

No. 9194



Plumbers,
Gasfitters and
Drainlayers Board

REGISTRATION EXAMINATION, NOVEMBER 2010
CERTIFYING COMMON

ANSWER SCHEDULE

ANSWER 1

- (a) 1 Where the employees wish to supply their own. (½ mark)
- 2 The employer is happy that the employees' PPE will provide sufficient protection. (½ mark)
- (b) (i) Any FIVE (1 mark each)
1. Any condition that amounts to or results in permanent loss of bodily function, or temporary severe loss of bodily function. See HSE ACT Schedule 1 pg 76 for example injuries.
 2. Amputation of body part.
 3. Burns requiring referral to a specialist medical practitioner or specialist outpatient clinic.
 4. Loss of consciousness from lack of oxygen.
 5. Loss of consciousness, or acute illness requiring treatment by a medical practitioner, from absorption, inhalation, or ingestion, of any substance.
 6. Any harm that causes the person harmed to be hospitalised for a period of 48 hours or more commencing within 7 days of the harm's occurrence.
- (5 marks)
- (ii) Within 7 days to the Secretary in charge of administering the Act. (Secretary of Labour).
Accept OSH (2 marks)
- (iii) • when authorised to do so by an inspector
• to save the life of person
• prevent harm to a person
• or relieve the suffering of any person
• to maintain the access of the general public to an essential service or utility; or
• to prevent serious damage to or serious loss of property.
- (3 marks)
- Total 11 marks**

ANSWER 2

- Noise levels (1 mark)
 - Light levels (1 mark)
 - Air conditions (1 mark)
- Total 3 marks**

ANSWER 3

Safety Mesh

Instead of wire netting, in conjunction with appropriate edge and perimeter protection is a preferred method of fall protection. Safety mesh not only protects the roofer, but also provides protection in the future for those who may need to gain access to an area where brittle or fragile roofing is fitted (such as PVC roofing, skylights etc.) **Permanent**

Safety Net

Safety nets on the other hand are fitted temporarily as an additional means of fall protection. They can be particularly useful during industrial roof work – providing greater freedom of movement – and can be installed in such a way as to minimise the distance of a fall, reducing the chance of an injury when compared with a safety harness. **Temporary**

Total 3 marks

ANSWER 4

Any TWO (1 mark each)

- Check that the machine is the correct type and is fit for the intended work.
- Training in how to set up and operate that particular type of machine.
- Make sure the machine will not be overloaded.
- Environment related eg. Suitable ground conditions.
- Machine has current warrant of fitness or similar.

Total 2 marks

ANSWER 5

Any SIX (½ mark each)

- Any restricted work, as that term is defined in regulation 2(1) of the Health and Safety in Employment (Asbestos) Regulations 1998:
- Any logging operation or tree felling.
- Work where workers could fall 5 m or more, excluding work on a two-storied house, or work on a power or telephone line, or work carried out from a ladder only, or maintenance or repair work of a minor or routine nature.
- The erection or dismantling of scaffolds from which a person could fall 5 m or more.
- Every excavation which is more than 1.5 m deep and which is deeper than it is wide at the top.
- Any form of tunnel or drive where workers work underground, irrespective of timbering or support.
- Those excavations where the excavated face is steeper than 1 horizontal to 2 vertical.
- Any construction work where explosives are used or stored.
- Work such as diving, where construction workers breathe air or any other gas that has been compressed or is under pressure.
- Any construction work in connection with asbestos fibres.
- Lifts of half a tonne (500 kg) or more a vertical distance of 5 m or more carried out by mechanical means other than by a mobile crane, excavator or forklift.

Total 3 marks

ANSWER 6

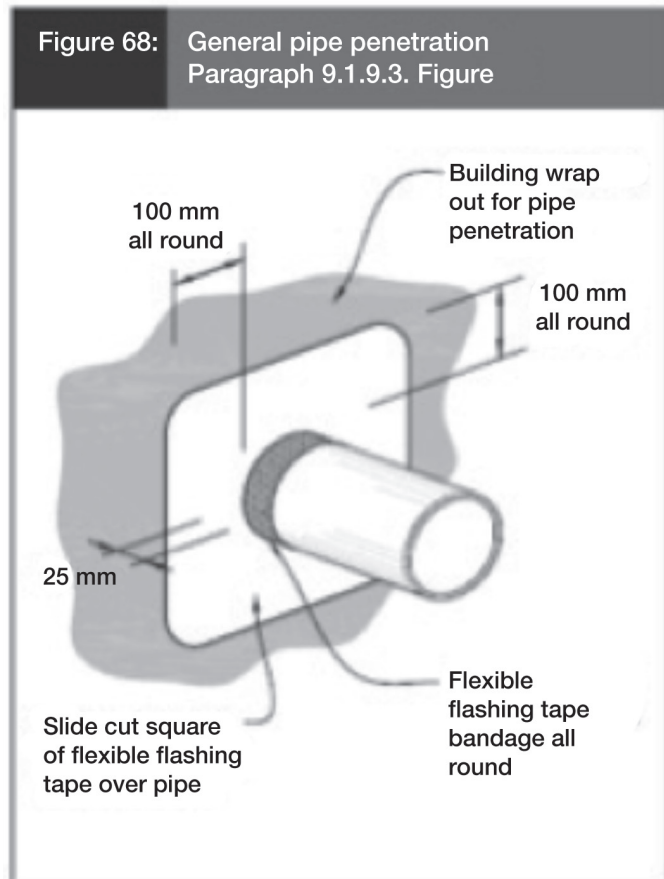
- Fall arrest system stops you hitting the ground after you have fallen.
- A fall prevention system prevents you from falling in the first place.

