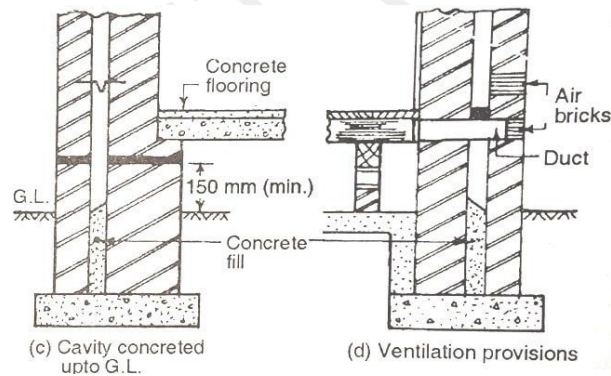


- (1). What is the minimum strength of concrete on an unreinforced foundation for a single storey home?
- 10MPa
 - 15MPa
 - 20MPa
 - 25MPa
- (2). The strength of the concrete should not be less than..... on the lower level of a Reinforced double storey building?
- 5MPa
 - 15MPa
 - 20MPa
 - 25MPa
- (3). What is the expected grade/strength of infill concrete in a cavity wall?
- 5 MPa
 - 10 MPa
 - 15 MPa
 - 25MPa



- (4). Basic uncomplicated foundations should be constructed with concrete that has a compressive strength of at leastMPa at 28 days in the ratio?
- 05MPa, 1:2:2 Cement: Sand: Stone
 - 10MPa, 1:4:5 Cement: Sand: Stone
 - 15MPa, 1:1:1 Cement: Sand: Stone
 - 25MPa, 2:1:2 Cement: Sand: Stone

- (5). The minimum strength of concrete for reinforced concrete members & precast items such as flagstones should be?
- a) 15 MPa
 - b) 25 MPa
 - c) 30 MPa
 - d) 35 MPa
- (6). The compressive strength gained by concrete after 28 days with respect to any grade?
- a) 80%
 - b) 99%
 - c) 100%
 - d) None of the above
- (7). Concrete shall have a minimum strength of... on unreinforced or reinforced slabs?
- a) 05 MPa
 - b) 10 MPa
 - c) 15 MPa
 - d) 25 MPa
- (8). What is the minimum required compressive strength of class II mortar at 28 days?
- a) 5MPa
 - b) 7MPa
 - c) 10MPa
 - d) 14.5MPa
- (9). What is the Minimum slab thickness of a strip foundation?
- a) 150mm
 - b) 200mm
 - c) 300mm
 - d) 400mm
- (10). What is the Minimum width of a continuous strip foundation for a load bearing wall?
- a) 200mm
 - b) 400mm
 - c) 600mm
 - d) 800mm
-

- (11). What is the minimum internal & external width of a strip foundation on C, H, R and S soil classification sites on reinforced concrete roofs?
- a) 400mm & 500mm
 - b) 600mm & 750mm
 - c) 800mm & 1000mm
 - d) 1000mm & 1200mm
- (12). The Minimum width of a strip foundation for a single storey building with a tiled or sheeted roof in stable soil conditions for an external & internal wall shall be...respectively?
- a) 200mm for the external wall & 400mm for the internal wall
 - b) 400mm for the external wall & 200mm for the internal wall
 - c) 500mm for the external wall & 400mm for the internal wall
 - d) 400mm for the external wall & 500mm for the internal wall
- (13). What is the maximum gradient for sloped trenches in strip foundations?
- a) 1: 10
 - b) 1: 20
 - c) 1: 40
 - d) 1: 80
- (14). What is the maximum distance between a backfill & a concrete slab? (Please note: This question normally accompanied by a diagram showing a backfill next to a stepped-up concrete slab).
- a) 600mm
 - b) 700mm
 - c) 1000mm or 1 Meter
 - d) 1300mm
- (15). What is the minimum depth of a strip foundation trench?
- a) 100mm
 - b) 400mm
 - c) 600mm
 - d) 700mm
-

- (16). What is the minimum width of a Non continuous strip foundation to a load bearing wall?
- a) 100mm
 - b) 400mm
 - c) 600mm
 - d) 700mm
- (17). What is the minimum width of a non-continuous strip foundation to an internal masonry non load bearing wall or to a timber framed wall supporting a roof with Class A or Class C?
- a) 100mm
 - b) 400mm
 - c) 600mm
 - d) 700mm
- (18). What is the maximum height of a foundation wall that is not acting as a retaining wall?
- a) 1.0 m
 - b) 1.5 m
 - c) 2.0 m
 - d) 2.5 m
- (19). What is the maximum height of a masonry foundation wall where the fill is retained behind a 220mm Nominal wall thickness?
- a) 0.4M
 - b) 0.7M
 - c) 0.9M
 - d) 1.8M
- (20). What will help increase the strength of concrete?
- a) Decrease the water/concrete ratio
 - b) Decrease the amount of void in concrete by upgrading the concrete
 - c) Cure the concrete well
 - d) All of the above
-

(21). How can concrete be protected from losing moisture?

