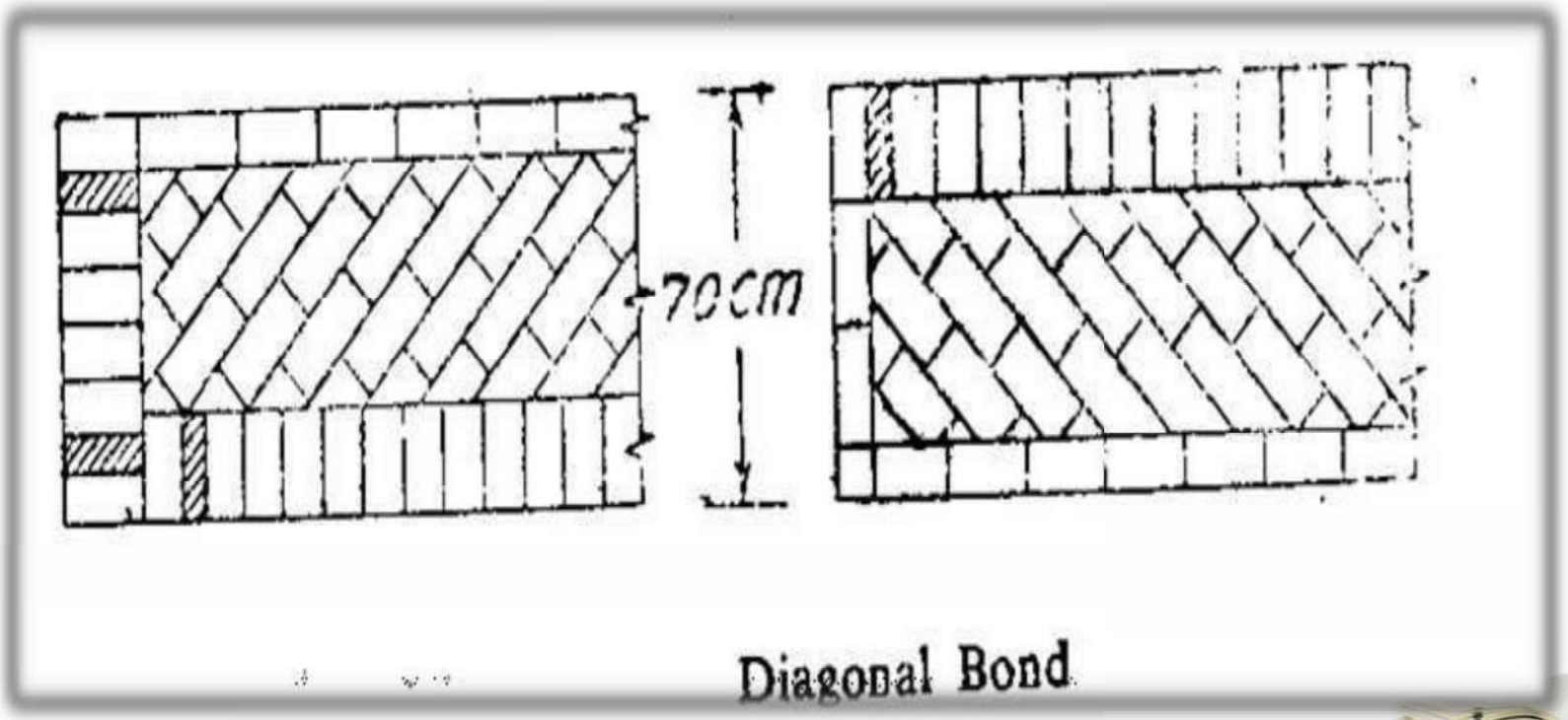
➢The raking bond in which bricks are laid at an angle of 45 degree , starting at the central line and proceeding towards the facing and backing of the wall, is called "**Herring Bone Bond**".



Hearing bone Bond.

