higher education & training

Department:
Higher Education and Training
REPUBLIC OF SOUTH AFRICA

MARKING GUIDELINE

NATIONAL CERTIFICATE (VOCATIONAL)

MASONRY
NQF LEVEL 4

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This marking guideline consists of 5 pages.

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QUESTION 1: PLASTERING

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

(10 × 1) **[10]**

QUESTION 2: PLASTER

2.1 2.1.1 Plastering trowel✓ = used to apply the plaster onto the surface and to even the materials out for a smooth finish.✓

2.1.2 Hand hawk✓ = used to pick up plaster when plastering.✓

2.1.3 Gauging trowel✓ = used for patchwork where small amounts of plaster are required.✓

2.1.4 Corner tools✓ = used to rule off and float the internal and external corners.✓

2.1.5 Block brush✓ = is used for brushing dust of walls and for wetting walls before plastering.✓

(5 × 2) (10)

2.2 Wet the wall using a block brush to flick water over the substrate.✓ For accurate work, apply screed strips before plastering the wall.✓ Plaster the wall you have prepared in one single application.✓ The plaster should stand slightly proud of the screed strip.✓ Collect the plaster mix from the hawk with a plastering trowel or float.✓ Press it onto the substrate with pressure in a sweeping stroke or throw the plaster at the substrate in an upward movement.✓ Spread the plaster evenly onto the substrate until you have covered the whole area to be plastered.✓ As soon as the plaster begins to set, use a straight edge to screed it to the correct plane.✓ If you are going to apply another layer of plaster, score the whole area with a trowel to provide a key for the next layer.✓ If this is the final layer, use the straight edge to make sure that the surface is smooth.✓ Fill in any depressions and plane off any high points.✓

(Any 5 × 1) (5)

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2.3 Surfaces should not have been previously painted.✓ They should be firm and free from loose material, mould, oil, or grease.✓ Organic growths should be removed by brushing with a solution of 1 volume household bleach (sodium hypochlorite) and 3 volumes of water.✓Allow 12 hours to kill spores and then remove with a wire brush and flush with water.✓ The surface must be structurally sound, be free from releasing agents, dust, and dirt.✓ New concrete must be at least 28 days old.✓ Smooth or dense surfaces must be power floated, or steel trowel floated.✓ Off-shutter concrete must be primed with a slurry.✓ Allow the surface to dry before applying a slurry.✓ (Any 5 × 1) (5)

2.4 Mortar joints bond bricks together allowing the brickwork to act as a structural element to carry both vertical and lateral loads.✓✓ (2)

2.5 The straight edge is placed against the plastered wall while the plaster is still damp.✓ High spots on the plaster is hacked off by moving the straight edge across the surface while pressing it firmly and constantly against the surface. Hollow spots are filled with plaster and the planeness checked again.✓ Don't try to create a perfectly smooth finish in the surface of the plaster.✓ This finish should be a bit rough so as to create a mechanical key for the next coat of plaster.✓ Each layer of plaster must be allowed to set overnight before the next layer is applied.✓ The hacked off plaster must not be reused.✓ It must be discarded.✓ (Any 5 × 1) (5)

2.6
- High water retention✓
- High plasticity✓
- High bonding power✓
- Should not significantly change in volume both during and after hardening✓
- Should contain no or very little water-soluble salt✓
- The mixing surface must be free from organic material✓ (Any 3 × 1)

(3)
[30]

QUESTION 3: SCREEDS AND TOPPINGS

3.1 A screed is a mix made from sand and cement✓ that you lay on a concrete slab to provide a smooth, flat surface, for example, a floor surface.✓ It is good for pedestrian traffic and light duty.✓ A topping is a concrete mix.✓ It usually forms part of the slab on which it is cast.✓ The topping is often the wearing surface, in other words it has to handle all the wear and tear of people walking on it.✓ It is good for industrial and heavy-duty applications where impact, heavy traffic and floor loads are anticipated.✓ Toppings are stronger than screed as they contain stone and have less water.✓ (Any 6 × 1) (6)

3.2 A clean, even, and uniformly strong surface,✓ hard (durable) surface.✓ A surface free of cracks,✓ a level surface and the texture of the surface.✓ (4)

3.3
- Scabbling machine✓
- A hammer and chisel✓
- Mechanical brushing✓
- Blasting✓ (4)

3.4 Chiselling off the bits of concrete or old screed.✓ Brushing with a wire brush.✓ Sweeping up dust and dirt.✓ Vacuum cleaning with an industrial vacuum cleaner.✓ Cleaning the substrate with oil-free compressed air.✓ (5)

3.5 An intercoat or slush coat is a rich layer of sand, cement, and water mix ✓ used to form a bonding layer✓ between the base slab and the screed or topping.✓ (3)

3.6 To embed the coarse aggregate (stone) at the surface.✓ To provide a surface smooth enough for trowelling.✓ To compact the surface for subsequent operations, such as painting or tiling.✓ (3)

3.7 The added cement will form a dense impermeable paste✓ on the surface that will trap bleed water.✓ This bleed water will then cause the paste layer✓ to delaminate.✓ (4)

3.8 Seven days.✓ (1)
[30]

QUESTION 4: TILING

4.1 4.1.1 28 days✓ (1)

4.1.2 14–28 days✓ (1)

4.2
- General trowel✓
- Grout squeegee✓
- Tile cutter-breaker✓
- Wall trowel✓
- Floor trowel✓
- Tile spacers✓
- Spirit level✓
- Tile nibbler✓
- Rubber mallet✓
- Chalk line✓
- Edge trim✓ (Any 5 × 1) (5)

4.3 To prevent any tile adhesive or grout from getting into the waste system.✓ (1)

4.4 Grout is a construction material✓ and we use tile grout to fill the spaces between tiles and to provide support in tile joints.✓ (2)

4.5 Porous tiles are able to absorb a certain amount of water and non-porous tiles do not absorb water. (2)

4.6 5 mm✓ (1)

4.7

Type of sealer	Application/uses
• Sealer for most types of porous tiles✓	• Porous tiles✓
• Extra stain-resistant sealer✓	• Porous tiles✓
• Grout seal✓	• Specially formulated sealer that maintains the natural look of the tile✓
• Invisible sealer✓	• Invisible clear silicone sealer that maintains the natural look of the tile✓
• Shower sealer✓	• Prevents grout from collecting dirt and mildew, resulting in a more hygienic environment✓
• Top seal✓	• Tough, durable surface sealer that protects the tiles' surface from wear and tear✓

(Any 5 × 2) (10)

4.8 Measure out the correct amount of water.✓ Always use clean tools, a clean mixing container or a clean, flat surface that is free of debris. The water should be potable (drinkable).✓ Add the dry powder to the water in a constant motion of pouring and mixing.✓ You may use a slow-speed electric stirrer.✓ It is important to mix slowly, as high-speed mixing will introduce small air bubbles into the mix.✓These bubbles will interfere with the bonding process between grout and tile. They will also create gaps in the grout.✓ You can also stir the mixture with a paint paddle or stick (piece of a broom handle).✓

(Any 5 × 1) (5)

4.9 Periodically tap the surface of the laid tiles with a hammer. If you hear a hollow sound, this means that the tile adhesive is not correctly distributed over the under-surface of the tile.✓ (1)

4.10 Alkaline in the grout will burn on your hands where they are exposed to the grout or cement. (1)

[30]

TOTAL: 100

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