



**SPECIALIST APPLIED-SKILLS PROGRAMME
(SAP)**

**STRUCTURAL WATERPROOFING
(Below Ground)**





Property Care Association

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Section	Content	Page(s)
1.0	Introduction	
2.0	Aims and Objectives	
3.0	Course set up	
4.0	Assessment	
5.0	Collecting Evidence	
6.0	Training Module Summary	
7.0	Level 2 N/SVQ Diploma	
8.0	Training Modules	
9.0	Glossary of Terms	
10.0	Key Parties	

Section 1.0 – Introduction:

Structural Waterproofing is a specialised activity, within the construction industry, to create waterproofed below ground habitable environments. The creation of these structures is carried out by specialist contractors such as those who are members of the Property Care Association (PCA).

To carry out their work PCA specialist contractors utilise the latest materials, products and techniques, many of which were developed by PCA manufacturing members. A PCA specialist contractor's work will vary from applying one of a number of waterproofing systems to an existing or constructed structure to constructing full basement projects incorporating waterproofing systems.

There is a history of damp proofing specialists, contractors, ground workers and new entrants to the sector being trained on an ad hoc basis by employers providing 'on the job' training interspersed with some supplier product training. The PCA SAP has been designed to provide a formal, structured programme of training covering every aspect of structural waterproofing of buildings over a two-year period resulting in the achievement of a Level 2 N/SVQ Diploma in Sub-Structure Work Occupations (Structural Waterproofing). The PCA SAP will ensure that a new entrant is able to understand the hazards and safe working practices within the (Structural Waterproofing) Construction industry and, on completion of the training, operate to industry standards of competence.

The SAP is delivered in modules based on the N/SVQ Level 2 structure for Sub-Structure Work Occupations (Structural Waterproofing) with a mix of formal instruction off-site and supervised on the job training. The off-site training sessions are provided by PCA in partnership with several chosen training providers at locations around the UK. They are not continuous but spread out over the two-year programme to allow the new entrant to gain experience on site and reach a level of competency in one module before progressing onto the next.

The on-site training is carried out during normal working hours under the supervision of a designated Training Supervisor identified by the employer. The new entrant will also receive several visits from an approved N/SVQ assessor during the two years to assess his progress in terms of the N/SVQ.

All treatment procedures covered in the PCA SAP are in accordance with the latest editions of the PCA Code of Practice for Waterproofing of Structures below Ground, PCA Best Practice Guidance Notes, relevant British Standards and Health and Safety Executive (HSE) requirements.

Due to the nature of the work it is considered that the preferred minimum age for suitable entrants will be 18 years of age* upwards thus there is thought to be no requirement for 'Key Skills' inclusion.

*Where the person is under the age of 18 a Young Person's Risk Assessment is to be carried out by both the training centre and the employer.

Section 2.0 - Aims & Objectives:

This training scheme is for new entrants into the Structural Waterproofing Sector of the Construction Industry. It is the intention of the training scheme to develop each individual to a competency level acceptable to the sector. The SAP is designed to be delivered in a modularised manner by a mix of formal instruction “off-the-job” training, followed by supervised “on-the-job” training at employer level with an end assessment.

It can take account of any distant learning processes involving workbooks as well as e-learning methodology, along with the flexibility of day or part day release, evening classes, or a permutation of several of these.

This ‘on the job’ supervision will be conducted by a training supervisor and there will be a candidate record book, or a form of recording agreed with the sector, to evidence training received in Safety, Knowledge & Understanding, and Practical competences.

The learner will gain further experience through “off-the-job” training sessions in every aspect of the industry, but the scheme provides flexibility through the “on-the-job” training elements to suit the employer’s core business requirements whilst delivering the N/SVQ Level 2 within the 2-year learning period.

The course contents are designed to ensure that the learner is able to understand the hazards & the safe working practices within this specialised industry and, upon completion of training, the learner will be able to operate any necessary equipment safely and carry out the required work tasks to industry standards of competence.

The course days may not be consecutive, which will allow for a variety of site situations where the use of different types of remedial treatment works can be completed over different days on different sites.

Section 3.0 - Course set up:

Ratio of Trainer to Learners:

- Practical elements – 1: 4 (workshop)
- Practical elements - 1: 2 (on site)
- Classroom elements – 1: 8

Each learner will have to demonstrate competence of each module via assessment and professional discussion; logging results in workbooks or other industry approved portfolio formats.

Tutor Profile:

The role of the tutor is crucial to the success of the SAP and as such approval from PCA will be required prior to delivery.

A tutor must have:

- A minimum of five years proven history spent working within the Structural Waterproofing Sector or able to provide evidence of recognised up skilling (e.g. Train the Trainer).
- Proven competence in the design and delivery of training courses in structural waterproofing related construction topics and good presentational skills.
- Ideally hold the PCA Certificated Surveyor in Structural Waterproofing (CSSW) qualification.

Assessor Profile:

- An approved VQ Assessor with proven expertise within the structural waterproofing related industry.

Training Supervisor:

To mentor the new entrant and supervise their on-site training and assessment for the N/SVQ, it is necessary for the employer to nominate an individual within the company to act as Training Supervisor. The Training Supervisor will have a minimum of 5 years sector experience; ideally hold Level 2 N/SVQ Diploma in Sub-Structure Work Occupations (Structural Waterproofing) and hold the relevant CSCS card.

Most formal instruction within the modules will be followed by non-consecutive days of supervised on-site training and module assessments conducted by the Training Supervisor. The training provider will ensure that suitable instruction and advice is made available to the Training Supervisor to ensure quality and consistency throughout the scheme.

The Training Supervisor will support the new entrant in collating, recording and signing off evidence of the new entrant's training in their Training Logbook as follows:

- Read the contents of the Training Logbook and understand what the new entrant has to achieve for each unit.
- Agree with the new entrant and the employer which jobs will provide the best opportunities for the new entrant to obtain the necessary evidence.
- Observe how the new entrant carries out particular activities and check the finished work against requirements.
- Record each observed activity with the date and initial the column.
- Sign off the activities observed.
- Discuss observations with the new entrant and give guidance, where necessary, on any improvements that can be made.
- Discuss the new entrant's progress when requested with visiting assessor(s) etc.

Section 4.0 – Assessment:

Assessment will occur at a number of points during the course of the PCA SAP.

The new entrant will be required to complete a Knowledge Check at the end of each off-site training session to demonstrate that they have understood the training undertaken. This will generally constitute a basic multiple-choice Question and Answer (Q&A) assessment.

There will also be a minimum of four N/SVQ assessment points during the two years. There may be a requirement for additional N/SVQ assessment visits for a number of reasons (e.g. illness or remedial training). These assessment points are designed to assess the learners understanding of training previously undertaken as part of the programme and enable monitoring of the new entrant's progress.

	Month	Point during Programme
1.	6 - 7	Completion of module *
2.	11 - 12	Completion of module *
3.	14 - 15	Completion of module *
4.	20 - 24	Final sign off

The Assessor will co-ordinate and undertake the above assessment visits on site. All visits will assess whether the training has been effective and is being practised safely and correctly. Training Logbooks will be checked and feedback provided to the new entrant and the Training Supervisor as appropriate.

Please note that visit 3 will include a check of the N/SVQ requirements and the drawing up of an action plan for the completion of the new entrant's individual N/SVQ Portfolio.

It is intended that these assessment points will be supported and underpinned by regular contact with both the Assessor and a representative from the PCA to monitor the new entrant's progress.

Section 5.0 - Collecting evidence

Learners are required to build a portfolio of evidence of work that they have completed, or assessments that they have undertaken, which together will provide sufficient evidence to prove their competence.

The portfolio should include:

- Records of work tasks that the learner has completed relevant to the VQ requirements – plans, work records, testimonials, photographs and practical tests.
- Records of knowledge assessments and tests.

Sources of evidence:

Evidence which contributes to proof of competence may come from a number of sources including:

- Observations of the learner's practical performance by the training supervisor in the workplace, or at an assessment centre which could include work procedures and sequences, in addition to the completed job.
- Oral or written questioning - records of oral or written questions as well as assignments that the learner has undertaken on their own.
- Certificated previous achievement – where a learner has previous certificated achievement in competences that are appropriate towards the N/SVQ Level 2. They may be put forward for accreditation against the requirements and taken into account provided that:
 - The assessor is satisfied about the authenticity of the evidence and the conditions under which it was collected.
 - The assessor is satisfied that the competences covered by the evidence are current, and that the learner is still capable of the performances covered by the evidence.

Provision and Conduct of Assessments:

Assessments will be conducted in accordance with the Awarding Organisations provisions of the National Vocational Qualification (N/SVQ) structure, the main requirements of which are:

- Assessments are subject to internal verification and a Quality Adviser Service in line with QCA N/SVQ Code of Practice 2006 paragraphs 48 – 56 and ENTO V1.
- The dates and times of practical assessments are as agreed between the assessor, learner and employer.