(1 mark)

(1 mark)

Total 2 marks

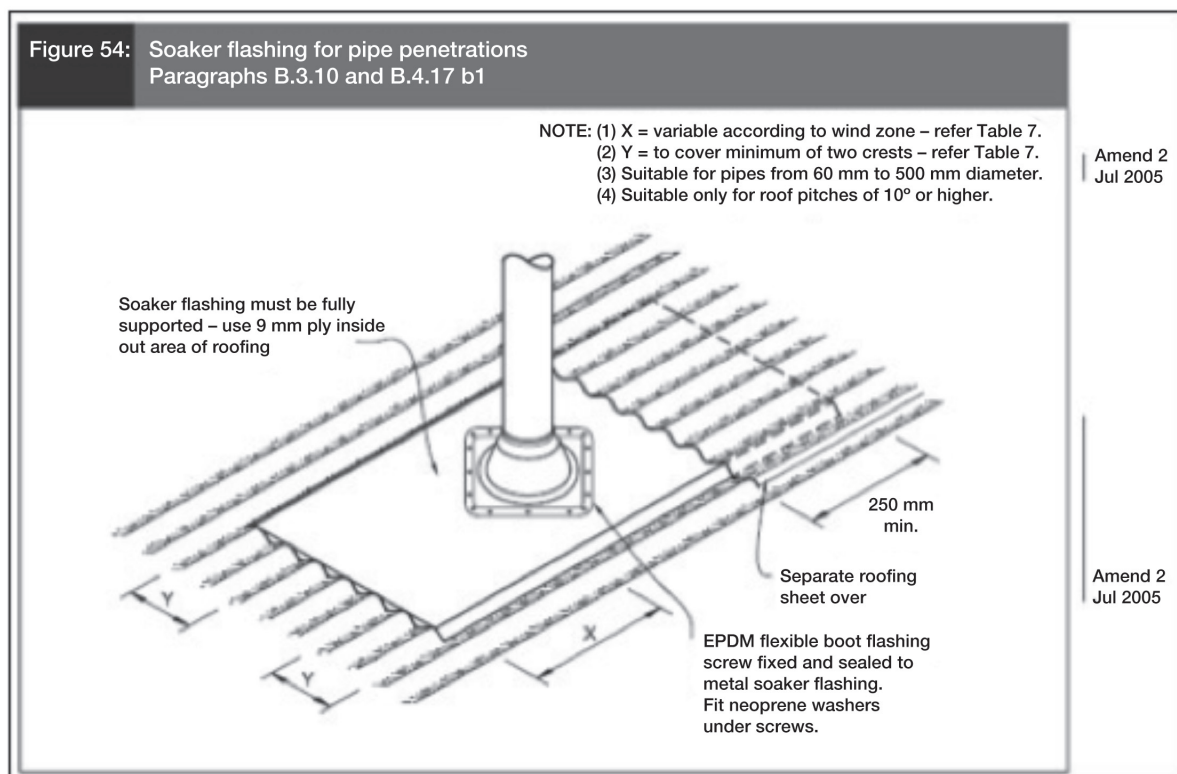
ANSWER 7



- Diagram
- 1 mark flashing tape shown
- 1 mark 100 mm
- 1 mark 25 mm

Total 4 marks

ANSWER 8



Dektite on angle	(1 mark)
Soaker flashing terminating under ridge flashing or cover sheet (250 mm)	(2 marks)
Corrugations crossed according to the wind zone (2 crests finish in trough)	(1 mark)
Fixing of dektite to soaker flashing	(1 mark)
Drawing quality	(1 mark)
Measurement 'X' correct (200 mm)	(2 marks)
Total 8 marks	

ANSWER 9

• Positively identify the pipe	(1 mark)
• Identify and notify effected users	(1 mark)
• Shut down supply	(1 mark)
• Fit earth bonding strap	(1 mark)
Total 4 marks	

ANSWER 10

(a) Any FOUR (½ mark each)

1. Water resistance (wet lining)
2. Fire resistance (fire rated)
3. Bracing (structural bracing)
4. Noise control (noise reduction)
5. Thermal insulation.