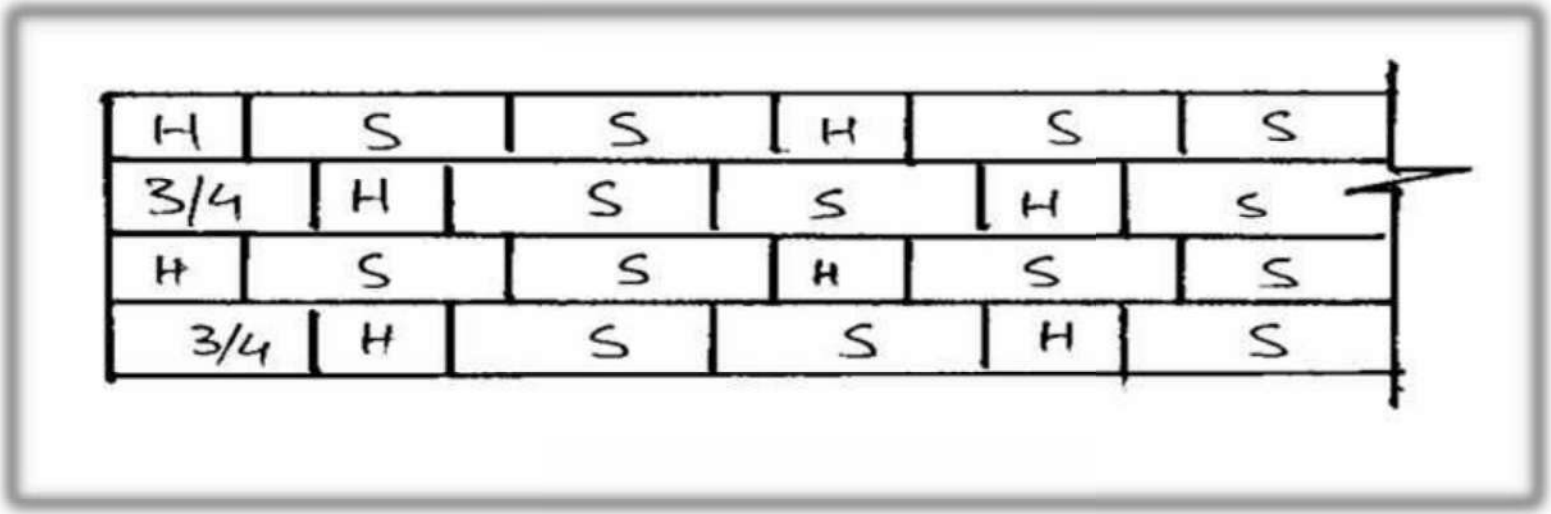
(ii) Diagonal Bond:-

➢The raking bond in which bricks are laid starting from the corner in parallel rows inclined to the facing and backing of the wall is known as "**Diagonalbond**".



7.DUTCH BOND

- This bond in which two stretchers and one header are laid alternately in each course iscalled "**Dutch Bond**".
- This bond is used in the construction of boundarywalls.



A. STONE MASONARY

STONE MASONARY

Rock, that is removed from its natural site and generally, cut or dressed and then finished for building purposes, is called "Stone" and the art of building the structure with stones as constructional units is called "Stone masonry".

Main types of stone masonry:-

Rubble masonry:-

Ashlar masonry:-

Stone masonry

Rubble masonry

1. Coursed rubble masonry
2. Un-Coursed rubble m asonry.
3. Random rubble masonry
4. Polygonal rubble m asonry
5. Flint rubble masonry
6. Dry rubble masonry

Ashlar masonry

1. Ashlar Fine masonry
2. Ashlar Rough Tooled
3. Rock (or) Quarry Faced
4. Ashlar Chamfered
5. Ashlar Block in Course
6. Ashlar

RUBBLE MASONRY

The stone masonry in which either undressed or roughly dressed stones are laid is called "**Rubble masonry**".

In this masonry, the joints of mortar are not of uniform thickness.

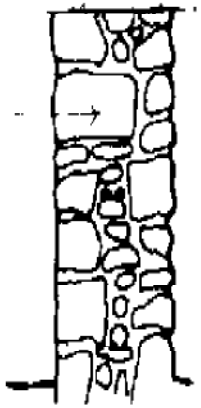
The strength of rubble masonry dependon:

- The Quality of Mortar.
- Theuse of long through stones.
- The proper filling of mortar between the spaces of stones

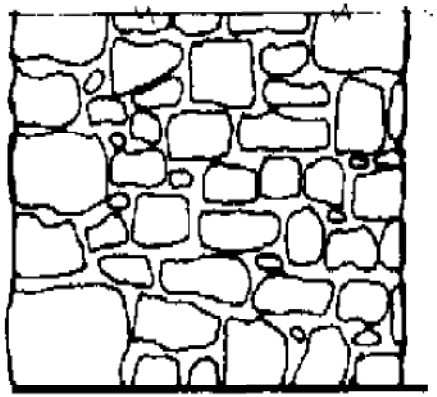
1.COURSED RUBBLE MASONARY

- In this type of masonry, the stones used are of widely different sizes. This is the roughest and cheapest form of stone masonry.
- In coursed random rubble masonry, the masonry work is carried out in courses such that the stones in a particular course are of equal height.
- Used in residential constructions, c ommercial construction.