Section 6.0 - Training Modules Summary

The training modules in this scheme have been developed to introduce the learner to the occupational competencies required for the various materials, equipment and processes used within the industry.

The modules focus on the practical skills and underpinning knowledge that will enhance the awareness of safety, security and approved procedures for carrying out structural waterproofing (below ground) works.

Module	Subject	Off-site instruction	On-site training and assessment	Timetable
M1	Induction			
1.1	General Housekeeping	0.25hrs	-	Week1 Day1
1.2	New Entrant Scheme Registration and N/SVQ induction, Employment Rights and Responsibilities	2.5hrs	-	Week1 Day1
1.3	Issue workbooks / Portfolio Building / Assessments	0.25hrs	-	Week1 Day1
1.4	Introduction to CSCS	0.25hrs	-	Week1 Day1
M2	Health & Safety			
2.1	Legislation	0.5hrs	-	Week1 Day1
2.2	Health & Safety at Work	1hr	-	Week1 Day1
2.3	Accidents in the work place	1hr	-	Week1 Day1
2.4	General hazards on site	1hr	-	Week1 Day1
2.5	Working at Heights	1hr	-	Week1 Day1
2.6	Working in Confined Spaces	1 hr	-	Week1 Day1
2.7	Fire Prevention	0.5hr	-	Week1 Day1
2.8	Personal Protective Equipment	1hr	-	Week1 Day1
2.9	Asbestos Awareness	1 day	-	Week1 Day2
2.10	First Aid	1 day	-	Week1 Day3
M3	Preliminaries & Sector Knowledge			
3.1	Background to Structural Waterproofing – PCA 1 day Technicians Course	1 day	20 days	Week1 Day4

3.2	Documentation, Drawings, Risk Assessments and Method Statements (RAMS)	½ day	-	Week1 Day5
3.3	Site Compliance	1 hour	-	Week1 Day5
3.4	Site Delivery Checks	0.5 hour	1 day	Week1 Day5
3.5	Site off Load and Storage	0.5 hour	1 day	Week1 Day5
3.6	Manual Handling	1 hour	-	Week1 Day5
3.7	Protection of Materials and Tools	1 hour	2 days	Week1 Day5
3.8	Installing, constructing and maintaining work area protection and Safety Equipment	1 day	5 days	Week2 Day6
3.9	Operate powered units, tools or pedestrian plant, machinery or equipment	½ day	5 days	Week2 Day7
3.10	Inspect and complete user maintenance on plant and machinery	½ day	5 days	Week2 Day7
3.11	Small Tools	½ day	2 days	Week2 Day8
3.12	Set out secondary dimensional work control	½ day	5 days	Week2 Day8
M4	Practical & Knowledge on Site			
4.1	Prepare surfaces for (all forms of) structural waterproofing	1 day	10 days	Week2 Day9
4.2	Prepare joints in structures including 'dry-pack' underpinned areas and apply primary waterproofing	1 day	5 days	Week2 Day10
4.3	Apply cementitious coatings, multi-coat renders, crystallisation active materials with/without primers	2 days	10 days	Week3 Days11-12
4.4	Apply liquid, multi-pack, resin & Mastic Asphalt systems with/without primers	1.5 days	10 days	Week3 Days13-14
4.5	Install sheet membrane systems with/without primers	1.5 days	10 days	Week3 Days14-15
4.6	Install cavity drainage membrane systems	2 days	15 days	Week4 Days16-17
4.7	Install drains, sumps and pumping ancillaries	2 days	10 days	Week4 Days18-19
4.8	Prepare and Install gas membranes	1 day	10 days*	Week4 Day20
4.9	Prepare for and apply concrete	2 days	20 days*	Week5 Days21-22
4.10	Dismantling and removing temporary work area protection and safety equipment	1 day	5 days*	Week5 Day23
4.11	Final Testing and sign off	1 day	-	Week5 Day24
	TOTAL DAYS	24	Min. 116	

*Where applicable to employer

**Section 7 - Level 2 N/SVQ Diploma in Sub-Structure Work Occupations
(Structural Waterproofing)**

PCA SAP – Level 2 N/SVQ Diploma in Sub-Structure Work Occupations (Structural Waterproofing) - Pathway 13:

Credit value (Pathway 13): 46

Minimum credit to be achieved at, or above, the level of the qualification: 46

Credit value (Option route - pathway 26) Basement Construction - Structural Waterproofing – (credit value 78)

This structure has been recommended by employers and stakeholders from the above occupational area for organisations to form the basis of academic capability and competence outcomes. Qualifications with a competence outcome at the above level must have units derived from the following National Occupational Standards (NOS) and consist of the mandatory groups as stated for the individual option route.

CITB unit reference – Unit Title – Credits per Unit – Applicable N/SVQ level

Mandatory units for all pathways – (credit value 10)			
Unit ref	Title	Credits	N/SVQ Level
VR641	Conform to general workplace health, safety and welfare	2	1
VR642	Conform to productive work practices	3	2
VR643	Move, handle and store resources	5	2
Mandatory units for pathway 13 (Structural Waterproofing) – (credit value 29)			
VR491 v2	Prepare surfaces for structural waterproofing	11	2
VR492 v2	Carrying out structural waterproofing	18	2
Option Routes for pathway 13 (Structural Waterproofing) (min. credit value 7) – One unit			
VR360 v4	Install, maintain and remove work area protection and safety equipment	10	2
VR400 v2	Operate powered units, tools or pedestrian plant, machinery or equipment	7	2
VR401 v2	Set out secondary dimensional work control	7	2
VR657 V2	Inspect and complete user maintenance on plant or machinery	8	2

Mandatory units for pathway 25 OPTION (Basement Construction – Installation of Gas Membranes) – (credit value 100)			
VR612 v2	Prepare to install gas membranes	15	2
VR613 v2	Install gas membranes	19	2
Mandatory units for pathway 26 (Basement Construction - Structural Waterproofing) (credit value 78)			
VR491 v2	Prepare surfaces for structural waterproofing	11	2
VR492 v2	Carrying out structural waterproofing	18	2
VR762 v1	Working on basement construction projects	44	2
VR763 v1	Install, construct, maintain, dismantle and remove temporary works	22	2
Option Routes for pathway 26 (Basement Construction - Structural Waterproofing) (credit value 7) – One unit			
VR360 v4	Install, maintain and remove work area protection and safety equipment	10	2
VR400 v2	Operate powered units, tools or pedestrian plant, machinery or equipment	7	2
VR401 v2	Set out secondary dimensional work control	7	2
VR657 V2	Inspect and complete user maintenance on plant or machinery	8	2

Cross Reference to N/SVQ Diploma – Pathway 13

Module No.	Module Title	QCF Units					
		Mandatory Units - all pathways			Mandatory Units for pathway 13		Options
		VR641	VR642	VR643	VR491 V2	VR492 v2	
1.1	General Housekeeping	✓	✓	✓			
1.2	New Entrant Scheme Registration and N/SVQ induction, Employment Rights and Responsibilities	✓	✓	✓			
1.3	Issue workbooks / portfolio Building / Assessments	✓	✓	✓			
1.4	Introduction to CSCS	✓	✓				
2.1	Legislation	✓	✓	✓	✓		
2.2	Health & Safety at Work	✓	✓	✓	✓	✓	
2.3	Accidents in the workplace	✓	✓	✓	✓	✓	
2.4	General hazards on site	✓	✓	✓	✓	✓	
2.5	Working at Heights	✓	✓	✓	✓	✓	
2.6	Working in Confined Spaces	✓	✓	✓	✓	✓	
2.7	Fire Prevention	✓	✓	✓	✓	✓	
2.8	Personal Protective Equipment	✓	✓	✓	✓	✓	
2.9	Asbestos Awareness	✓	✓	✓	✓		
2.10	First Aid	✓	✓	✓	✓	✓	
3.1	Sector background to Structural Waterproofing – Technicians Course	✓	✓	✓	✓	✓	

3.2	Documentation, Drawings, Risk Assessments and Method Statements (RAMS)		✓		✓	✓	
3.3	Site Compliance	✓	✓	✓	✓	✓	
3.4	Site Delivery Checks		✓	✓		✓	
3.5	Site off load and storage	✓	✓	✓		✓	
3.6	Manual Handling	✓	✓	✓		✓	
3.7	Protection of Materials and Tools		✓	✓	✓	✓	
3.8	Installing, constructing and maintaining work area protection and Safety Equipment	✓	✓		✓	✓	VR360 v4
3.9	Operate powered units, tools or pedestrian plant, machinery or equipment	✓	✓		✓	✓	VR400 v2
3.10	Inspect and complete user maintenance on plant and machinery	✓	✓		✓	✓	VR657 v2
3.11	Small Tools	✓	✓		✓	✓	
3.12	Set out secondary dimensional work control		✓		✓	✓	VR401 v2
4.1	Prepare surfaces for (all forms of) structural waterproofing		✓	✓	✓	✓	
4.2	Prepare joints in structures including 'dry-pack' underpinned areas and apply primary waterproofing		✓	✓	✓	✓	
4.3	Apply cementitious coatings, multi-coat renders, crystallisation active materials with/without primers		✓	✓	✓	✓	
4.4	Apply liquid, multi-pack, resin & Mastic Asphalt systems with/without primers		✓	✓	✓	✓	
4.5	Install sheet membrane systems with/without primers		✓	✓	✓	✓	