- a) Damp sand, cover it with plastic and spray the surface with water.
- b) Damp sand, cover it with a cloth and spray the surface with water.
- c) All of the above
- d) None of the above

(22). Why is concrete compacted?

- a) To eliminate bubble and void as well as to sustain a level surface
- b) To make it harder
- c) To soften it for mixing
- d) All of the above

(23). What quality of water is used for concrete mixing?

- a) Drinking (Potable) Water
- b) Gray Water
- c) Blackish water
- d) River water

(24). Reinforcing should be clean of..... before casting concrete?

- a) Rust layers and oil paint (General knowledge type of question).
- b) Water & dirt.
- c) Moisture & dirt.
- d) All of the above.

(25). The concrete shall be of such workability that it can be readily?

- a) The concrete shall be of such workability that it can be readily compacted into the corners of the framework and around reinforcement without segregation of the materials or excessive bleeding of free water at the surface.
 - b) Of the framework outside reinforcement without segregation of the materials
 - c) Of the framework inside unreinforcement without segregation of the materials
 - d) Of the framework inside unreinforcement with segregation of materials.
-

(26). What does a slump test measure?

- a) Concrete workability
- b) Compressive Strength
- c) Dry or Wetness Density
- d) Concrete Stress

(27). In hollow bricks used for cavity wall foundations, what should the grading of mortar be?

- a) 3.0Mpa & 10.0MPa
- b) 3.0MPa & 7.0MPa
- c) 1.0 MPa & 10.0MPa
- d) None of the above

(28). What happens to the space in between hollow bricks when that type of brick is used?

- a) Fill it with mortar
- b) Fill with concrete
- c) Fill with iron bars for reinforcement
- d) Leave as, it is created for insulation purposes

(29). We can use cement bricks to lift the surface bed rebar/mesh as long as the bricks are cut in half.

- a) True
- b) False
- c) Makes no difference
- d) False, the bricks have to be full length

(30). Which of the following bricks should be wetted before placed?

- a) Concrete bricks
- b) Sand Lime Bricks
- c) Clay bricks
- d) None of the above

(31). What happens to the cavities of hollow blocks where the masonry is required to spread concentrated loads?

- a) The openings can be filled with concrete
- b) The openings can be filled with grout
- c) The openings can be filled with mortar
- d) All of the above.

(32). What is the concrete mix proportion for use with a 19 mm stone for 25 MPa?

- a) 1 bag cement (50kg), 2 wheelbarrow sand, 2 wheelbarrows stone, 80L water
- b) 1 bag cement (50kg), 1.5 wheelbarrow of sand, 1.5 wheelbarrow of stone, 30L water
- c) 2 bags cement (100kg), 2.5 wheelbarrow sand, 2.5 wheelbarrow stone, 50L water
- d) 2 bag cement, 2 wheelbarrows of sand, 2 wheelbarrows of stone.

N.B: The NHBRC can also ask this question in reverse by asking which of the following is the wrong mix proportion for use. Please always refer to table 4.2 in our study guide for any question that talks about concrete mixes

(33). What is the concrete mix proportion for use with a 13 mm (class 32.5) stone for 10 MPa?

- a) 1 bag cement (50kg), 2 wheelbarrow sand, 2 wheelbarrows stone, 80L water
- b) 1 bag cement (50kg), 1.5 wheelbarrow of sand, 1.5 wheelbarrow of stone, 30L water
- c) 2 bags cement (100kg), 4.5 wheelbarrow sand, 3 wheelbarrow stone, 66L water
- d) 2 bag cement, 2 wheelbarrows of sand, 2 wheelbarrows of stone, 55L water

(34). What is used to cover reinforced wires (rebar)/wire mesh placed within concrete?

- a) Silicon
- b) Rubber
- c) Mortar
- d) Nothing

(35). Cement plaster not applied within 2 hours on walls shall be?