PLAN



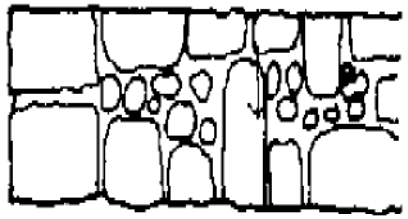
SECTION



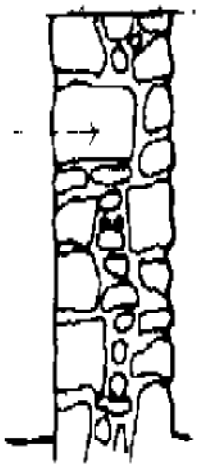
ELEVATION

2.UN-COURSED RUBBLE MASONARY.

- In this type of masonry, the sto nes used are of widely differe nt sizes. This is the roughest an d cheapest form of stone maso nry.
- In un-coursed random rubble masonry, the courses are not m aintained regularly. The larger s tones are laid first and the spa ces between them are then fille d up by means of spalls or sne eks.
- Used in compound walls, godo wns, garages, labour quarters



PLAN



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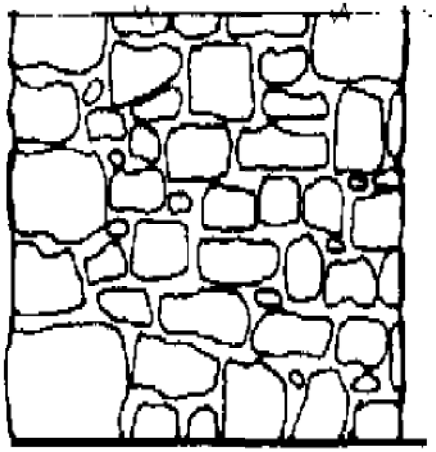
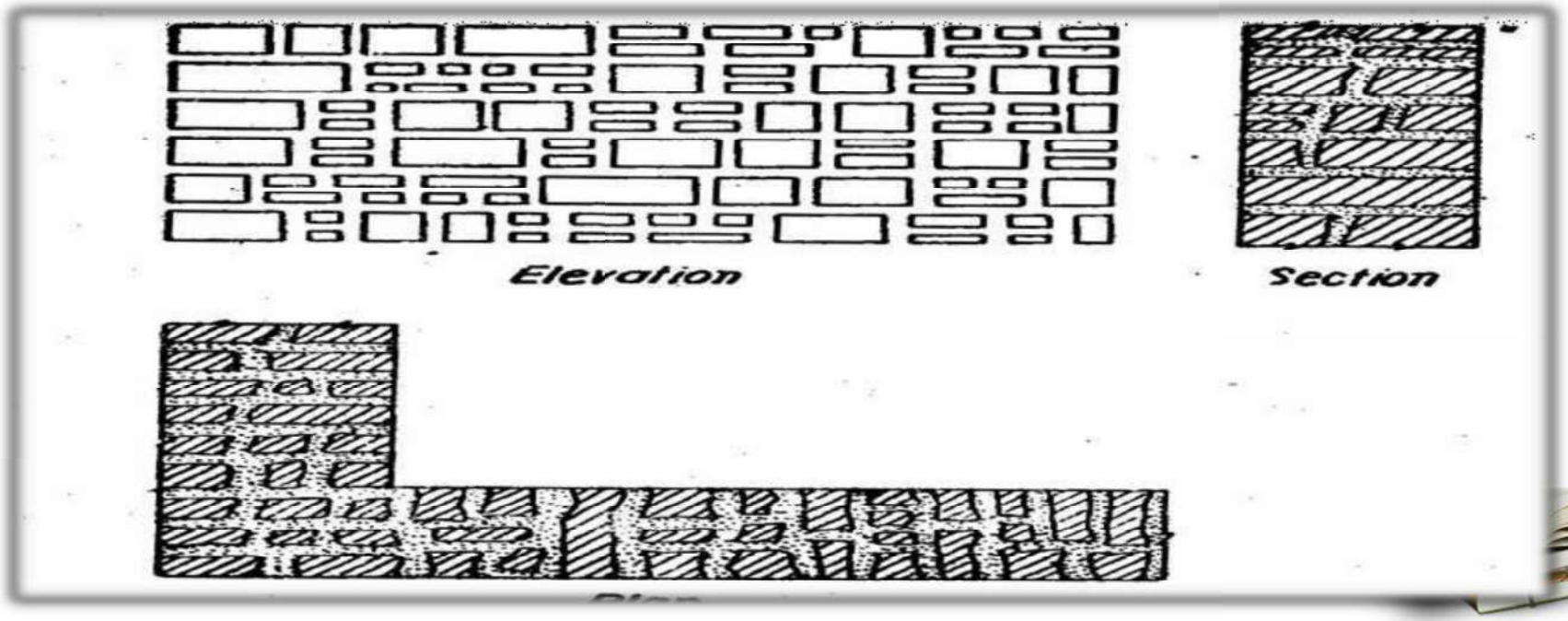