4.6	Install cavity drainage membrane systems		✓	✓	✓	✓	
4.7	Install drains, sumps and pumping ancillaries		✓	✓	✓	✓	
4.8	Prepare and install gas membranes	✓	✓	✓	✓	✓	VR612v 2 VR613v 2
4.9	Prepare for and apply concrete		✓	✓	✓	✓	VR762 v1
4.10	Dismantling and removing temporary work area protection and safety equipment		✓	✓	✓	✓	VR360 v4 VR763 v2
4.11	Final testing and Sign Off	✓	✓	✓		✓	

PCA Specialist Applied-skills Programme

Level 2 N/SVQ Diploma in Sub-Structure Work Occupations (Structural Waterproofing)

Section 8.0 Training Modules

Module M1 – New Entrant Scheme Registration & N/SVQ Induction

This module outlines the overall PCA SAP and informs the learners of what is to be expected in their learning journey to qualification.

Ref	Practical	Knowledge
1.1	General Housekeeping: <ul style="list-style-type: none"> • Inform learners of the housekeeping information / requirements. • Issue any agenda, timetables, site maps as applicable / required. 	Learners to be made aware of: <ul style="list-style-type: none"> • Agenda or running order. • Fire/emergency exit and assembly points. • Fire drill/alarm if expected. • Predicted breaks and timing. • Toilet locations. • Areas out of bounds/restricted access. • Location of any practical training areas.
1.2	VQ Registration/Checks: <ul style="list-style-type: none"> • Issue forms for completion by Learners. • Check completed forms from Learners • Offer support to completion. 	Learners to be made aware of: <ul style="list-style-type: none"> • The SAP and how it works • What registration to Qualifications means to them. • What qualification it applies too. • The assessment processes.
1.3	Learner Training Logs, Workbooks, Portfolio Building & Assessment. <ul style="list-style-type: none"> • Issue to the new entrant the required documentation including the Training Logbook, Workbooks and N/SVQ Portfolio etc. 	Learners to be made aware of: <ul style="list-style-type: none"> • The N/SVQ process and the importance of collating relevant evidence • The roles and responsibilities of the key parties involved in the programme including the N/SVQ • The purpose of the logs / workbooks. • How to complete them. • How to build a portfolio. • Suitable content for evidence.
1.4	Introduction to CSCS <ul style="list-style-type: none"> • Explain the whole arrangements for CSCS cards and the reasoning behind them. • The purpose of the touch screen test. 	Learners to be made aware of: <ul style="list-style-type: none"> • The reasons for skill cards. • What CSCS is and stands for.

- The new entrant will be registered for a **Level 2 N/SVQ Diploma in Sub-Structure Work Occupations (Structural Waterproofing)** and an application submitted for a red CSCS Trainee card. To apply for the CSCS card, the new entrant will need to pass the touch-screen CSCS Health & Safety Test (operative). It is recommended that the new entrant reads the current edition of the CSCS Health & Safety Test Questions booklet and/or uses the CD Rom which is available for practice. **Preparing for the CSCS Health & Safety Test is the responsibility of the new entrant and his employer.**

- How they are obtained.
- When to apply.
- Health & Safety touch screen test (*if not previously taken*)

Module M2 – Health & Safety

This general view of Health and Safety is to underpin the relevance of safe working applicable to the installation of Structural Waterproofing and the associated dangers of building site workplace. The following Health & Safety matters will be discussed with the candidate and where required a competent Health & Safety Instructor will deliver training to ensure that the candidate has been fully trained and is updated with current legislations.

Ref	Practical	Knowledge
2.1	Legislation	<p>Understand the need and reasons for legislation to safeguard both Employers as well as Employees:</p> <ul style="list-style-type: none"> • Health and Safety at Work Act • Understand Employer and Employee responsibility • Management of Health and Safety at Work Regulations • Control of Substances Hazardous to Health Regulations • Asbestos Regulations (see 2.9) • Confined Spaces Regulation • Working at Height Regulation (see 2.5)
2.2	Health & Safety responsibilities	<p>Develop an understanding of Health & Safety with reference to the following areas:</p> <ul style="list-style-type: none"> • Protection of the Public. • Risk Assessment & Communication. • Role of Health & Safety Executive (HSE). • Contractors and the self-employed. • Vital co-operation duties between contractors and duty holders.

		<ul style="list-style-type: none"> • Co-operation duties for workers, managers and supervisors. • Construction Design and Management (CDM) Regulations 2015
2.3	<p>Accidents in the Work Place</p>	<p>Understand how accident reporting enables a reduction in repeat incidents and prevention of future accidents. With reference, also to the following:</p> <ul style="list-style-type: none"> • Reporting Accidents/ Near misses (RIDDOR) • Accident Prevention. • Working Procedures & Safety Rules. • First Aid & Welfare Arrangements. • Caring for Casualties • Limiting injury and or damage
2.4	<p>General Hazards on Site</p> <p>The legal obligations to protect themselves, colleagues, other trades on site and members of the public from injury and the work area from unauthorised access</p> <p>Barriers and Signage:</p> <p>As required and dictated by site circumstances select and erect correct barriers and signage to working area to warn others and prevent access from unauthorised persons.</p>	<p>Develop an understanding of how to identify hazards on site and control measures which need to be implemented to prevent and reduce the risk of the hazard with particular reference to:</p> <ul style="list-style-type: none"> • Control of Substances Hazardous to Health. (COSHH) • Product Hazard labels • The correct range of warning signs that should be available. • When and where to deploy warning signs. • When and where to deploy temporary barriers and warning tapes to section work areas. • Electricity & Portable Tools. • Pedestrian & Vehicle Segregation. • Loading and Unloading. • Site Traffic including Fork Lift Trucks • Overhead and under floor dangers. • Manual Handling • Risk Assessment and Method Statement (RAMS)
2.5	<p>Working at Heights</p>	<p>Develop an understanding of the Risk of Working both at height and in deep structures and be able to identify the control measures to eliminate risk and manage the controls with particular attention to:</p>

Understand the special dangers of working at height and deep excavations.

Scaffolding:

- Check that the type of scaffold supplied is suitable for the type of work being carried out.
- Tower scaffolds must comply with the standard required for all types of scaffolds, *e.g.* double guardrails, toe boards, bracing and access ladder.
- Hand-rails, full working platform, access (ladder or tower), all to be checked prior to use.
- Attend a recognised PASMA course.

- Falls from Heights.
- Typical Risk Control Measures.
- Scaffold & Towers.
- PASMA Certification.
- Ladders & Trestles (short duration).
- Leading Edges & Openings.
- Basement Works.
- Fall Arrest Systems.
- Protection of others.

Learners need to be aware of:

- Working at Height Regulations 2005
- It is the scaffold users/hirers responsibility to ensure that all scaffolding has been inspected as follows:
 - Following installation - before first use
 - At an interval of no more than every 7 days thereafter
 - Following any circumstances liable to jeopardise the safety of the installation *e.g.* high winds.
- Scafftags and inspection by a competent person.
- All scaffolding inspections should be carried out by an appropriately certificated person.
- All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person
- Know that anyone using Mobile Elevated Work Platforms (MEWPs) must be certificated.