- a) Used after more water is added
- b) Discarded
- c) Used after more water and cement is added
- d) None of the above

(36). Which one of the following are common defects in plaster?

- a) Cracking
- b) Debonding
- c) Grinning
- d) All of the above

(37). What is the minimum width/thickness of internal plaster?

- a) 10mm
- b) 25mm
- c) 35mm
- d) 45mm

(38). What is the maximum width for external plaster?

- a) 15mm
- b) 25mm
- c) 35mm
- d) 45mm

(39). What is the purpose of floor underlays in timber structures?

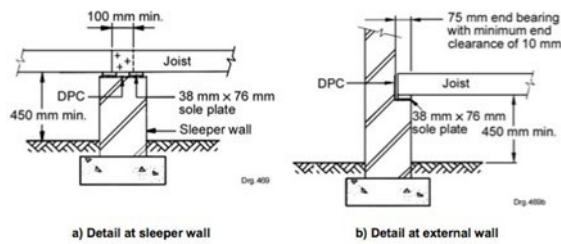
- a) To serve as bracing for floor joists
- b) Serve as a noise dampener
- c) To provide a vapour barrier to prevent moisture from coming in
- d) All of the above

(40). What is the minimum depth of floor board underlays placed to avoid moisture intake from the surface ground?

- a) 450mm
- b) 550mm
- c) 650mm
- d) 850mm

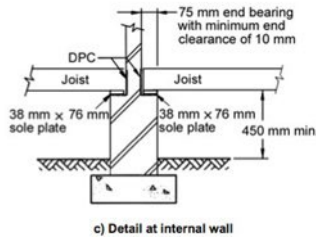
(41). On suspended timber floors, what is the minimum clearance between a gird and a joist?

- a) 250mm
- b) 450mm.
- c) 650mm
- d) 900mm



a) Detail at sleeper wall

b) Detail at external wall



c) Detail at internal wall

DPC = damp-proof course

(42). What is the minimum length of spacing between wooden floors?

- a) 0mm
- b) 3mm
- c) 10mm
- d) 15mm

(43). What is the minimum required length of a wooden floor?

- a) 800mm
- b) 1000mm or 1 Meter
- c) 1200mm
- d) 1400mm

- (44). What is the minimum required width of a wooden floor?
- a) 150mm
 - b) 350mm
 - c) 600mm
 - d) 900mm
- (45). What is the minimum penetration depth for the chemical treatment of timber?
- a) 5mm
 - b) 10mm
 - c) 30mm
 - d) 60mm
- (46). Where would you apply timber wood with a hazard classification HO-I?
- a) Ceilings
 - b) In joineries
 - c) On floor boards
 - d) All of the above

Please Note: For NHBRC questions dealing with timber hazard symbols, please always refer to the timber hazard symbols. The question above and below is for practice purposes as they can ask for any symbol.

- (47). Where would you apply the timber where the timber hazard limit symbol is H2?
- a) Laminated beams
 - b) Roof Trusses
 - c) Balustrades
 - d) All of the above
- (48). Where would you apply the timber where the timber hazard limit is H3?
- a) Flooring Boards
 - b) Roof Trusses
 - c) Balustrades
 - d) Walkways

(49). Which one of the following timber hazard classification can be placed in fresh water/wet soil conditions?

- a) H0-I & H1
- b) H2 & H3
- c) H5
- d) H6

(50). What is LOGGING on timber frame structure?

- a) Logging is the process of cutting, skidding and processing trees to produce timber and pulp to supply the world's markets for construction and other products.
- b) It is the process of treating trees with insecticides to avoid termites from eating through the wood.
- c) It is the process of drying trees for charcoal making.
- d) All of the above.

(51). What are the 3 key facets of timber construction?

- a) Timber treatment
- b) Timber Grades
- c) Good carpentry practice
- d) All of the above

(52). Which one of the following materials can be used for sheathing?

- a) Plywood
- b) OSB (Oriental Standard Board)
- c) Engineered timber (Hard Board)
- d) All of the above

(53). Where can black Hurst (Unstressed Timber) be applied?