ELEVATION

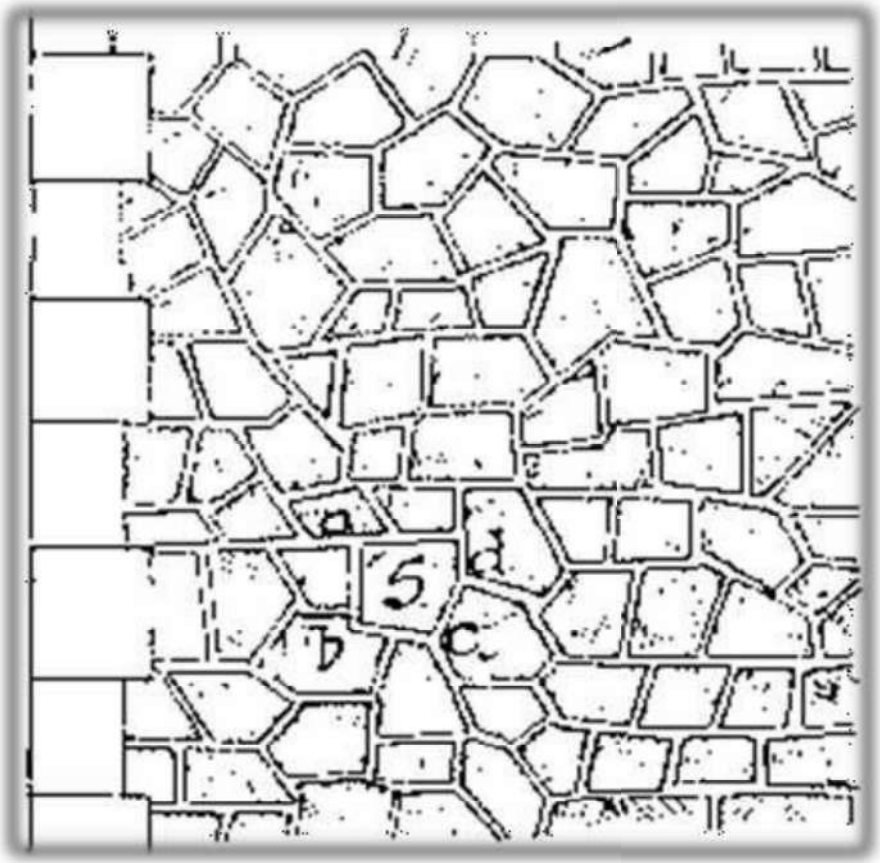
3.RANDOM RUBBLE MASONARY.

- In this type of masonry stones having straight bed and sides are us ed. The stones are usually squared and brought to hammer dressed or straight cutfinish.
- In the coursed square rubble masonry, the work is carried out in co urses of varyingdepth.



