
Overview

This standard is about interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components, tools and equipment to test and verify the integrity of protection systems installed in buildings against hazardous ground gases

This standard is for people working to test and verify installed gas protection measures in the occupational area of sub-structure work and can be used by operatives, supervisors and managers

Performance criteria

You must be able to:

- P1 interpret the given information relating to the work and resources to confirm its relevance
- P2 comply with the given, relevant legislation and official guidance to carry out your work and maintain safe and healthy work practices
- P3 select the required quantity and quality of resources for the methods of work
- P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area
- P5 comply with the given contract information to carry out the work efficiently to the required specification
- P6 complete the work within the allocated time, in accordance with the programme of work

Knowledge and understanding

You need to know and understand:

Performance Criteria 1

Interpretation of information

- K1 the organisational procedures developed to report and rectify inappropriate **information** and unsuitable **resources**, and how they are implemented
- K2 the types of **information**, their source and how they are interpreted
- K3 the organisational procedures to solve **problems** with the **information** and why it is important they are followed

Performance Criteria 2

Safe work practices

- K4 the level of understanding operatives must have of **information** for relevant, current **legislation and official guidance** and how it is applied
- K5 how **emergencies** should be responded to and who should respond
- K6 the organisational **security procedures** for tools, equipment and personal belongings
- K7 what the accident reporting procedures are and who is responsible for making the report
- K8 why, when and how **health and safety control equipment** should be used
- K9 how to comply with environmentally responsible work practices to meet current **legislation and official guidance**

Performance Criteria 3

Selection of resources

- K10 the characteristics, quality, uses, sustainability, limitations and defects associated with the **resources** and how defects should be rectified
- K11 how the **resources** should be used and how any **problems** associated with the **resources** are reported
- K12 the organisational procedures to select **resources**, why they have been developed and how they are used
- K13 the **hazards** associated with the **resources** and **methods of work** and how they are overcome

Performance Criteria 4

Minimise the risk of damage

K14 how to **protect work** from damage and the purpose of protection

K15 why **disposal of waste** should be carried out safely and how it is achieved

Performance Criteria 5

Meet the contract specification

K16 how **methods of work**, to meet the specification, are carried out and **problems** reported

K17 how **maintenance** of tools and equipment is carried out

Performance Criteria 6

Allocated time

K18 what the **programme** is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

Scope/range

Performance Criteria 1

1 interpretation of drawings, verification process, validation plans, specifications, schedules, method statements, risk assessments, site investigation report and manufacturers' information related to the work to be carried out

Performance Criteria 2

2 avoidance of risk by complying with the given information relating to at least four of the following

2.1 methods of work

2.2 safe use of health and safety control equipment

2.3 safe use of access equipment

2.4 safe use, storage and handling of materials, tools and equipment

2.5 specific risks to health

Performance Criteria 3

3 selection of resources associated with own work

3.1 materials and components

3.2 tools and equipment

Performance Criteria 4

4 protection of the work and its surrounding area from damage

5 maintain a clean work space

6 disposal of waste in accordance with current legislation

Performance Criteria 5

- 7 demonstration of work skills to inspect, set up, check, test, measure, record and report
- 8 use and maintain hand tools, test apparatus and ancillary equipment
- 9 verify that the protection system works, as it was designed to do, to given working instructions by at least three of the following methods
 - 9.1 visual inspection
 - 9.2 seam tests (pressurised air channel, mechanical point, stress, air lance)
 - 9.3 flat area tests (tracer gas, dielectric porosity, smoke)
 - 9.4 ventilation and pressure monitoring
- 10 prepare, complete and present validation reports

Performance Criteria 6

- 11 completion of own work within the estimated, allocated time to meet the needs of other occupations and/or client

Scope/range related to knowledge and understanding

Disposal of waste

1 environmental responsibilities, organisational procedures, manufacturers' information, statutory regulations and official guidance

Emergencies

2 operative's response to situations in accordance with organisational authorisation and personal skills when involved with