2.6

Working in Confined Spaces

Understand the risks associated with working in a confined space and the measures that should be in place before doing so:

- Definition of a confined space
- Assessment of the task
- Assessment of the working environment
- Can the task be performed another way?
- Assessment of the working materials and tools
- The suitability of those carrying out the task
- Arrangements for emergency rescue

		<ul style="list-style-type: none"> • Capabilities of rescuers • Certification required
2.7	<p>Fire Prevention</p>	<p>Understand the principle of the Fire Risk and control measures that should be used to prevent Fire on Construction sites with reference to:</p> <ul style="list-style-type: none"> • The Fire Plan. • Dealing with Fires. • Evacuating your Workplace in an Emergency. • The 3 Things Needed to Start a Fire. • Fire Fighting Equipment. • When not to tackle a Fire.
2.8	<p>Personal Protective Equipment (PPE)</p> <p>Select, fit and use the appropriate PPE: Safety Footwear Safety Gloves Safety eyewear Respiratory Protective Equipment (the importance of face fit tests). Dust masks Knee protection Hearing protectors Hard Hats Hi-visibility clothing Overalls and waterproof clothing Sun protection</p> <ul style="list-style-type: none"> • Face Fit test associated with respirators and dust mask protection. • Maintain PPE – identify and report defects • Store PPE in suitable accommodation • Dispose of contaminated PPE in a correct manner. 	<p>Understand why we use PPE and Develop practical understanding of how PPE can reduce the risk of injury when used correctly with particular reference to the following:</p> <ul style="list-style-type: none"> • Why we use it? • Who provides PPE? • Routine inspection of equipment. • Your responsibilities. • PPE Selection. • RPE Face Fit Test • Correct use and storage of PPE. • Safe Disposal of Contaminated PPE
2.9	<p>Asbestos Awareness - Off-Site Instruction</p> <p>A specialist trainer will carry out the training in line with current legislation and requirements approved by UKATA, IATP or equivalent. The new entrant will learn about the hazards posed by asbestos. This half-day module will make the new entrant aware of the health and safety aspects of asbestos and instil the ability to recognise Asbestos Containing Materials that may be encountered during their work. It will provide information needed to avoid work that may disturb asbestos during any normal work activity which could disturb the fabric of a building, or other item which might contain asbestos. It will not equip the new entrant to carry out work with asbestos-containing materials. The new entrant will be issued with a certificate of attendance on successful completion of this module.</p>	

	<ul style="list-style-type: none"> • This classroom-based module will provide the learner with supporting information to give an appreciation of the Structural Waterproofing industry sector and the tasks a Waterproofing Technician is expected to perform. • Why they are needed • The different types of waterproofing systems • Techniques of installation. 	<p>Learners to be made aware of:</p> <ul style="list-style-type: none"> • Their role as the company's ambassador on site • The need to be observant about all matters that may impact upon their work • Their Health and Safety responsibilities
<p>PCA organise a 1-day Technician Training Course on Structural Waterproofing specifically for the benefit for those who have started working in the structural waterproofing industry. The course provides excellent 1-day elementary level understanding of Structural Waterproofing. At the end of the training delegates undergo a knowledge assessment.</p>		
	<p>PCA 1-day Waterproofing Awareness/Technician Training Course on Structural Waterproofing.</p> <p>One-day classroom-based workshop covering a broad range of subjects.</p>	<p>Learners to be made aware of:</p> <ul style="list-style-type: none"> • Construction and use of Basements • BS8102:2009 – Principles of waterproofing taking into consideration defects and future maintenance • Methods of waterproofing – Barrier, Integral and Cavity Drainage • The strengths and challenges that relate to each form of waterproofing • Installation and combination of various systems • Importance of correct preparation and application • Site safety, waste disposal and the implications of poor site practice
<p>3.2</p>	<p>Documentation, Drawings, Risk Assessments and Method Statements (RAMS)</p>	
	<p>Learners will need to understand:</p> <ul style="list-style-type: none"> • Site address and access arrangements. • Drawings/sketch plans. 	<p>Learners should:</p> <ul style="list-style-type: none"> • Have a good general knowledge of the geographical area in which work is normally conducted. • Be aware of what constitutes lawful and unlawful entry into a property/site. • Understand the Typical Documents issued to enable the works to be carried out effectively and safely.

- Specification of Work.
- Obtain all necessary equipment.
- Check Lists – Material lists, stock withdrawal, plant required, materials required.
- COSHH assessment applicable to the work to be undertaken/materials to be used.
- Correct and appropriate PPE is readily available prior to attending site.
- Material Safety Data Sheets.
- Risk Assessment applicable to the task or tasks to be undertaken.
- Conduct and record a risk assessment for a task.
- Method Statement(s).
- Work schedule/time allowance.
- Material delivery schedules to site.
- Collect and store materials and retain all site delivery notes.

- Be aware of the type of information a drawing/sketch plan should contain in respect of the type of work you are required to undertake. Know whom to contact in the event of a query or irregularity and the information that will be required.
- Be familiar with the type of work in the work specification and ability to execute it correctly and safely.
- Know where to obtain all regularly used equipment and the order procedures necessary to procure such.
- Know how to check Job Lists, specific requirements, where and how to obtain stock plant and materials.
- Be familiar with COSHH assessments and their purpose. Be familiar with PPE required for the materials or circumstances you might be exposed to.
- Be familiar with Material Safety Data Sheets, their content and when and by whom they may be required. Know where they are stored whilst working on site.
- Understand the purpose of a Risk Assessment, what its relevance is to you and others who may be exposed to your work activities and recording and acting on any variations.
- Understand the Method Statement and why you must follow work sequence set out in the statement and recognise variations and communication thereof.
- Monitor work progress on site against the agreed programme to ensure compliance. Know when and whom to notify in the event of a variation.
- Be aware of materials that will be delivered to site, how and when they will be delivered and make provision for safe storage on site. Collect a delivery note.

	<ul style="list-style-type: none"> • Complete all required forms, documents and records necessary upon completion of a job. 	<ul style="list-style-type: none"> • Know how to correctly complete the forms, documents and records that are required on completion of a job as stipulated by your employer or other authorities.
3.3	Site Compliance	
	<p>Learners will be:</p> <ul style="list-style-type: none"> • Conversant and comply with all site requirements as instructed by your employer and the site where work will be undertaken. • Comply with Site Safety Induction requirements. 	<p>Learners should:</p> <ul style="list-style-type: none"> • Understand how co-operation on site can improve the Health and Safety culture resulting in improved working conditions for all. • Ensure you take responsibility and care of yourself, your colleagues and other persons on site. • Comply and conform to instructions. • Communicate with others and report any failures or issues. • Not handle or interfere with any plant or equipment on site other than that for which you have been appropriately trained and have the authority to do so. • Be confident that you are trained appropriately to complete the task you are set. • Ensure that any plant and equipment used is maintained correctly.
3.4	Site Delivery Checks	
	<p>Learners will be able to:</p> <ul style="list-style-type: none"> • Make preparation as necessary ready to receive a delivery. • Check off a delivered load against the delivery note. Report any discrepancy. 	<p>Learners should:</p> <ul style="list-style-type: none"> • Develop an understanding of the importance of how through careful planning and controls work can be more efficiently organized. • Check delivery schedule/material lists to ensure correct components/materials are present. • List equipment and organise equipment needed for completion of the works to the company's requirements. • Check material amounts / numbers tally with delivery documents.
3.5	Site off-load and Storage	
	<p>Learners will be able to:</p> <ul style="list-style-type: none"> • Assess different load sizes, shapes and their personal abilities in relation to the load • Understand the importance of planning storage of materials correctly for best use after off-loading. 	<p>Learners should:</p> <ul style="list-style-type: none"> • Understand the need to safely load & off load materials and equipment and store in a safe accessible place. • Identify loading & unloading instructions that need to be followed.

- Off-load material in accordance with safe Manual Handling requirements. Utilise safe lifting practise (Straight back, knees bent, feet slightly apart).
- Communicate with other colleagues to secure assistance with awkward loads unless mechanical aids are required
- Select mechanical aids and use in a safe manner
- Hold appropriate skills card for operation of powered trucks or fork lifts.
- Managing materials which may have an impact on the environment and/or a risk to health.

- The Manual Handling Operations Regulations.
- Understand the Principles of good movements
- Will be aware of what mechanical aids are suitable for moving materials.
- Pallet trucks / Fork Lifts
- Will understand the importance of Task analysis
- Able to understand Method Statements and Risk Assessments
- Plan storage of materials correctly for best use after offloading.
- Understanding employer/site procedures for spillage and environmental control of materials.

3.6 Manual Handling

This module is designed to provide the new entrant with knowledge of the risks associated with moving and handling objects. It will teach approved lifting and carrying techniques before the new entrant commences work on site under the PCA SAP to reduce the risk of accidents and injuries. A specialist trainer will carry out the Manual Handling training in line with current legislation and industry approved methods and procedures. The new entrant will be issued with a certificate of attendance on successful completion of this module.

Learners will need to understand:

- Manual Handling and the law
- Manual Handling hazard identification and assessment
- Manual Handling and the human body
- Use good lifting technique in line with the guidance.
- Be able to adopt safe manual handling techniques, by practical application of lifting, pushing, and carrying of loads.
- Loading and unloading materials and equipment.
- Carrying, supporting or moving equipment, plant, materials and waste.