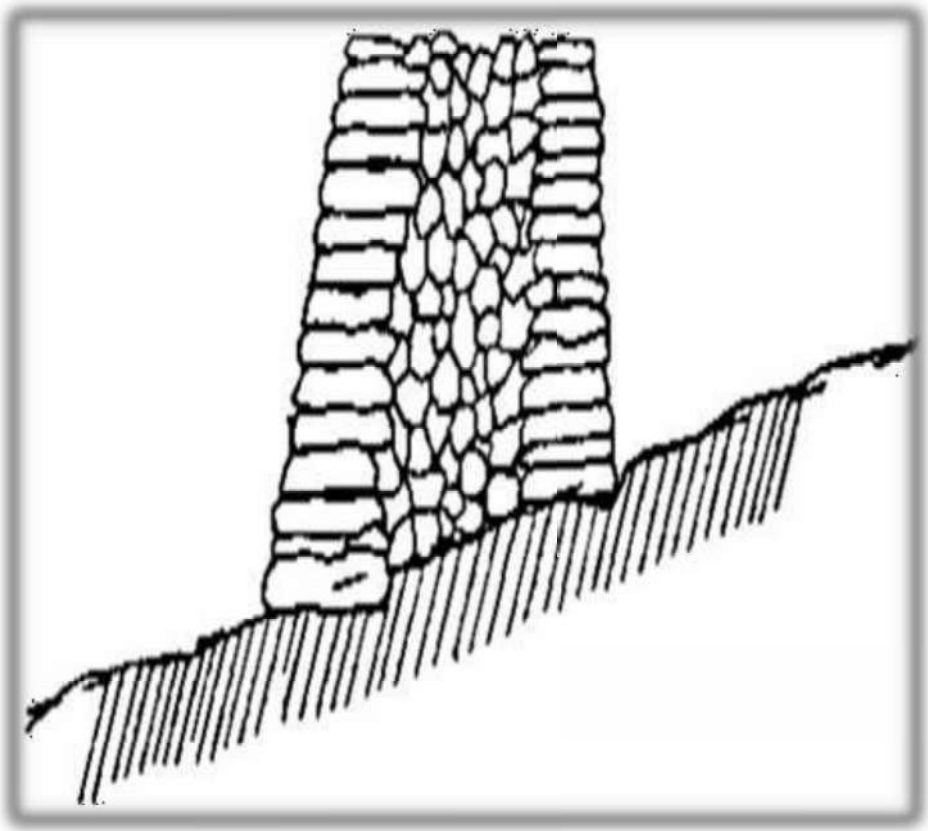
4.POLYGONAL RUBBLE MASONARY

In this type of rubble ma sonry, of the stones are drehammerssed. The sto ne used for face work ar e dressed in an irregular polygonal shape. Thus t he face joints are seen r unning in an irregular f ashion in all directions.



5.FLINT RUBBLE MASONARY

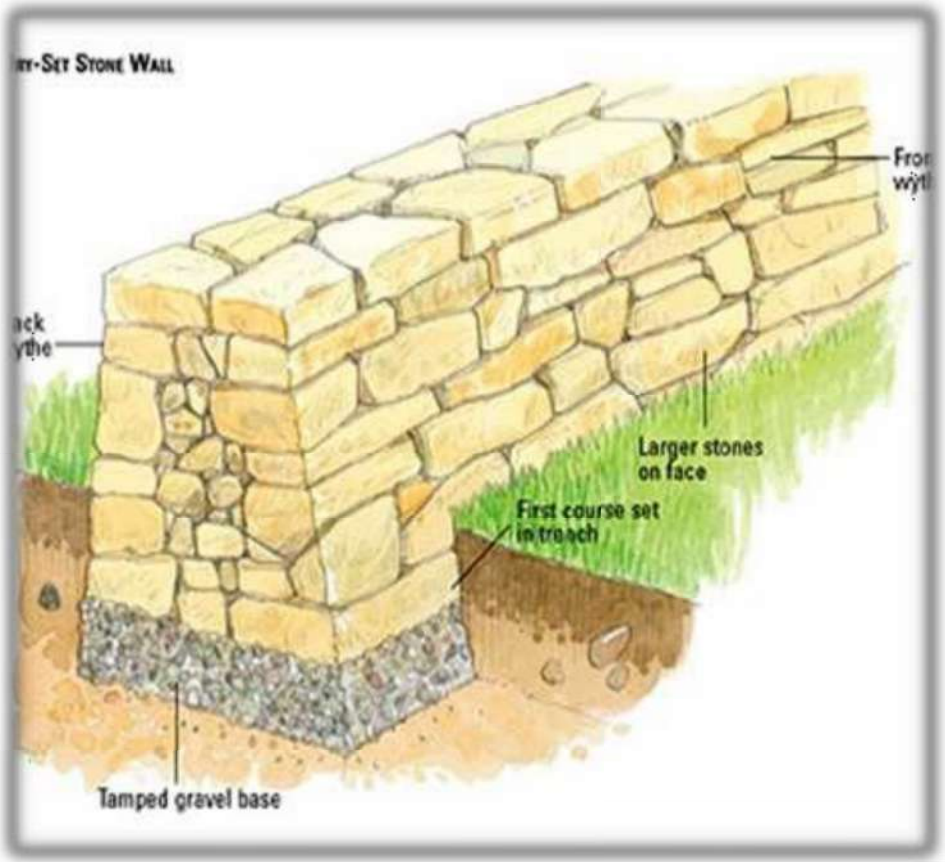
- In this type of masonry stone used are flints or cobbles. These are irregularly shaped nodules of silica. The stones are extremely hard. But they are brittle and therefore they break easily.



6.DRY RUBBLE MASONARY

- In this type of masonry, mortar is not used in the joints.

