higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

MASONRY
NQF LEVEL 3

XX February 2020

This marking guideline consists of 5 pages.

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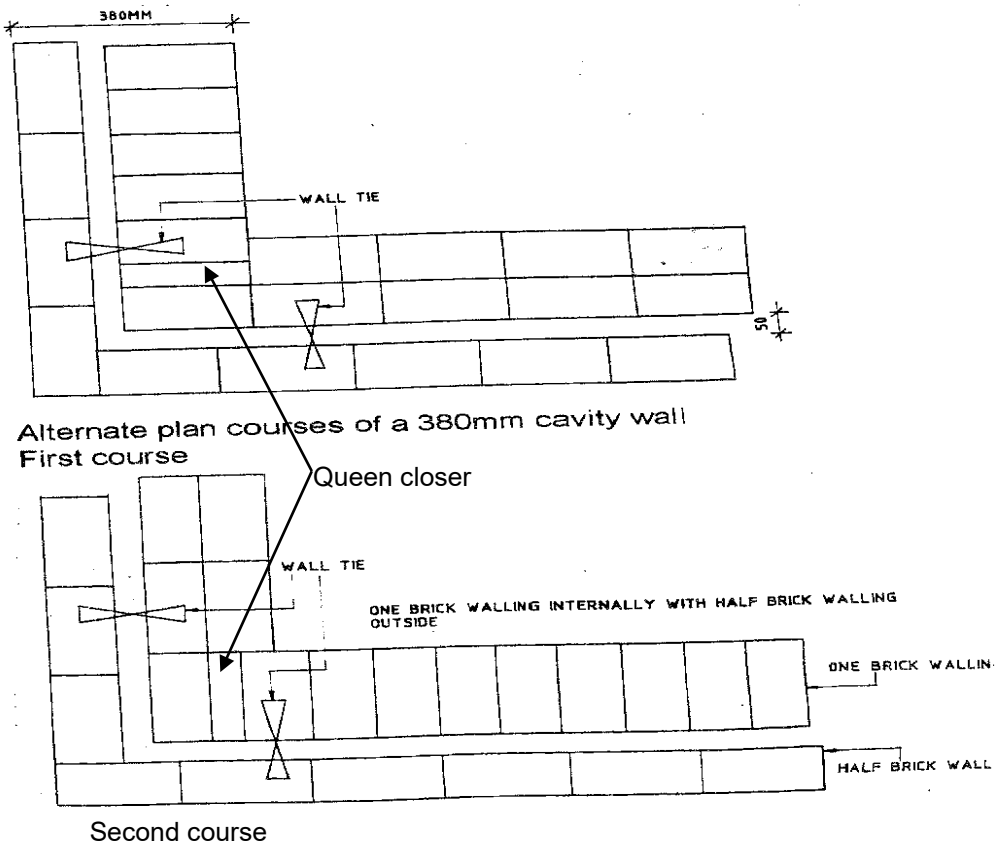
QUESTION 1: GENERAL

1.1 False
1.2 False
1.3 True
1.4 False
1.5 True
1.6 True
1.7 False
1.8 True
1.9 False
1.10 False

(10 × 1) **[10]**

QUESTION 2: CAVITY WALL CONSTRUCTION

2.1



First course/Second course (each)	4
Wall ties (each course)	4
One-brick wall (each course)	4
Half-brick wall (each course)	4
Queen closer (each course)	4

(20)

2.2 Weep holes are created in a cavity wall to drain moisture from the cavity. (2)

2.3 Mortar droppings and debris can form moisture bridges for moisture to pass from the outer leaf through the droppings to the inner leaf. (2)

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2.4
- A cavity wall prevents rainwater from entering the inside of the wall.
- Two types of bricks or blocks can be used in the same wall.
- The enclosed airspace in the cavity acts as insulation against heat or cold.
- The stability of the wall is increased by broadening the base of the two thin walls.
- There is no need for external rendering. (Any 4 × 1) (4)

2.5 The purpose of a ring beam is to strengthen the cavity wall and to support the weight of the roof. (2)
[30]

QUESTION 3: BASIC MASONRY WALL CONSTRUCTION WITH HOLLOW UNITS

3.1 190 mm for the height of the unit + 10 mm for the mortar between the units (2)

3.2 3.2.1 In concrete lintels over openings for doors and windows

3.2.2 To protect new masonry from rain

3.2.3 To tie intersecting/cross walls into structural walls every second course

3.2.4 To adjust the level of the door or window frame

(4 × 2) (8)

3.3 Bed joints are the horizontal joints between courses built with masonry and mortar.✓ However, in hollow masonry it is better to reinforce the hollow blocks horizontally and vertically✓ or to fill the cavities in a cavity wall with concrete.✓ These methods strengthen the masonry and control any cracking in the wall.✓ Hollow units lie on a rather thin strip of mortar.✓ These hollow walls are strengthened with vertical reinforcements and concrete infill.✓ Sections, that act like composite columns or ring beams, are created.✓ Only units used in lintels are the shape of the letter U.✓ (Any 5 × 1) (5)