Learners should be aware of:

- Management of Health and Safety Regulations 1999
- Manual Handling Operations Regulations 1992

Learners should:

- Avoid hazardous manual handling operations so far as reasonably practicable.
- Assess any hazardous manual handling operations that cannot be avoided.
- Reduce the risk of injury so far as reasonably practicable
- Mechanics of body movement.
- Able to recognise the various types and causes of injury
- Anatomy of the spine

		<ul style="list-style-type: none"> • Group lifting. • Analysis of movement • The fundamental lifting, pushing and pulling, turning and carrying techniques. • Understand the correct handling techniques including task assessment, what mechanical aids are available and the types and causes of injury that may be caused if correct procedures are not followed.
3.7	Protection of Materials and Tools	
	<p>Learners will be able to:</p> <p>Locate and store tools and materials in secure areas away from areas where damage may occur:</p> <ul style="list-style-type: none"> • Puncture holes • Dust • Theft • Weather protection • Position and weight i.e. stacking position • Clearly identify materials • Storage of hazardous/harmful materials in a controlled area 	<p>Learners should understand:</p> <ul style="list-style-type: none"> • Good storage can improve productivity and reduce chances of accidental damage • Segregation from other operatives to avoid damage through in appropriate storage of other equipment • Value of equipment • Ease of Accessibility / locating • Stock management and reduced waste • Consequences of misuse and poor storage of materials
3.8	Installing, constructing and maintaining work area protection and Safety Equipment	
	<p>The practical training will focus on:</p> <ul style="list-style-type: none"> • Interpretation of drawings, revisions, specifications, schedules, method statements, manufacturers information and reference points related to the work to be carried out. <p>Select resources necessary to undertake task:</p> <ul style="list-style-type: none"> • Measuring tools and instruments • Marking materials/components • Materials, components and fixings • Tools and equipment 	<p>Learners should demonstrate works skills and avoid risks by:</p> <ul style="list-style-type: none"> • Safe methods of work • Safe use of health and safety control equipment • Safe use of access equipment/working platforms. • Safe use, storage, handling of materials, tools and equipment • Specific risks to health • Protect work zone and its surrounding area • Maintain a clean work space • Correct disposal of waste
3.9	Operate powered units, tools or pedestrian plant, machinery or equipment	

This module will provide an awareness of the hazards and risk associated with construction site equipment and different types of powered tools and the safety precautions required to prevent those hazards.

The new entrant will need to know about various preparation and application plant and equipment commonly used in the Waterproofing Industry. Following completion of this module a new entrant should be able to use the plant and equipment safely and competently.

The practical training will focus on the correct use of:

- 110v equipment
- Generators and Lighting
- Preparation tools including drilling, breakers, cutting, scabblers and abrasive equipment
- Drilling tools
- Hand held power tools including cutters and grinders,
- Power washing and pumping equipment
- Cement mixers and plaster mixers

Lighting:

- Visually check 110v transformer and its cable and plug for damage or fault.

Learners to know:

- How to select and wear correct and suitable PPE for each type of equipment use.
- How to select suitable plant/equipment for carrying out the task, including Occupational Exposure Limits (OEL).
- Awareness and knowledge of equipment manual.
- Reporting and procedures of defective tools/equipment.
- Check Portable Appliance Testing (PAT) is in place and in date.
- Visually check the cable, plug and all electrical parts of the equipment (and transformer) for damage or defects.
- Check, replace or fit correctly any blades, discs, drill bits, hoses, etc, in line with employer procedures.
- Use appropriate manual handling techniques.
- The Manual Handling Operations Regulations.
- How to regulate speed or pressures on various equipment for use of application/spray etc.
- How to visually appraise any hoses and recognise damage, weakness and ballooning.
- Visually check the tank, drum or container of product, fittings and delivery hose/tube/injector for damage.
- Correctly use a spill control pack and dispose of waste.
- Understanding work area light levels and consequences and impact of different lighting equipment, i.e. halogen, etc.

- Check for PAT certificate
- Visually check safety light body, cable and plug for damage or fault.
- Plug safety light into transformer.
- Provide temporary secure fixing or fixings for safety light(s) to enable work area to be adequately lit to perform the task safely.
- How to safely secure safety lighting.

3.1 Inspect and complete user maintenance on plant and machinery

The new entrant will need to know about preparation and application plant and equipment commonly used in the Structural Waterproofing Industry. They must be familiar with simple servicing requirements for various items and be able to recognise potential faults and hazards associated with such equipment. Following completion of this module a new entrant should be able to carry out routine day to day servicing requirements on such equipment when necessary.

The practical training will focus on the correct use of:

- 110v equipment
- Generators and Lighting
- Preparation tools including drilling, breakers, cutting, scabblers and abrasive equipment
- Drilling tools
- Hand held power tools including cutters and grinders,
- Power washing and pumping equipment
- Cement mixers and plaster mixers

Learners to know how to:

- Be aware of manufacturer and employer procedures for maintenance.
- Select and wear correct and suitable PPE for each type of equipment to be maintained or repaired.
- Awareness and knowledge of equipment maintenance manual
- What Portable Appliance Testing (PAT) involves.
- Check Portable Appliance Testing (PAT) date.
- Know damage reporting procedure.
- Visually check the cable, plug and all electrical parts of the equipment (and transformer) for damage or defects.
- Visually check, test and establish the cause of breakdown or failure of the equipment.
- How to recognise wear of components and attachments.
- Identify the component or parts that require replacement, repair or modification.
- Ordering of replacement parts and/or equipment
- Returns to equipment specialists, hire shops etc.
- Dismantle the equipment referring to the instruction manual and renew items as required for regular maintenance.

		<ul style="list-style-type: none"> • How to correctly and safely renew components. • How to change/service/clean material application components/equipment. • Visually check 110v transformer and lighting equipment, its cable and plug for damage or fault.
3.11	Small Tools	
	<p>This module will provide an awareness of the hazards associated with construction site equipment. It will show the new entrant how to recognize the hazards of different types of hand tools and the safety precautions required to prevent those hazards.</p>	
	<p>The practical training will focus on the correct use and maintenance of:</p> <ul style="list-style-type: none"> • Hand tools including hammers, mallets, wrecking bars, etc • Sharp edge tools including bolsters, chisels, knives, cutters, trowels, screwdrivers etc • Cutting tools including saws, snips, cutters, etc • Measuring tools 	<p>Learners need to be aware of:</p> <ul style="list-style-type: none"> • The hazards posed by and associated with hand held tools. • How to safely use all tools identified in the practical element. • Recognise the situation or circumstance and select the appropriate tool for the task. • Select and wear the appropriate PPE for the task. • Safe methods of work • Clean tool upon completion of task.
3.12	Pre-contract works start checklist	
	<p>The practical training will focus on:</p> <ul style="list-style-type: none"> • Interpretation of drawings, revisions, specifications, schedules, method statements, manufacturers information and reference points related to the work to be carried out. <p>Select resources necessary to undertake task:</p> <ul style="list-style-type: none"> • Measuring tools and instruments • Marking materials/components • Tools and equipment 	<p>Learners should know how to:</p> <ul style="list-style-type: none"> • Safe use of PPE, access equipment/working platforms to carry out the activity. • Transfer, transpose, level, measure, mark, position, fix and secure. • Protect work and its surrounding area from damage • Minimise damage • Maintain a clean work space • Correct disposal of waste • Complete work within estimated, allocated time to meet needs of client/contract.
Module M4 – Practical and Knowledge on Site		

This module will inform a new entrant about different methods and materials used in Structural Waterproofing Industry. They will learn about different methods of creating a robust waterproofed structure, the function and performance of structural waterproofing components and terminology used to describe them. Following the completion of this module the new entrant should be able to demonstrate a good general understanding of Structural Waterproofing.

Ref	Practical	Knowledge
4.1	Prepare surfaces for (all forms of) structural waterproofing	
This module provides a New entrant with the knowledge and understanding necessary to prepare an existing or newly formed wall surface adequately in readiness to receive waterproofing		
<p>Learners to demonstrate, list or state how to:</p> <p>Locate authorised person to induct you on to site and make introductions</p> <p>Read method statements and risk assessments associated with planned work procedures regarding working within deep structures, using tools and machinery, creating dust and mixing/applying/using products that create hazards.</p> <p>Consider the work schedule and risk assessment regarding the Working at Height Regulations 2005.</p> <p>All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person</p> <p>Select and use safely the correct access equipment for the task.</p> <p>Identify storage areas for tools and resources</p> <p>Identify and confirm site location and position vehicle with equipment and materials as near to location as allowed.</p> <p>Unload vehicle and resources and return vehicle to permitted parking areas.</p> <p>Select and wear correct and suitable PPE for the tasks.</p> <p>Interpret plans and written instructions and identify wall(s) and floor(s) scheduled for waterproofing.</p> <p>Deploy appropriate warning notices, signage and barriers.</p>		<p>Learners need to know:</p> <p>How to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them.</p> <p>How to amend and update Risk Assessments.</p> <p>How to identify Hazard Warning signs</p> <p>Action to take in the event of a spillage, accident or ingestion</p> <p>Understand manufacturer/COSHH data sheets.</p> <p>All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person</p> <p>How to select and use safely the correct tools and equipment for the task.</p> <p>How to identify storage areas for tools and resources</p> <p>How to identify and confirm site location and safest, closest vehicle position with equipment and materials.</p> <p>Understand how to unload vehicle and resources and return vehicle to permitted parking areas.</p> <p>How to select and wear correct and suitable PPE for the task.</p> <p>How to interpret plans and written instructions.</p> <p>When and where to deploy appropriate warning notices, signage and barriers.</p>

Take appropriate measures to contain and control dust/fume and ventilate work area.