This type of construction is the cheapest and requires more skill in construction. This may be used for non-load bearing walls such as compound walls, etc…

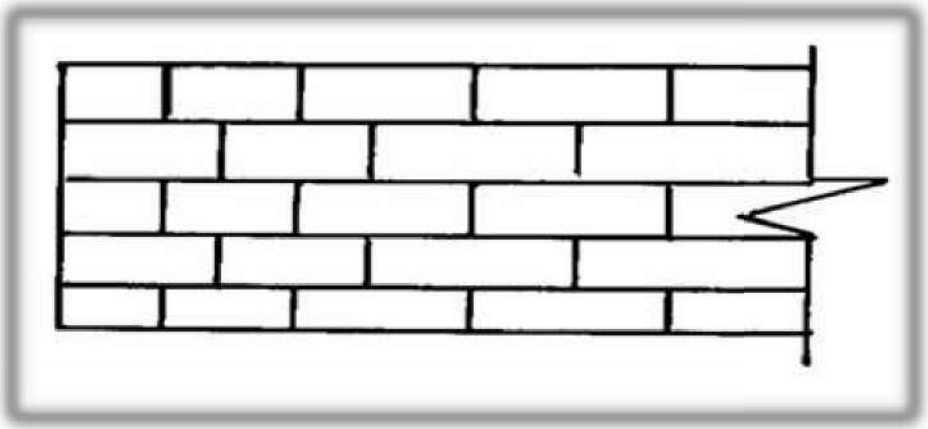


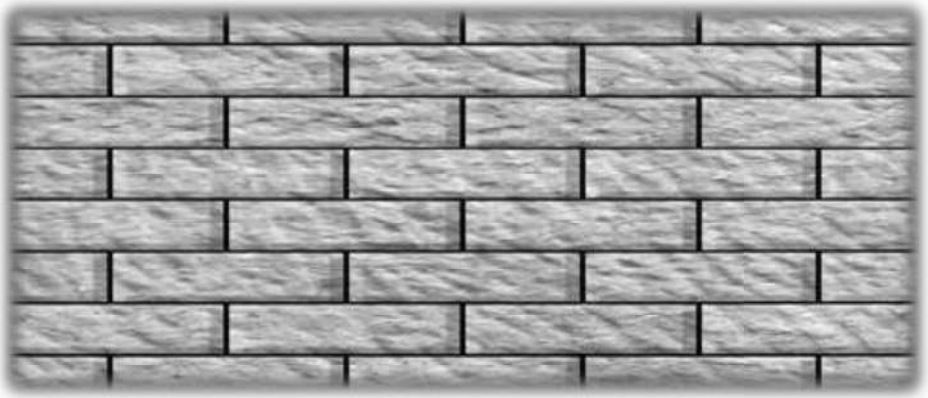
ASHLAR MASONRY

- The stone masonry in which finely dressed stones are laid in cement or lime mortar, is known as "Ashlar masonry".
- In this masonry all the joints are regular, thin, and of uniform thickness.
- This type of masonry is costly in construction as involves heavy cost of dressing of stones.
- This masonry is used for heavy structures, arches, architectural buildings, high piers, abutments of bridges, etc.

1. ASHLAR FINE MASONARY

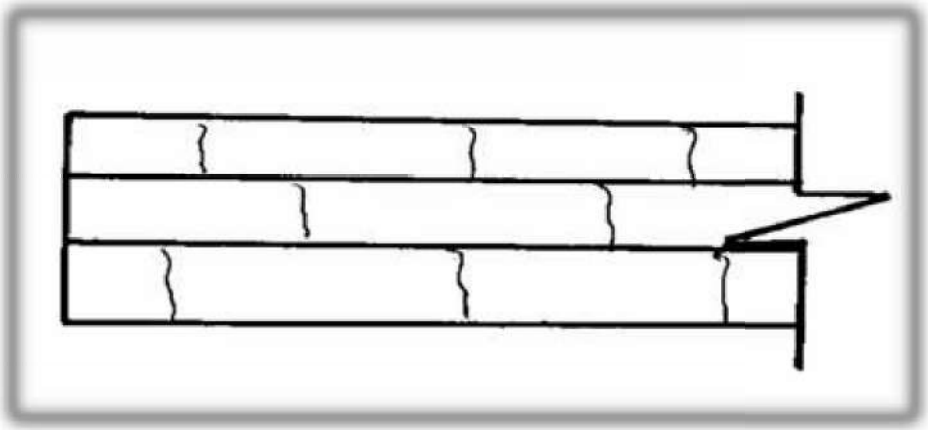
- In this type ashlar masonry, each stone is cut to uniform size and shape with all sides rectangular, so that the stone gives perfectly horizontal and vertical joints with adjoining stone. This type of ashlar masonry is very costly.