3.4
- Bond block
- Standard bond block
- Standard lintel block (3)

3.5 When laying the units and tapping it in position, remove or cut all access mortar that sticks out from the joint with a trowel.✓ Prevent the smearing of mortar against the masonry.✓ If mortar was smeared or dropped against the wall, allow it to dry a little, brush it off lightly✓ and wash the wall with clean water.✓ Protect the base of the wall from rain-splashed mud or mortar droppings✓ by turning scaffold boards on the edge and placing it against the wall.✓ Cover the tops of unfinished walls with plastic sheeting to keep water from entering.✓ (7)

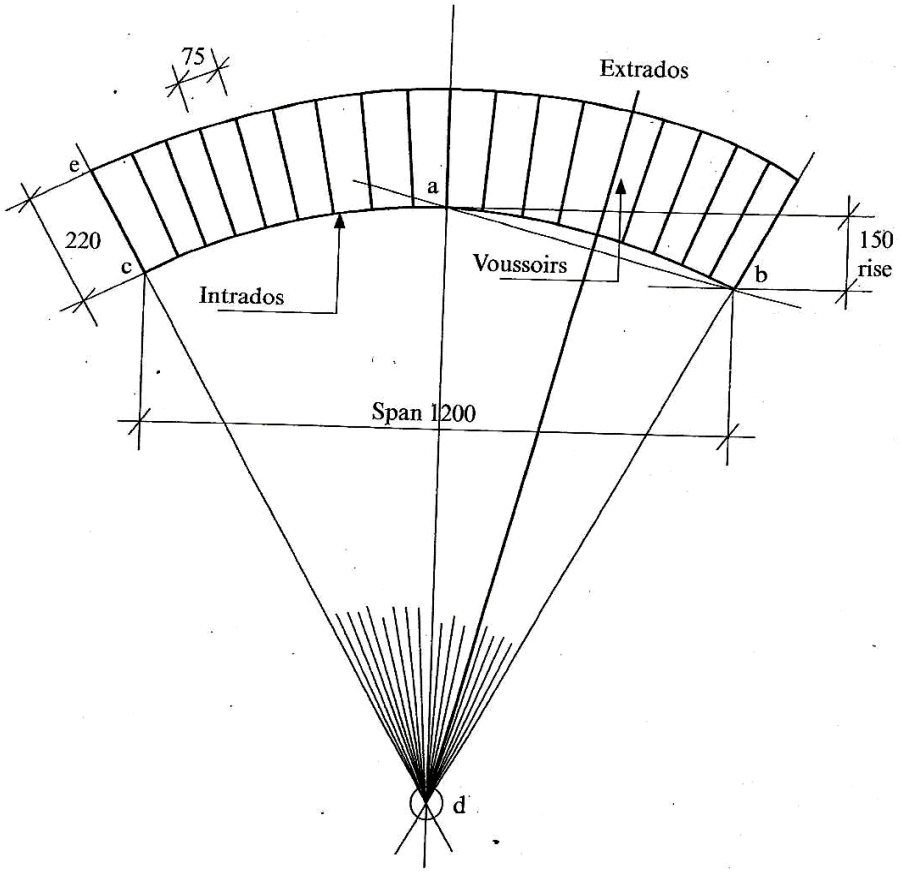
3.6
- Use galvanised iron roof anchors.
- Hook the anchors at the bottom end.
- Use 30 × 1,6 mm galvanised strapping.
- Embed the anchors in the concrete infill in the core of the hollow blocks.
- Support the anchors within the wall with expanded metal closures. (5)

[30]

QUESTION 4: ADVANCED MASONRY WALL CONSTRUCTION

4.1
- Make the opening in the block before laying the block into the wall.
- Use a masonry saw to cut two vertical slots at the bottom of the exposed face of the block.
- Remove the piece that has been cut out.
- Fix the plug box in the hole.
- Put mesh under the unit to support the concrete/mortar used to fill the gap.
- Use concrete/mortar to hold the box in position. (Any 5 × 1) (5)

4.2



Correctness	8
Span	2
Rise	2
Extrados	2
Voussoirs	2
Intrados	2
Depth of arch	2

(20)

4.3 Presoaking prevents the acid being drawn into the masonry or brickwork before reacting with the surface deposits (hardened mortar droppings and smears). (2)

4.4
- Arches are classified according to shape and materials used.
- The bricks units (voussoirs) may consist of rubber bricks, purpose-made bricks or standard bricks.
- Common forms of arches are flat, segmental, semicircular, elliptical and pointed. (3)

[30]

TOTAL: 100

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