Comply with the Party Wall Act etc 1996.

Overhead and underground services are identified, and locations marked around the work area.

Recognise wall and floor surfaces that are not suitable to receive waterproofing and require preparatory work prior to application.

Check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

Check all inbuilt structural timbers and frame timbers have been removed or isolated from walls to be waterproofed.

Identify and safely use Tools & Equipment as required:

- 110v equipment
- Generators and Lighting
- Preparation tools including electrical hammer chisel, breakers, scarifiers, scabblers and abrasive equipment
- Drilling tools
- Hand held power tools including cutters and grinders
- Power washing and pumping equipment
- Cement mixers
- Wheel barrow, shovel, spade, pick-axe and brushes

Pre-installation measures and precautions necessary prior to starting work.

How to screen off, protect areas to control dust.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

Identify a party wall and precautions to take before and when working on a party wall.

Ensure the overhead and underground services are identified and locations marked around the work area.

The reason why wall and floor preparation are necessary for the successful application of waterproofing, i.e. exposed reinforcement protection.

How to check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

How to check all inbuilt structural timbers and frame timbers have been removed or isolated from walls.

How to select and safely use any equipment for preparatory work mentioned in the method statement.

- Plaster mixers and plastering tools, trowels, floats etc
- Hand tools including hammers, mallets, wrecking bars
- Sharp edge tools including bolsters, chisels, knives, cutters, screwdrivers etc
- Cutting tools including saws, snips, cutters etc
- Measuring tools
- Etc

Clean off loose material, remove old plasters/render and other surface materials.

Safe use of a Club/Lump hammer, bolster and cold chisel.

Safe use of an electrical hammer chisel.

Safe use of scarifying/scabbling equipment.

Safe use of power washing equipment.

Examine exposed masonry and assess suitability for receiving waterproofing materials.

Understand the function and construction of a reinforced concrete floor slab designed and approval by a Structural Engineer.

Prepare and mix sand and cement mortar with waterproof additives to make good.

Brick up/make good any damaged exposed wall surfaces/masonry to receive waterproofing materials

Make good small areas of defective pointing/mortar/voids/cracks on a wall surface in readiness to receive a waterproofing product

Cut out and form a reinforced waterproof fillet to floor/wall junction.

Prepare and apply a suitable product to reinforce a floor/wall junction in accordance with manufacturer's instructions.

How to examine exposed prepared masonry and floors and assess suitability for receiving waterproofing materials.

How a reinforced concrete slab is constructed and its function.

How to prepare and mix sand and cement mortar with waterproof additives to make good.

How to brick up/make good any damaged exposed wall surfaces/masonry.

How to cut out and form a reinforced waterproof fillet to wall/floor/soffit, etc junction.

How to prepare and apply a suitable product to reinforce a wall/floor/soffit, etc junction.

How to prepare a suitable substrate to create a flat, sound surface prior to the application of a waterproofing system.

What is likely to happen if a waterproofing product is applied on to a poorly prepared wall/floor/soffit, etc surface.

	<p>Apply a specialised waterproof product coat to walls to provide primary resistance to passage of water.</p> <p>Apply a tight waterproof render coat to walls to provide primary resistance to passage of water.</p> <p>Prepare and apply a suitable cementitious base 'render' or similar to provide a flat prepared surface to receive the waterproofing system.</p> <p>Check wall surfaces have been prepared correctly to receive the waterproofing system.</p> <p>Recognise the function of ground drainage for structural waterproofing and the role of external land drainage.</p> <p>Recognise the function of rodding and jetting access points to maintain and service external land drainage.</p> <p>Identify different waste materials, segregate as necessary, bag up and store safely for disposal.</p> <p>Collect, contain and dispose of waste correctly at appropriate waste disposal facility.</p> <p>Dispose of contaminated or hazardous waste materials and product containers in line with employer procedures.</p>	<p>How to address active ingress of free water.</p> <p>How to mix and apply a specialised waterproof product to walls, floors and soffits, etc.</p> <p>How to assess all wall and floor surfaces have been prepared correctly to receive a waterproofing membrane.</p> <p>Understand the need for appropriate ground land drainage.</p> <p>Understand the need for rodding and jetting access points to external land drainage.</p> <p>How to Identify different waste materials, segregate as necessary, bag up, store safely and dispose of waste correctly at appropriate waste disposal facility</p> <p>Understand the importance of safe disposal of contaminated or hazardous waste materials and product containers.</p>
<p>4.2</p>	<p>Prepare joints in structures including 'dry-pack' underpinned areas and apply primary waterproofing</p>	
<p>This module provides a New Entrant with the knowledge and understanding necessary to prepare a newly formed underpinned wall with 'dry-pack' joints adequately in readiness to receive waterproofing.</p>		
<p>Learners to demonstrate, list or state how to:</p>		<p>Learners need to know:</p>
<p>Locate authorised person to induct you on to site and make introductions</p> <p>Read method statements and risk assessments associated with planned work procedures regarding working within deep structures, using tools and machinery, creating dust and mixing/applying/using products that create hazards.</p>		<p>How to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them.</p> <p>How to amend and update Risk Assessments.</p> <p>How to identify Hazard Warning signs</p> <p>Action to take in the event of a spillage, accident or ingestion</p> <p>Understand manufacturer/COSHH data sheets.</p>

Consider the work schedule and risk assessment regarding the Working at Height Regulations 2005.

All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person

Select and use safely the correct access equipment for the task.

Identify storage areas for tools and resources

Identify and confirm site location and position vehicle with equipment and materials as near to location as allowed.

Unload vehicle and resources and return vehicle to permitted parking areas.

Select and wear correct and suitable PPE for the tasks.

Interpret plans and written instructions and identify wall(s) and floor(s) scheduled for waterproofing.

Deploy appropriate warning notices, signage and barriers.

Take appropriate measures to contain and control dust/fume and ventilate work area.

Comply with the Party Wall Act etc 1996.

Overhead and underground services are identified, and locations marked around the work area.

Recognise wall and floor surfaces that are not suitable to receive waterproofing and require preparatory work prior to application.

All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person

How to select and use safely the correct tools and equipment for the task.

How to identify storage areas for tools and resources

How to identify and confirm site location and safest, closest vehicle position with equipment and materials.

Understand how to unload vehicle and resources and return vehicle to permitted parking areas.

How to select and wear correct and suitable PPE for the task.

How to interpret plans and written instructions.

When and where to deploy appropriate warning notices, signage and barriers.

Pre-installation measures and precautions necessary prior to starting work.

How to screen off, protect areas to control dust.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

Identify a party wall and precautions to take before and when working on a party wall.

Ensure the overhead and underground services are identified and locations marked around the work area.

The reason why wall and floor preparation are necessary for the successful application of waterproofing, i.e. exposed reinforcement protection.

Check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

Check all inbuilt structural timbers and frame timbers have been removed or isolated from walls to be waterproofed.

Identify and safely use Tools & Equipment as required:

- 110v equipment
- Generators and Lighting
- Preparation tools including electrical hammer chisel, breakers, scarifiers, scabblers and abrasive equipment
- Drilling tools
- Hand held power tools including cutters and grinders
- Power washing and pumping equipment
- Cement mixers
- Wheel barrow, shovel, spade, pick-axe and brushes
- Plaster mixers and plastering tools, trowels, floats etc
- Hand tools including hammers, mallets, wrecking bars
- Sharp edge tools including bolsters, chisels, knives, cutters, screwdrivers etc
- Cutting tools including saws, snips, cutters etc
- Measuring tools
- Etc

Clean off loose material, remove old plasters/render and other surface materials.

Safe use of a Club/Lump hammer, bolster and cold chisel.

Safe use of an electrical hammer chisel.

Safe use of scarifying/scabbling equipment.

Safe use of power washing equipment.

Examine exposed masonry and assess suitability for receiving waterproofing materials.

How to check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

How to check all inbuilt structural timbers and frame timbers have been removed or isolated from walls.

How to select and safely use any equipment for preparatory work mentioned in the method statement.

How to examine exposed prepared masonry and floors and assess suitability for receiving waterproofing materials.