2. ASHLAR ROUGH MASONARY

In this type of ashlar maso nry, the beds and sides are finely chisel- dressed. But the face is made rough by means of tools. A strip, ab out 25mm wide and made by means of chisel is provi ded around the perimeter of the rough dressed face of each stone.

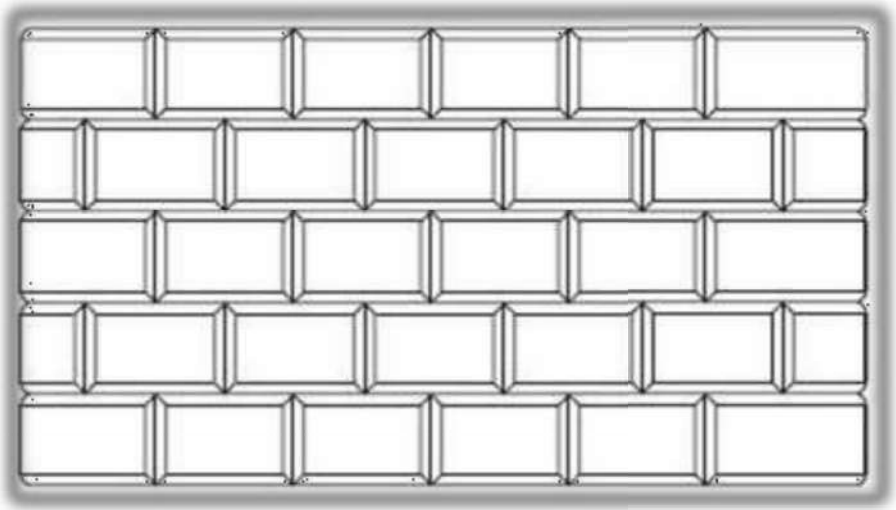


3. ROCK & QUARRY FACED

- In this type of ashlar masonry, a strip about 25mm wide and made by means of chisel is provided around the perimeter of every stone as in case of rough-tooled maso ashlor nry. But the remaining portion of the face is left in the same form as received fromquarry.

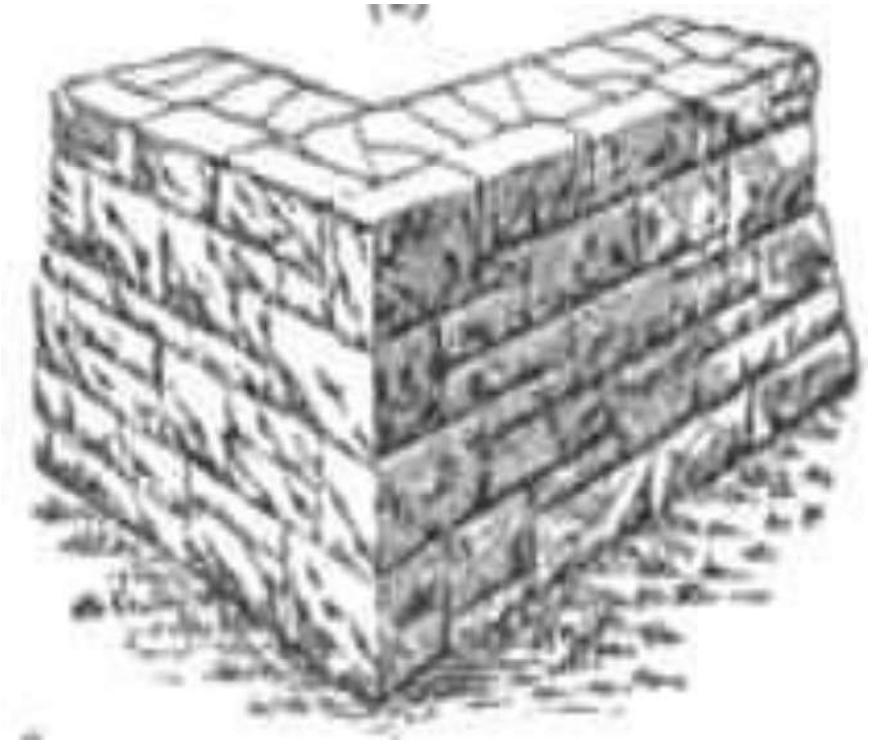
4. ASHLAR CHAMFERED MASONARY

- In this type of ashlar masonry, the strip is pr ovided as below. But it i s chamfered or beveled at an angle of 45 degree s by means of chisel for a depth of about 25mm.