- a) Bracing
- b) Purlins
- c) Rafters
- d) None of the above

- (54). What does the dolomite condition mean?
- a) A white mineral often tinted by impurities, found in sedimentary rocks and veins. It is used in the manufacture of cement and as a building stone (marble).
 - b) An acidic type of soil.
 - c) A rock formed from volcanic conditions.
 - d) Sink Hole
- (55). What types of soil are good for construction?
- a) loam & rock soil
 - b) Peat
 - c) Clay
 - d) Sand and Gravel
- (56). Which one of the following is the best soil for laying a foundation even for a double storey home?
- a) loam & rock soil
 - b) Peat
 - c) Clay
 - d) Sand and Gravel
- (57). In terms of the NHBRC soil class classification, what is a "P" soil type classification?
- a) Contaminated soils
 - b) Fills, Marshes, reclaimed areas & very soft areas
 - c) Dolomite or sinkhole areas
 - d) All of the above

Please Note, always refer to the classification of soils table for this kind of NHBRC questions.

- (58). What type of foundation is needed on a Dolomite classified area?
- a) A strip foundation
 - b) A Raft, Mat or Slab on the ground foundation
 - c) Dolomite foundation
 - d) A pad foundation

- (59). Which one of the following soils expands considerably when water is added?
- a) Clay soil site classification "H"
 - b) Rocks site classification "R"
 - c) Dolomitic areas site classification "P"
 - d) None of the above
- (60). What is an ENGINEERING FILL?
- a) Engineered fill means soil fill, which is wetted or dried to its near optimum moisture content, placed in lifts of twelve (12) inches or less and each lift compacted to a minimum percentage compaction as specified by a geotechnical engineer.
 - b) Engineered fill" is soil or aggregate materials derived from on-property or off- property locations which has been placed on the property to meet specific engineering requirements for the construction of buildings, utility lines, roadway sub-grade, or other structures
 - c) All of the above.
 - d) None of the above.
- (61). What should the minimum distance be, between a water & sewer line trench?
- a) 3 Metres
 - b) 5 Metres
 - c) 10 Metres
 - d) 15 Metres
- (62). What should the minimum clearance be when a drinking water pipe crosses a sewer line?
- a) 300mm
 - b) 500mm
 - c) 600mm
 - d) 1000mm or 1 Meter

(63). Service trenches shall not be excavated parallel to buildings within how many meters?

- a) 1.0 Meters
- b) 1.5 Meters
- c) 2.0 Meters
- d) 2.5 Meters

(64). In the cavity wall construction, the cavity shall not be less than?

- a) 50mm
- b) 110mm
- c) 150mm
- d) 200mm

(65). In the cavity wall construction, the cavity shall not exceed?

- a) 50mm
- b) 110mm
- c) 150mm
- d) 200mm

(66). In the cavity wall what is the strength of concrete infill in the first course?

- a) 5 MPa
- b) 10 MPa
- c) 15 MPa
- d) 25 MPa

(67). In a cavity wall construction, weep holes shall at least be required to be spaced horizontally with a maximum spacing of?

- a) 0.5 Meters
- b) 1.0 Meters
- c) 1.5 Meters
- d) 2.0 Meters

(68). What is the minimum gap spacing within a cavity wall?

- a) 30mm
- b) 50mm
- c) 75mm
- d) 110mm

- (69). Where is toothing not allowed?
- a) At an intersection of a wall
 - b) In the middle of the wall
 - c) All of the above
 - d) None of the above
- (70). Masonry walling shall not overhang concrete foundation by more than...?
- a) 10mm
 - b) 20mm
 - c) 40mm
 - d) 80mm
- (71). Masonry walls shall not be laid when the temperature is
- a) Less than 0 degrees Celsius
 - b) Less than 5 degrees Celsius
 - c) More than 15 degrees Celsius
 - d) More than 25 degrees Celsius
- (72). What is the nominal minimum width of mortar, perpend & bedding joints?
- a) 5mm
 - b) 50mm
 - c) 150mm
 - d) 200mm
- (73). What is the nominal maximum width of mortar, perpend & bedding joints?
- a) 20mm
 - b) 50mm
 - c) 100mm
 - d) 200mm
- (74). What is the name given to a horizontal mortar joint in a masonry wall?
- a) A perpend joint
 - b) A vertical chase
 - c) A control joint
 - d) A bedding joint