2.1 fires, spillages, injuries

2.2 emergencies relating to occupational activities

Hazards

3 those identified by risk assessment, method of work, manufacturers' technical information, statutory regulations and official guidance

Health and safety control equipment

4 identified by the principles of prevention for occupational use, types and purpose of each type, work situations and general work environment

4.1 collective protective measures

4.2 local exhaust ventilation (LEV)

4.3 personal protective equipment (PPE)

4.4 respiratory protective equipment (RPE)

Information

5 drawings, specifications, schedules, method statements, risk assessments, site investigation reports, manufacturers' information and current regulations governing buildings and official guidance associated with hazardous ground gas protection systems

Legislation and official guidance

6 this relates to the operative's responsibilities regarding potential accidents, health hazards and the environment whilst working in the workplace, below ground level, in confined spaces, at height, with tools and equipment, with materials and substances, with movement and storage of materials and by manual handling and mechanical lifting

Maintenance

7 operative care of hand tools, test apparatus and ancillary equipment

Methods of work

8 application of knowledge for safe and healthy work practices, procedures and skills relating to the method and area of work and materials used to

8.1 confirm the verification process and validation plan can be practically applied

8.2 identify and agree the frequency of testing

8.3 identify verification and installation quality requirements

8.4 conform to the agreed specification

8.5 liaise with contaminated land officers, installers and principal contractors

8.6 verify the competence of the installers

8.7 confirm protection system is ready for inspection, test and verification

8.8 identify the installation methods of protection systems

8.9 recognise the types and characteristics of protection systems

8.10 apply the requirements of a planned inspection and testing regime

8.11 visually inspect underfloor voids, oversite capping, venting layers and gas membranes

8.12 identify faults including; poor preparation of laying surface, poor seals, damage, missing components and blockages

8.13 identify discrepancies in installed gas membranes including; holes, rips, tears, punctures, missing tape, loose or unstuck tape, inadequate corner detail and unbonded seams (loose edges and fish mouths)

8.14 conduct integrity tests on seams including; pressurised air channel, mechanical point, stress and air lance

8.15 ventilation and pressure monitoring

- 8.16 conduct integrity tests on areas of flat gas membrane including; the use of either tracer gas, smoke or dielectric porosity tests
- 8.17 apply the risk based approach to verification on multi plot developments
- 8.18 recognise and determine when additional specialist skills and knowledge are required and report accordingly
- 8.19 prepare, complete and present validation reports, supported by photographs
- 8.20 use hand tools, test apparatus and ancillary equipment
- 8.21 work at height
- 8.22 use access equipment
- 9 team work and communication
- 10 needs of other occupations associated with the testing and verification of protection systems for buildings against hazardous ground gases

Problems

- 11 those arising from information, resources and methods of work
 - 11.1 own authority to rectify
 - 11.2 organisational reporting procedures

Programme

- 12 types of progress charts, timetables and estimated times
- 13 organisational procedures for reporting circumstances which will affect the work programme

Protect work

- 14 protect work against damage from general workplace activities, other occupations and adverse weather conditions

Resources

- 15 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and specialist
 - 15.1 consumables, gases, smoke
 - 15.2 hand tools, testing apparatus and ancillary equipment
 - 15.3 recording and reporting equipment
- 16 identify quantity, length, area and wastage associated with the method and procedure for testing and verification of protection systems for buildings against hazardous ground gases

Security procedures

- 17 site, workplace, company and operative

Developed by Construction Skills

Version Number 1

Date Approved January 2015

Indicative Review Date January 2019

Validity Current

Status Original

Originating Organisation ConstructionSkills

Original URN COSVR764

Relevant Occupations Construction Operatives

Suite Sub-structure Work Occupations (Construction)

Keywords Seam tests; Flat area tests; Seam tests (pressurised air channel, mechanical point, stress, air lance); Ventilation and pressure monitoring; Tracer gas; Dielectric porosity
