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**Overview**

This standard is about interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting materials, components and equipment for applying reinforced bitumen membranes using specified methods of attachment (pour and roll, torch-on, cold applied, self-adhesive, hot melt) on new and/or re-roofing contracts

This standard is for people working in the occupational area of waterproof membrane roofing systems and can be used by operatives, supervisors and managers

## COSVR107

### Apply reinforced bitumen membrane systems(SQA Unit Code H7DC 04)

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#### 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

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**Knowledge and understanding**

**Performance Criteria 1**

**Interpretation of information**

You need to know and understand:

- 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**

You need to know and understand:

- K4 the level of understanding operatives must have of **information** for relevant, current **legislation and official guidance** and how it is applied
- K5 the types of **fire extinguishers** and how and when they are used
- K6 how **emergencies** should be responded to and who should respond
- K7 the organisational **security procedures** for tools, equipment and personal belongings
- K8 what the accident reporting procedures are and who is responsible for making the report
- K9 why, when and how **health and safety control equipment** should be used
- K10 how to comply with environmentally responsible work practices to meet current **legislation and official guidance**

**Performance Criteria 3**

**Selection of resources**

You need to know and understand:

- K11 the characteristics, quality, uses, sustainability, limitations and defects associated with the **resources** and how defects should be rectified
- K12 how the **resources** should be used and how any **problems** associated with the **resources** are reported
- K13 the organisational procedures to select **resources**, why they have been developed and how they are used
- K14 the **hazards** associated with the **resources** and **methods of work** and how they are overcome

**Performance Criteria 4**

**Minimise the risk of damage**

You need to know and understand:

- K15 how to **protect work** from damage and the purpose of protection
- K16 why **disposal of waste** should be carried out safely and how it is achieved

**Performance Criteria 5**

**Meet the contract specification**

You need to know and understand:

- K17 how **methods of work**, to meet the specification, are carried out and **problems** reported
- K18 how **maintenance** of tools and equipment is carried out

**Performance Criteria 6**

**Allocated time**

You need to know and understand:

- K19 what the **programme** is for the work to be carried out in the estimated, allocated time and why deadlines should be kept

**Additional Information**

**Scope/range related to performance criteria**

**Performance Criteria 1**

- 1 interpretation of drawings, specifications, schedules, method statements, risk assessments, manufacturers' information and oral/written instructions related to the work to be carried out

**Performance Criteria 2**

- 2 avoidance of risk by complying with the given information relating to 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, handling and distribution 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, components and fixings
  - 3.2 tools and equipment

**Performance Criteria 4**

- 4 protection of the work and its surrounding area from damage
- 5 minimise damage and maintain a clean work space
- 6 disposal of waste in accordance with current legislation

**Performance Criteria 5**

- 7 demonstration of work skills to measure, cut, mark out, fit, position and secure
- 8 use and maintain hand tools, power tools and ancillary equipment
- 9 install vapour control layers and insulation
- 10 apply at least one of the following methods of attachment for reinforced bitumen membrane systems: pour and roll, torch-on, cold applied, self-adhesive or hot melt to given working instructions relating to the following
  - 10.1 base layers
  - 10.2 cap sheets
  - 10.3 edges and upstands
  - 10.4 penetrations, pipes and vents
  - 10.5 perimeters, rainwater outlets

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**Performance Criteria 6**

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

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### 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

#### **Fire extinguishers**

- 3 water, CO<sub>2</sub>, foam, powder and their uses

#### **Hazards**

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

#### **Health and safety control equipment**

- 5 identified by the principles of protection for occupational use, types and purpose of each type, work situations and general work environment
  - 5.1 collective protective measures
  - 5.2 personal protective equipment (PPE)
  - 5.3 respiratory protective equipment (RPE)
  - 5.4 local exhaust ventilation (LEV)

#### **Information**

- 6 drawings, specifications, schedules, method statements, risk assessments, manufacturers' information, electronic data, oral/written procedures and current regulations

#### **Legislation and official guidance**

- 7 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/storage of materials and by manual handling and mechanical lifting

#### **Maintenance**

- 8 operative care of hand tools, power tools and ancillary equipment

**Methods of work**

- 9 application of knowledge for safe and healthy work practices, procedures and skills relating to the method/area of work and materials used to
  - 9.1 install vapour control layers
  - 9.2 install insulation materials
  - 9.3 use bitumen boilers (according to the system)
  - 9.4 use gas torches
  - 9.5 install base layers
  - 9.6 install cap sheets, including solar/fire protection
  - 9.7 install vertical upstands, including internal/external corners, joints and junctions, straight and curved, and incorporating changes of plane and treatment of internal angles
  - 9.8 install terminations (cover flashing, external trim, termination bar, junctions to other materials)
  - 9.9 install to perimeters (eaves, verges and drips), outlets (spigot, sump, parapet, overflow), pipes, structural penetrations (vertical, pitched and horizontal, including plinths and hand rolled collars), safety systems, internal gutters, stop ends, rooflights, hips, valleys and pedestrian finishes, incorporating vertical surfaces
  - 9.10 apply membrane by pour and roll method
  - 9.11 apply membrane by torch-on method
  - 9.12 apply membrane by cold applied and/or self-adhesive and/or hot melt methods
  - 9.13 take account of the effects of temperature and weather conditions
  - 9.14 implement snagging procedures and appropriate remedial work, including preparation for test procedures
  - 9.15 use hand tools, power tools and equipment
  - 9.16 work at height
  - 9.17 use access equipment
- 10 team work and communication
- 11 needs of other occupations associated with applying reinforced bitumen membrane systems



**Problems**

12 those arising from information, resources and methods of work

12.1 own authority to rectify

12.2 organisational reporting procedures

**Programme**

13 types of progress charts, timetables and estimated times

14 organisational procedures for reporting circumstances which will affect the work programme

**Protect work**

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

**Resources**

16 materials, components and equipment relating to types, quantity, quality, sizes and the sustainability of standard and/or specialist

16.1 bitumen, reinforced bitumen membrane, vapour control layers, insulation, base layers, solvents, adhesives, pedestrian surfacing, surface protection, filter and drainage layers, outlets, gutters, pipes, vents, cap sheets, flashings, trims, movement joints, rooflights, associated materials, components, fixings and fittings

16.2 hand and/or power tools and equipment

17 methods of calculating quantity, length, area and wastage associated with the method/procedure to apply reinforced bitumen membrane systems

**Security procedures**

18 site, workplace, company and operative

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**Relevant occupations** Roofers, Roof Tilers and Slaters

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**Suite** Waterproof Membrane Roofing Systems (Construction)

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**Key words** Waterproofing; Pour and roll; Torch-on; Cold applied; Self-adhesive; Hot melt; Bitumen-boilers; Gas torches; Pedestrian surface; Insulation; Upstands; Vapour control layer