- (75). What is the name given to a vertical mortar joint in a masonry wall?
- a) A perpend joint
 - b) A vertical chase
 - c) A control joint
 - d) A bedding joint
- (76). What is the maximum depth of horizontal chases on a 100mm block?
- a) 1/6
 - b) 16mm
 - c) 16%
 - d) All of the above
- (77). Horizontal chases in solid units shall not exceed ... of the thickness of the wall or leaf in a 100mm block?
- a) 6mm
 - b) 10mm
 - c) 16mm
 - d) 33mm
- (78). Vertical chases in solid units shall not exceed ... of the thickness of the wall or leaf
- a) 1/4 of the thickness of the wall
 - b) 1/3 of the thickness of the wall
 - c) 1/2 of the above
 - d) None of the above
- (79). Vertical chases in solid units shall not exceed ... dig into the thickness of the wall?
- a) 33mm
 - b) 66mm
 - c) 99mm
 - d) 120mm
- (80). After how many days can props/lintels be removed on side walls, columns & vertical faces of beams?
- a) Between 2 to 4 days or as per engineer's discretion
 - b) 7 days
 - c) 14 days
 - d) 21 days

- (81). After what period can props be removed for lintels with a bearing span of between 1.5M to 2.5M?
- a) Between 2 to 4 days or as per engineer's discretion
 - b) 7 days
 - c) 14 days
 - d) 21 days
- (82). After what period can props be removed for beam soffits and arches with a span equal to or greater than 4.5m?
- a) Between 2 to 4 days or as per engineer's discretion
 - b) 7 days
 - c) 14 days
 - d) 21 days
- (83). After what period can props be removed for beams spanning over 6m?
- a) 3 days
 - b) 7 days
 - c) 14 days
 - d) 21 days
- (84). What is the minimum thickness of the first bed joint above a supporting element (foundation, slab or lintel)?
- a) 5mm
 - b) 10mm
 - c) 15mm
 - d) 35mm
- (85). What is the maximum thickness of the first bed joint above a supporting element (foundation, slab or lintel)?
- a) 5mm
 - b) 10mm
 - c) 15mm
 - d) 35mm

- (86). What is the minimum wire diameter for a butterfly wall type tie?
- a) 2.0mm
 - b) 2.5mm
 - c) 3.0mm
 - d) 4.5mm
- (87). In burnt clay masonry units, control joints shall generally be provided at minimum intervals of?
- a) 4m wide
 - b) 6m wide
 - c) 10m wide
 - d) 15m wide
- (88). What is the maximum vertical control joint spacing permitted by SANS10145 for control joints where reinforcement is 200mm?
- a) 4m wide
 - b) 6m wide
 - c) 9m wide
 - d) 12m wide
- (89). Which method can be used to join walls at an intersection?
- a) Galvanized steel & wires
 - b) Wall ties and mortar
 - c) Steel wires
 - d) All of the above
- (90). Where should a window sill face?
- a) Inwards
 - b) Upside down
 - c) Outwards
 - d) None of the above

(91). What is the minimum height of a window from roof to the upper top of the window?

- a) 450mm
- b) 600mm
- c) 800mm
- d) 1100mm

(92). What is the minimum area for the whole floor area of a habitable dwelling?

- a) 15 m²
- b) 30 m²
- c) 45 m²
- d) 60 m²

(93). What is the minimum clear room height of a habitable room?

- a) 1.8M
- b) 2.1M
- c) 2.4M
- d) 6.0M

(94). What is the maximum floor area for a habitable room other than a kitchen, scullery or laundry?

- a) 1.8M
- b) 2.1M
- c) 2.4M
- d) 6.0M

(95). What is the minimum clear height of a bedroom?

- a) 1.2M
- b) 1.8M
- c) 2.0M
- d) 2.4M

- (96). What is the maximum rise of a staircase?
- a) 100 mm
 - b) 150 mm
 - c) 200 mm
 - d) 300 mm
- (97). What is the minimum headspace above a staircase measured vertically from the pitch line to the ceiling?
- a) 1.5 Meters Measure vertically from pitch line.
 - b) 2.1 Meters Measure vertically from pitch line.
 - c) 2.5 Meters Measure vertically from pitch line.
 - d) 3.0 Meter Measures vertically from pitch line.
- (98). How much must the DPC (damp proof course) overlap?
- a) 100mm
 - b) 150mm
 - c) 300mm
 - d) 400mm
- (99). When is a damp-proof course used on a cavity wall that is prone to rainfall?
- a) In higher moisture content conditions
 - b) In low moisture content conditions
 - c) During the rainy season
 - d) All the time
- (100). What type of wall ties are used on a damp area?
- a) Butterfly wall & Fishtail wall ties
 - b) Remedial wall ties
 - c) Block wall ties
 - d) Stainless steel wall tiles
- (101). If an electrical conduit pipe is fitted through the DPM, what's used to fill the openings?
- a) A PVC
 - b) A bituminous felt membrane
 - c) Polyethylene plastic
 - d) Self-adhesive tape