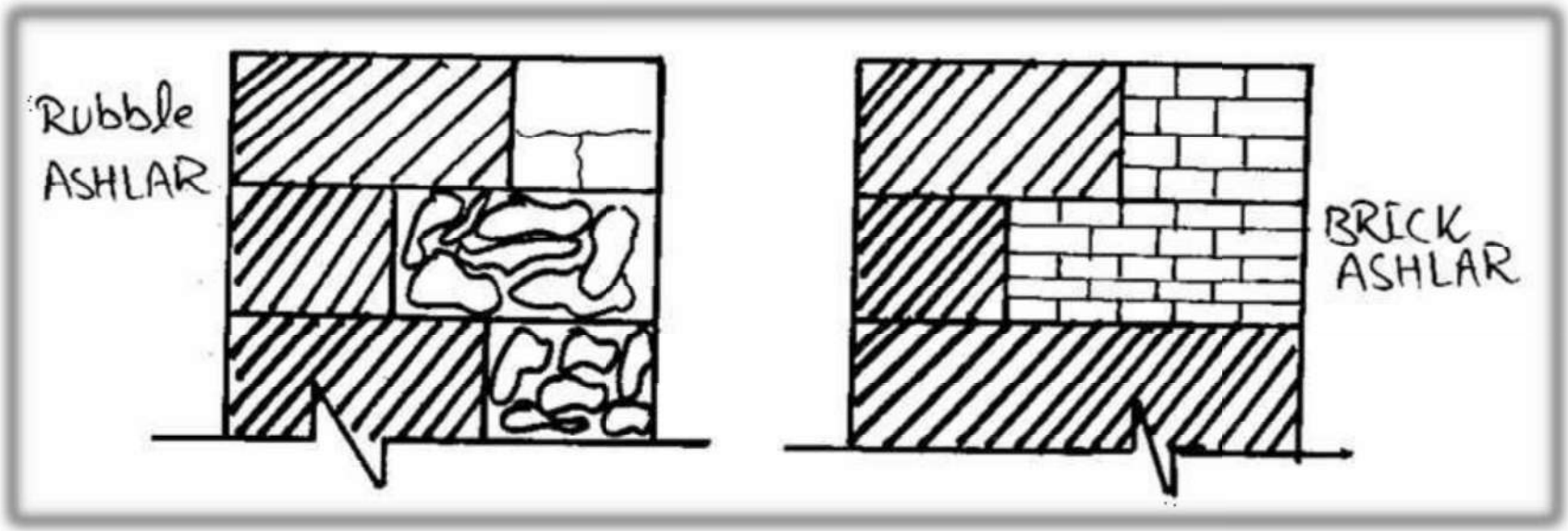
5. ASHLAR BLOCK IN COURSE MASONARY

- This is combination of rubble masonry and ashlar masonry. In this type of masonry, the face work is provided with rough too led or hammer dresses st ones and backing of the wall may be made in rub ble masonry.



6. ASHLAR FACING MASONARY

➢If the backing is of Rubble masonry, It is called "**Rubble Ashlar**" and if the backing is of brick work the masonry is termed as "**Brick Ashlar**".



COMPARISON BETWEEN BRICK MASONARY AND ST ONE MASONARY

(1) **Stone is stronger** and more durable than brick and for public buildings; it is decidedly more suitable than brick. It reflects strength in every inch of it. It is in tune with natur e. Its color improves and looks more serene with age.

On the other hand, brick is an artificial product made as a copy of stone. It is f limsy material and plastering is only a camouflage for itsdefects.

(2)Stone is water proof. On the other hand, Brick absorb s moisture and with dampness certain salts rise in the wall s from the ground and cause disintegration of bricks.

Especially brick should not be allowed to come in contact with urine or sewage and in such places it must always be c overed with cement plaster or any other protective coat.

COMPARISON BETWEEN BRICK MASONARY AND ST ONE MASONARY

(3)Brick offers greater facility for ornamental work in pl aster as a rough shape can first be given to it by means of any t ool. This is not so in case of stones.

(4)Plaster does not stick so well to stones as it does to bric k.

(5)On account of the regular shape and uniform size of brick, a **proper bond can beobtained with comparativeease.**

(6)Due to the **handy size of brick**, brick masonry can be mo re rapidly constructed than stonemasonry.

(7)Brick wall requires a fixed quantity of mortar and even with careless masons, the regular shape of the brick considera bly reduces the possibility of hollows being left in the body of the wall. This is not so with some stone walls.