higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

MASONRY
NQF LEVEL 2

XX FEBRUARY 2020

This marking guideline consists of 6 pages.

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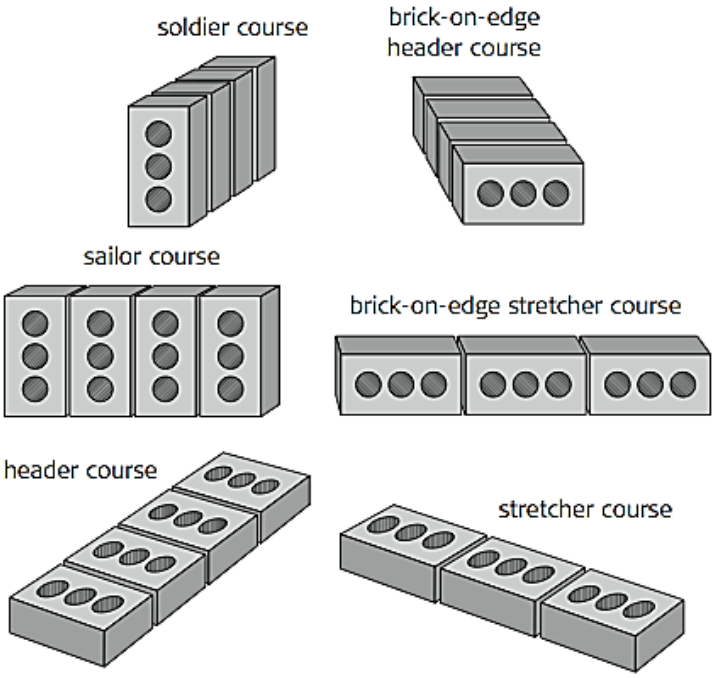
QUESTION 1: INTRODUCTION AND BACKGROUND



Correct labels	1 × 5
Correct sketch	1 × 5

[10]

QUESTION 2: SETTING OUT MASONRY WALLS

2.1 2.1.1 A gauge rod consists of equal gauges or measurements✓ used to mark accurate measurements of courses onto a profile which allows brickwork to be equal upon completion.✓

2.1.2 Profiles act as stopped ends in brickwork✓ and guide each course to be level and plumb when set up accurately.✓ It is held in position by stays.

2.1.3 The 3:4:5 method is used to check if the corners of a building are square✓ without using a steel square.✓

2.1.4 A spirit level is used to check for plumbness✓ and levelness.✓

2.1.5 A site plan informs✓ the contractor were to dig foundations, shows the service layouts and consists of measurements.✓

2.1.6 Joint rulers are used to smoothen mortar joints in face brickwork between the bricks.✓ It can be rounded or squared, long or short.✓

(6 × 2) (12)

2.2 Place a three-metre straight edge on two masonry units exactly the same size.✓ Take a second straight edge of the same length and place the one end of one of the masonry units next to the first spirit level. The other end should be free to lift up or down.✓ Place a level on the free end and lift or lower the straight edge until it is level.✓ Now measure the difference between the top of the first straight edge and the top of the second straight edge.✓ If the distance is bigger than 6 mm, the foundations should be levelled before work can commence.✓ (Any relevant 5 × 1) (5)

2.3 If the foundation is not flat, it will affect the quality of the bond and the courses will not be level.✓ It will not be possible to lay an even thickness of mortar✓ and one has to compensate where the foundation is not flat. Bumps that are too high and hollows that are too deep would prevent the bedding course of the unit from bonding properly with the foundation.✓ (Any relevant 3 × 1) (3)

2.4 2.4.1 4 (1)

2.4.2 Total area of kitchen = length × breadth
= 6,4✓ × 5✓
= 32 m^2✓ (3)

2.4.3 3 (1)
[25]

QUESTION 3: BASIC CONSTRUCTION OF MASONRY WALLS

3.1 3.1.1 bed-joint reinforcing
3.1.2 modular
3.1.3 DPC
3.1.4 stretcher bond
3.1.5 single-leaf wall
(5 × 1) (5)

3.2
- When in separate leaves with no mortar✓ in between and the leaves are joined by wall ties✓
- When there is a vertical control joint between the clay and concrete units✓
- When the lower course of a foundation wall is made of one material✓ and the upper course is of another material they can be separated by a horizontal slip joint (DPC can be placed in the bedding course at the junction of the two materials)✓ (Any relevant 5 × 1) (5)

3.3
- The supervisor will mark out exactly where the end of the first wall will be.
- Place the profile exactly over the mark.
- Check whether the profile is vertical using the spirit level.
- Direct the assistant to move the profile supports until the profile is plumb.
- Use the spirit level to check again to ensure the profile is plumb after it has been secured.
- The profile supports should be held in place by placing heavy masonry or stones.
- Mark the gauges on the profile using the gauge rod.
- String the builder's line. (8)

NOTE: Should ONE be incorrect the rest should NOT be considered.