- (102). What is the minimum soil cover over the outside of the drain pipes?
- a) 50mm
 - b) 100mm
 - c) 150mm
 - d) 300mm
- (103). What should the minimum soil cover be when precast or cast in situ concrete is placed over above the drain?
- a) 50 mm
 - b) 100mm
 - c) 150mm
 - d) 300mm
- (104). What does Y10 mean?
- a) Type of reinforcement and its diameter
 - b) The type of supplier
 - c) The year it was manufactured
 - d) The number of years guaranteed
- (105). Where are drips inserted on concrete roof?
- a) On top of the underlayment at all rakes, and below or on top of the underlayment at the eaves.
 - b) Underneath the underlayment at all rakes and above of the underlayment in eaves.
 - c) Any of the above.
 - d) None of the above.
- (106). What is the correct size of branderings?
- a) 45x45mm
 - b) 38x38mm
 - c) 48x48mm
 - d) 60x60mm

- (107). What are the minimum dimensions of a wall plate supporting the tie beam and rafters?
- a) 38x114x76mm
 - b) 40x120x80mm
 - c) 60x100x100mm
 - a) 60x120x80mm
- (108). What is the name given to a filling of brick between the roof timber situated from wall plate to roof covering, that is used to prevent the entry of birds?
- a) A Beam filling
 - b) Engineering filling materials.
 - c) Sand Filling.
 - d) None of the above.
- (109). Purlins and rafter splices should not be put within.....from gable ends
- a) 0.5m
 - b) 1.0m
 - c) 1.5m
 - d) 2.0m
- (110). What is the top part of the timber framed structure called?
- a) A Ridge Board
 - b) Rafter
 - c) Purlin
 - d) Joist
- (111). What is the name given to a horizontal member attached to an unplaced material perpendicular to a rafter in order to support the roof sheeting?
- a) Purlin
 - b) A beam
 - c) A rafter
 - d) Joist

- (112). What is the name given to a vertical member attached to an unplaced material perpendicular to a purlin in order to support the roof sheeting?
- a) Purlin
 - b) A beam
 - c) A rafter
 - d) Joist
- (113). What is the minimum width of flashing/valley gutter?
- a) 75mm
 - b) 150mm
 - c) 300 mm
 - d) 600 mm
- (114). What is the minimum length of flashing/valley gutters?
- a) 75mm
 - b) 150mm
 - c) 300mm
 - d) 600mm
- (115). What is the maximum centre distance of flashing gutters placed at alternate flutes?
- a) 75mm
 - b) 150mm
 - c) 300mm
 - d) 600mm
- (116). What is the minimum anchor embedment for a heavy roof type on a solid unit?
- a) 150mm
 - b) 300mm
 - c) 400mm
 - d) 600mm
- (117). What is the minimum angle/slope of concrete/clay roof tiles?
- a) 10 degrees
 - b) 17 degrees
 - c) 25 degrees
 - d) 45 degrees

- (118). Roof trusses shall be tied down to the supporting walls and columns by means of
- a) 4 mm brick force
 - b) Galvanized steel straps or Galvanized Steel Wires
 - c) Roof wire drilled into the wall
 - d) Galvanized steel wires & drilled into the wall.
- (119). What is the purpose of a Geotechnical site investigation within the home building process?
- a) To evaluate the geology plus the hydrogeology of the site
 - b) To examine geotechnical information pertaining to the site
 - c) To determine the depth of any fill that might be present
 - d) All of the above
- (120). Who is the most competent person that should design the Geotechnical solution?
- a) Civil engineer
 - b) A Geotechnical engineer
 - c) An NHBRC inspector
 - d) None of the above
- (121). Who is the competent person that should inspect the civil works during the implementation of the solution?
- a) Geotechnical engineer
 - b) Civil engineer
 - c) NHBRC Inspector
 - d) None of the above
- (122). Who shall install a waterproofing system on top of a flat roof?
- a) A civil engineer
 - b) A competent person
 - c) An architecture
 - d) A geotechnical manager
- (123). Who is responsible for all the structural drawings of a home?
- a) A civil engineer
 - b) A competent person
 - c) An architecture
 - d) A geotechnical manager

(124).The specialist water proofing contractor shall provide a home builder with at least at least...guarantee?

- a) 6 Months
- b) 12 Months
- c) 3 years
- d) 5 years

(125). Any person in the business of home building can register with the

- a) SABS
- b) NHBRC
- c) CIDB
- d) SARS

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