- (b) • Different colouring (1 mark)
• Printed description on sheet (1 mark)

Total 4 marks

ANSWER 11

(a) Any THREE (1 mark each)

- Mastics
- Collars
- Pillows
- Fire wraps

(3 marks)

- (b) The collar must be rated to match the greater fire rating of the two sides. (2 marks)

Total 5 marks

ANSWER 12

Ventilation

To provide a moisture barrier

Total 2 mark

ANSWER 13

A performance based standard or code does not prescribe how work should be done, but states how completed work and its parts must perform.

Total 1 mark

ANSWER 14

- (a) An alternative solution is a design (material, component or construction method) that varies from what is described in a compliance document, but demonstrates compliance with the building code.
(2 marks)
- (b) Acceptable solution – a pre-approved method of compliance included in the building code.
Alternative solution – a custom designed method that is not included in the building code but will fulfil the requirements of the code.
(4 marks)
- (c) A design solution, calculation or test procedure that has been approved and if used will guarantee an installation will comply with the building code.
(2 marks)
- Total 8 marks**

ANSWER 15

- The Fair Trading Act. (½ mark)
 - The Consumer Guarantees Act. (½ mark)
- Total 1 mark**

ANSWER 16

- (a) An independent qualified person who can test different aspects of building services to ensure they are functional and compliant.
(1 mark)
- Registered by the Territorial Authority (1 mark)
- (b) Any THREE (1 mark each)
- Automatic sprinkler system or other automatic systems of fire protection.
 - Backflow Prevention.
 - Automatic doors which form part of any fire wall and which are designed to close shut and remain shut on an alarm of fire.
 - Emergency warning systems for fire or other dangers.
 - Emergency lighting systems.
 - Escape route pressurisation systems.
 - Riser mains for Fire Service use.
 - Signs required by the Building code in respect of systems listed in Section 44(1) of the Building Act 1991.
 - Means of escape from fire.
 - Safety barriers.
 - Hand held hose reels for fire fighting.

- Signs required by the Building Code or Section 25 of the Disabled Persons Community Welfare Act 1975.
- Mechanical ventilation or air conditioning systems
- Other mechanical, electrical, hydraulic or electronic systems.
- Building maintenance units for providing access to the exterior and interior walls of buildings
- Means of access and facilities for use by persons with disabilities. Lifts, escalators, travolators or other similar systems.

Total 5 marks

ANSWER 17

- (a) Axial (1 mark)
- (b) Centrifugal (1 mark)
- (c) Crossflow (1 mark)

Total 3 marks

ANSWER 18

Volume of cinema $300 \times 10 = 3000 \text{ m}^3$ (1 mark)

Volume of air required per hour $250 \times 28 = 7000 \text{ m}^3$ (1 mark)

Number of air changes $7000 \div 3000 = 2.33$ (1 mark)

Total 3 marks

ANSWER 19

- (a) The amount of water vapour suspended in the atmosphere. (1 mark)
- (b) The likelihood of all appliances or fixtures in the installation being used at the same time. (1 mark)
- (c) Electrical equipment designed to work safely in an explosive atmosphere. (1 mark)
- (d) A plumbing or gasfitting system in which the components are matched (and which may require special tools for installation). (1 mark)
- (e) A signed declaration that work or testing has been carried out (to the requirements of the Building Code). (1 mark)
- (f) The amount of energy (kJ) required to raise 1 kilogram of a product 1°C . (1 mark)

Total 6 marks

ANSWER 20

Any FOUR (½ mark each)

- In the living area
- On an internal wall
- Not likely to be in direct sunlight
- At 1500 mm from floor level
- Out of drafts
- Proximity to return air grill
- Away from other heat sources
- Not behind furniture

Total 2 marks

SECTION B

1. D A sheet-metal or similar box in which air gathers before being distributed to outlets in an air movement system.
2. D A vertical ventilation shaft which uses air buoyancy to ventilate kitchens, bathrooms, toilets and laundries without an external wall.
3. D 2 months.
4. A 300 mm.
5. C Convection.
6. E 0 K.
7. C Atmospheric pressure 101.3 kPa at a temperature of 15°C at sea level.
8. B Non-reactive.
9. B The installer to be authorised/trained by the manufacturer.
10. D Trained health and safety representatives.
11. A The time for which a passive fire protection system can withstand a standard fire resistance test.
12. D 600 mm.
13. E 1700 litres (1.7 m³).
14. D A liquid uses latent heat from an object to change its state to a gas. Air is cooled as it passes over the cooled object.
15. E The Resource Management Act.
16. B 25 mm.
17. D A law passed by parliament.
18. A A document issued by a building consent authority.
19. C A document that is used in situations where work has been performed without a building consent.
20. D Having a roof leak causing dampness in the building.