	<p>Prepare joints area as required and apply a specialised waterproof product to joint to provide primary resistance to passage of water in accordance with manufacturer's instructions.</p> <p>Prepare the 'dry-pack' area as required and apply a specialised waterproof product to 'dry-pack' joint to provide primary resistance to passage of water in accordance with manufacturer's instructions.</p> <p>Examine prepared joints and assess suitability for receiving waterproofing materials.</p> <p>Apply a specialised waterproof product to exposed joints to provide primary resistance to passage of water and to provide a flat prepared surface to receive the waterproofing system in accordance with manufacturer's instructions.</p> <p>Dispose of contaminated or hazardous waste materials and product containers in line with employer procedures.</p>	<p>Understand manufacturer/COSHH data sheets.</p> <p>How to prepare joints and the 'dry-pack' area and apply a specialised waterproof product.</p> <p>What is likely to happen if a waterproofing product is applied to a poorly prepared joint.</p> <p>How to work out the amount of product(s) that will be required in relation to the work area/specification.</p> <p>How to mix and apply a specialised waterproof product to joints to provide primary resistance to passage of water in accordance with manufacturer's instructions.</p> <p>Understand the importance of safe disposal of contaminated or hazardous waste materials and product containers.</p>
4.3	<p>Apply cementitious coatings, multi-coat renders, crystallisation active materials with/without primers - (Type A waterproofing systems)</p>	
<p>Type-A protection is defined by BS8102:2009 (Code of practice for protection of below ground structures against water from the ground) as 'barrier protection'. This is where a material is put in place that offers a barrier to the passage of water with the aim of keeping the target environment within a prescribed level of 'dryness'.</p>		
<p>Learners to demonstrate, list or state how to:</p>		<p>Learners need to know:</p>
<p>Locate authorised person to induct you on to site and make introductions</p> <p>Read method statements and risk assessments associated with planned work procedures regarding working within deep structures, using tools and machinery, creating dust and mixing/applying/using products that create hazards.</p> <p>Consider the work schedule and risk assessment regarding the Working at Height Regulations 2005.</p>		<p>How to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them.</p> <p>How to amend and update Risk Assessments.</p> <p>How to identify Hazard Warning signs</p> <p>Action to take in the event of a spillage, accident or ingestion</p> <p>Understand manufacturer/COSHH data sheets.</p>

All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person

Select and use safely the correct access equipment for the task.

Identify storage areas for tools and resources

Identify and confirm site location and position vehicle with equipment and materials as near to location as allowed.

Unload vehicle and resources and return vehicle to permitted parking areas.

Select and wear correct and suitable PPE for the tasks.

Interpret plans and written instructions and identify wall(s) and floor(s) scheduled for waterproofing.

Deploy appropriate warning notices, signage and barriers.

Take appropriate measures to contain and control dust/fume and ventilate work area.

Comply with the Party Wall Act etc 1996.

Overhead and underground services are identified, and locations marked around the work area.

Recognise wall and floor surfaces that are not suitable to receive waterproofing and require preparatory work prior to application.

Check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person

How to select and use safely the correct tools and equipment for the task.

How to identify storage areas for tools and resources

How to identify and confirm site location and safest, closest vehicle position with equipment and materials.

Understand how to unload vehicle and resources and return vehicle to permitted parking areas.

How to select and wear correct and suitable PPE for the task.

How to interpret plans and written instructions.

When and where to deploy appropriate warning notices, signage and barriers.

Pre-installation measures and precautions necessary prior to starting work.

How to screen off, protect areas to control dust.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

Identify a party wall and precautions to take before and when working on a party wall.

Ensure the overhead and underground services are identified and locations marked around the work area.

The reason why wall and floor preparation are necessary for the successful application of waterproofing, i.e. exposed reinforcement protection.

How to check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

Check all inbuilt structural timbers and frame timbers have been removed or isolated from walls to be waterproofed.

Identify and safely use Tools & Equipment as required:

- 110v equipment
- Generators and Lighting
- Preparation tools including electrical hammer chisel, breakers, scarifiers, scabblers and abrasive equipment
- Drilling tools
- Hand held power tools including cutters and grinders
- Power washing and pumping equipment
- Cement mixers
- Wheel barrow, shovel, spade, pick-axe and brushes
- Plaster mixers and plastering tools, trowels, floats etc
- Hand tools including hammers, mallets, wrecking bars
- Sharp edge tools including bolsters, chisels, knives, cutters, screwdrivers etc
- Cutting tools including saws, snips, cutters etc
- Measuring tools
- Etc

Clean off loose material, remove old plasters/render and other surface materials.

Safe use of a Club/Lump hammer, bolster and cold chisel.

Safe use of an electrical hammer chisel.

Safe use of scarifying/scabbling equipment.

Safe use of power washing equipment.

Examine exposed masonry and assess suitability for receiving waterproofing materials.

Apply one of the following (Type A) product types in accordance with manufacturer's instructions:

Cementitious Crystallisation active systems
Proprietary Cementitious, additive systems,
multi-coat renders, toppings and coatings.

How to check all inbuilt structural timbers and frame timbers have been removed or isolated from walls.

How to select and safely use any equipment for preparatory work mentioned in the method statement.

How to examine exposed prepared masonry and floors and assess suitability for receiving waterproofing materials.

How to apply/fix the following (Type A) product type in accordance with manufacturer's instructions:

Cementitious Crystallisation active systems
Proprietary Cementitious, additive systems,
multi-coat renders, toppings and coatings.

	<p>Apply a range of Ancillary product(s) that combine with the selected Type A product types and apply/fix in accordance with manufacturer's instructions:</p> <p>Bandage Joint systems Membrane Protection Products Service fittings Pre-formed details Joints & Continuity with other systems</p> <p>Calculate the amount of product(s) that will be required in relation to the work area/specification in accordance with the manufacturer's loading instructions.</p> <p>Follow the product manufacturer's instructions or directions.</p> <p>Load application equipment and apply product in accordance with the manufacturer's instructions.</p> <p>Recognise the function of ground drainage for structural waterproofing and the role of external land drainage.</p> <p>Dispose of contaminated or hazardous waste materials and product containers in line with employer procedures.</p> <p>Check whether sign off Construction Quality Assurance site inspection has been carried out.</p> <p>Check sign off in line with employer's procedures, i.e. clear site for last time; where feasible retain usable materials for re-use; safely load van; return to depot; unload tools and materials and record as appropriate; clean and store appropriately.</p>	<p>How to apply/fix the following Ancillary product(s) with the selected Type A product type in accordance with manufacturer's instructions:</p> <p>Bandage Joint systems Membrane Protection Products Service fittings Pre-formed details Joints & Continuity with other systems</p> <p>How to calculate the amount of product(s) that will be required in relation to the work area/specification in accordance with the manufacturer's loading instructions.</p> <p>Understand the product manufacturer's instructions or directions.</p> <p>How to mix and apply the specialised waterproof product.</p> <p>How to load application equipment and apply product.</p> <p>Understand the importance of external land drainage and maintainability.</p> <p>Understand the importance of safe disposal of contaminated or hazardous waste materials and product containers.</p>
4.4	<p>Apply liquid, multi-pack, Resin & Mastic Asphalt systems with/without primers – (Type A waterproofing systems)</p>	
	<p>Type-A protection is defined by BS8102:2009 (Code of practice for protection of below ground structures against water from the ground) as 'barrier protection'. This is where a material is put in place that offers a barrier to the passage of water with the aim of keeping the target environment within a prescribed level of 'dryness'.</p>	
	<p>Learners to demonstrate, list or state how to:</p>	<p>Learners need to know:</p>
	<p>Locate authorised person to induct you on to site and make introductions</p>	<p>How to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them.</p>

Read method statements and risk assessments associated with planned work procedures regarding working within deep structures, using tools and machinery, creating dust and mixing/applying/using products that create hazards.

Consider the work schedule and risk assessment regarding the Working at Height Regulations 2005.

All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person

Select and use safely the correct access equipment for the task.

Identify storage areas for tools and resources

Identify and confirm site location and position vehicle with equipment and materials as near to location as allowed.

Unload vehicle and resources and return vehicle to permitted parking areas.

Select and wear correct and suitable PPE for the tasks.

Interpret plans and written instructions and identify wall(s) and floor(s) scheduled for waterproofing.

Deploy appropriate warning notices, signage and barriers.

Take appropriate measures to contain and control dust/fume and ventilate work area.

Comply with the Party Wall Act etc 1996.

How to amend and update Risk Assessments.

How to identify Hazard Warning signs

Action to take in the event of a spillage, accident or ingestion

Understand manufacturer/COSHH data sheets.

All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person

How to select and use safely the correct tools and equipment for the task.

How to identify storage areas for tools and resources

How to identify and confirm site location and safest, closest vehicle position with equipment and materials.

Understand how to unload vehicle and resources and return vehicle to permitted parking areas.

How to select and wear correct and suitable PPE for the task.

How to interpret plans and written instructions.

When and where to deploy appropriate warning notices, signage and barriers.

Pre-installation measures and precautions necessary prior to starting work.

How to screen off, protect areas to control dust.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

Identify a party wall and precautions to take before and when working on a party wall.

Overhead and underground services are identified, and locations marked around the work area.

Recognise wall and floor surfaces that are not suitable to receive waterproofing and require preparatory work prior to application.

Check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

Check all inbuilt structural timbers and frame timbers have been removed or isolated from walls to be waterproofed.