3.4
- Weathered
- Flush
- Raked (Any 2 × 1) (2)

3.5 3.5.1 Bond refers to how one brick is interlocked with another that forms a pattern in a wall.✓ It is the arrangement of bricks in a structure which distributes loads throughout the structure evenly.✓ (Any relevant 2 × 1) (2)

3.5.2
- Stretcher bond
- English bond
- Garden-wall bond
- Flemish bond
- Header bond
- Stack bond
- Water bond
- Sussex bond
- Monk bond (Any 4 × 1) (4)

3.6
- In masonry walls below copings
- Between walls and doorframes
- Between walls and window frames
- In suspended floors
- In walls above ground level including cavity walls (Any relevant 4 × 1) (4)

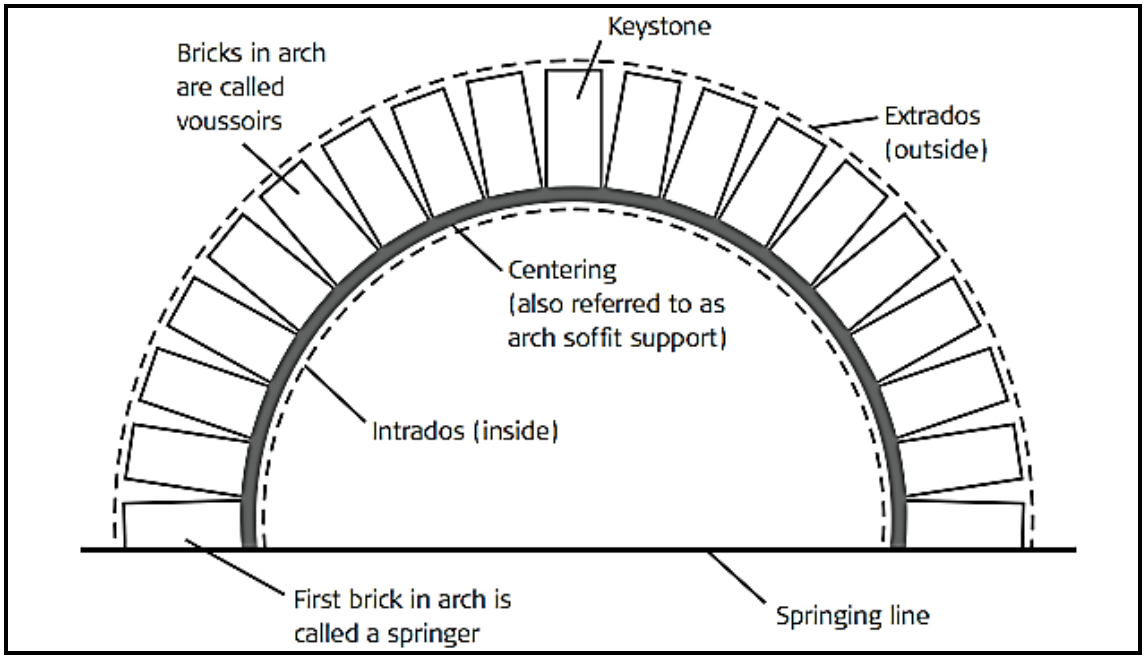
[30]

QUESTION 4: ADVANCED CONSTRUCTION OF MASONRY WALLS

4.1
4.1.1 False
4.1.2 True
4.1.3 True
4.1.4 False
4.1.5 False
4.1.6 False

(6 × 1) (6)

4.2



Correct position of labels	1 × 7
Neatness of sketch	2
Title	1

(10)

4.3 String a line between the two profiles at the level of the top jamb of the doorframe and ensure the line is level. This will ensure that the top of the window and the top of the doorframe is at the same level.✓ Place the spirit level at the top of the window frame and check for levelness.✓ If the frame is not level, use wooden wedges at the bottom of the frame to adjust the level.✓ Once the frame is level, put the spirit level on the outside of the frame to check for plumbness.✓ Use the stays to adjust windows until it is plumb on both sides.✓ Once the frame is plumb and level the stays should be locked in position.✓ Recheck to ensure the window frame is still held in position.✓

(Any relevant 6 × 1) (6)

4.4 A lintel must be correctly installed and of the correct specifications otherwise the wall or roof may collapse. (Any relevant 1 × 2) (2)

4.5 4.5.1 Racking back means constructing stepped courses of bricks which will assist in future bonding of masonry.✓ There is usually 110 m left out in each course of brickwork forming the steps.✓

4.5.2 An anchor is used for tying metal straps✓ to masonry or concrete at intersections.✓

4.5.3 A cross wall intersects✓ or crosses another wall.✓

4.5.4 A jamb is the vertical post✓ at the side of a window or door.✓

(4 × 2) (8)

4.6 Concrete beams can be strengthened by placing steel bars✓ in the concrete. By placing the steel in the concrete a composite beam is created.✓ Steel is very strong under tension.✓ (Any relevant 1 × 3) (3)

[35]

TOTAL: 100

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