Identify and safely use Tools & Equipment as required:

- 110v equipment
- Generators and Lighting
- Preparation tools including electrical hammer chisel, breakers, scarifiers, scabblers and abrasive equipment
- Drilling tools
- Hand held power tools including cutters and grinders
- Power washing and pumping equipment
- Cement mixers
- Wheel barrow, shovel, spade, pick-axe and brushes
- Plaster mixers and plastering tools, trowels, floats etc
- Hand tools including hammers, mallets, wrecking bars
- Sharp edge tools including bolsters, chisels, knives, cutters, screwdrivers etc
- Cutting tools including saws, snips, cutters etc
- Measuring tools
- Etc

Clean off loose material, remove old plasters/render and other surface materials.

Safe use of a Club/Lump hammer, bolster and cold chisel.

Safe use of an electrical hammer chisel.

Ensure the overhead and underground services are identified and locations marked around the work area.

The reason why wall and floor preparation are necessary for the successful application of waterproofing, i.e. exposed reinforcement protection.

How to check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

How to check all inbuilt structural timbers and frame timbers have been removed or isolated from walls.

How to select and safely use any equipment for preparatory work mentioned in the method statement.

Safe use of scarifying/scabbling equipment.
Safe use of power washing equipment.
Examine exposed masonry and assess suitability for receiving waterproofing materials.

Apply one of the following (Type A) product types in accordance with manufacturer's instructions:

Liquid Applied Membranes including Resins and Multi-pack

Apply a range of Ancillary product(s) that combine with the selected Type A product types and apply/fix in accordance with manufacturer's instructions:

Bandage Joint systems
Membrane Protection Products
Service fittings
Pre-formed details
Joints & Continuity with other systems
Calculate the amount of product(s) that will be required in relation to the work area/specification in accordance with the manufacturer's loading instructions.
Follow the product manufacturer's instructions or directions.

Load application equipment and apply product in accordance with the manufacturer's instructions.

Recognise the function of ground drainage for structural waterproofing and the role of external land drainage.

Dispose of contaminated or hazardous waste materials and product containers in line with employer procedures.

Check whether sign off Construction Quality Assurance site inspection has been carried out.

How to examine exposed prepared masonry and floors and assess suitability for receiving waterproofing materials.

How to apply/fix the following (Type A) product type in accordance with manufacturer's instructions:

Liquid Applied Membranes including Resins and Multi-pack

Awareness of Mastic Asphalt Membranes – **can only be applied with hot works permit, extremely unlikely to be used by new entrant.**

How to apply/fix the following Ancillary product(s) with the selected Type A product type in accordance with manufacturer's instructions:

Bandage Joint systems
Membrane Protection Products
Service fittings
Pre-formed details
Joints & Continuity with other systems
How to calculate the amount of product(s) that will be required in relation to the work area/specification in accordance with the manufacturer's loading instructions.
Understand the product manufacturer's instructions or directions.
How to mix and apply the specialised waterproof product.

How to load application equipment and apply product.

Understand the importance of external land drainage and maintainability.

Understand the importance of safe disposal of contaminated or hazardous waste materials and product containers.

	<p>Check sign off in line with employer's procedures, i.e. clear site for last time; where feasible retain usable materials for re-use; safely load van; return to depot; unload tools and materials and record as appropriate; clean and store appropriately.</p>	
<p>4.5</p>	<p>Install sheet membrane systems with/without primers - (Type A waterproofing systems)</p>	
<p>Type-A protection is defined by BS8102:2009 (Code of practice for protection of below ground structures against water from the ground) as 'barrier protection'. This is where a material is put in place that offers a barrier to the passage of water with the aim of keeping the target environment within a prescribed level of 'dryness'.</p>		
<p>Learners to demonstrate, list or state how to:</p>		<p>Learners need to know:</p>
<p>Locate authorised person to induct you on to site and make introductions</p> <p>Read method statements and risk assessments associated with planned work procedures regarding working within deep structures, using tools and machinery, creating dust and mixing/applying/using products that create hazards.</p> <p>Consider the work schedule and risk assessment regarding the Working at Height Regulations 2005.</p> <p>All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person</p> <p>Select and use safely the correct access equipment for the task.</p> <p>Identify storage areas for tools and resources</p> <p>Identify and confirm site location and position vehicle with equipment and materials as near to location as allowed.</p> <p>Unload vehicle and resources and return vehicle to permitted parking areas.</p> <p>Select and wear correct and suitable PPE for the tasks.</p> <p>Interpret plans and written instructions and identify wall(s) and floor(s) scheduled for waterproofing.</p>	<p>How to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them.</p> <p>How to amend and update Risk Assessments.</p> <p>How to identify Hazard Warning signs</p> <p>Action to take in the event of a spillage, accident or ingestion</p> <p>Understand manufacturer/COSHH data sheets.</p> <p>All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person</p> <p>How to select and use safely the correct tools and equipment for the task.</p> <p>How to identify storage areas for tools and resources</p> <p>How to identify and confirm site location and safest, closest vehicle position with equipment and materials.</p> <p>Understand how to unload vehicle and resources and return vehicle to permitted parking areas.</p> <p>How to select and wear correct and suitable PPE for the task.</p> <p>How to interpret plans and written instructions.</p>	

Deploy appropriate warning notices, signage and barriers.

Take appropriate measures to contain and control dust/fume and ventilate work area.

Comply with the Party Wall Act etc 1996.

Overhead and underground services are identified, and locations marked around the work area.

Recognise wall and floor surfaces that are not suitable to receive waterproofing and require preparatory work prior to application.

Check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

Check all inbuilt structural timbers and frame timbers have been removed or isolated from walls to be waterproofed.

Identify and safely use Tools & Equipment as required:

- 110v equipment
- Generators and Lighting
- Preparation tools including electrical hammer chisel, breakers, scarifiers, scabblers and abrasive equipment
- Drilling tools
- Hand held power tools including cutters and grinders
- Power washing and pumping equipment
- Cement mixers

When and where to deploy appropriate warning notices, signage and barriers.

Pre-installation measures and precautions necessary prior to starting work.

How to screen off, protect areas to control dust.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

Identify a party wall and precautions to take before and when working on a party wall.

Ensure the overhead and underground services are identified and locations marked around the work area.

The reason why wall and floor preparation are necessary for the successful application of waterproofing, i.e. exposed reinforcement protection.

How to check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

How to check all inbuilt structural timbers and frame timbers have been removed or isolated from walls.

How to select and safely use any equipment for preparatory work mentioned in the method statement.

- Wheel barrow, shovel, spade, pick-axe and brushes
- Plaster mixers and plastering tools, trowels, floats etc
- Hand tools including hammers, mallets, wrecking bars
- Sharp edge tools including bolsters, chisels, knives, cutters, screwdrivers etc
- Cutting tools including saws, snips, cutters etc
- Measuring tools
- Etc

Clean off loose material, remove old plasters/render and other surface materials.

Safe use of a Club/Lump hammer, bolster and cold chisel.

Safe use of an electrical hammer chisel.

Safe use of scarifying/scabbling equipment.

Safe use of power washing equipment.

Examine exposed masonry and assess suitability for receiving waterproofing materials.

Apply one of the following (Type A) product types in accordance with manufacturer's instructions:

Bonded Sheet Membranes - either pre-applied or post applied.

Bentonite Clay active membranes

Loose Laid Membrane Types

Apply a range of Ancillary product(s) that combine with the selected Type A product types and apply/fix in accordance with manufacturer's instructions:

Bandage Joint systems

Membrane Protection Products

Service fittings

Pre-formed details

Joints & Continuity with other systems

Calculate the amount of product(s) that will be required in relation to the work area/specification in accordance with the manufacturer's loading instructions.

Follow the product manufacturer's instructions or directions.

How to examine exposed prepared masonry and floors and assess suitability for receiving waterproofing materials.

How to apply/fix the following (Type A) product type in accordance with manufacturer's instructions:

Bonded Sheet Membranes - either pre-applied or post applied.

Bentonite Clay active membranes

Loose Laid Membrane Types

How to apply/fix the following Ancillary product(s) with the selected Type A product type in accordance with manufacturer's instructions:

Bandage Joint systems

Membrane Protection Products

Service fittings

Pre-formed details

Joints & Continuity with other systems

How to calculate the amount of product(s) that will be required in relation to the work area/specification in accordance with the manufacturer's loading instructions.

Understand the product manufacturer's instructions or directions.

How to apply the specialised waterproof product.

	<p>Load application equipment and apply product in accordance with the manufacturer's instructions.</p> <p>Recognise the function of ground drainage for structural waterproofing and the role of external land drainage.</p> <p>Dispose of contaminated or hazardous waste materials and product containers in line with employer procedures.</p> <p>Check whether sign off Construction Quality Assurance site inspection has been carried out.</p> <p>Check sign off in line with employer's procedures, i.e. clear site for last time; where feasible retain usable materials for re-use; safely load van; return to depot; unload tools and materials and record as appropriate; clean and store appropriately.</p>	<p>How to load application equipment and apply product.</p> <p>Understand the importance of external land drainage and maintainability.</p> <p>Understand the importance of safe disposal of contaminated or hazardous waste materials and product containers.</p>
4.6	Install cavity drainage membrane systems - (Type C waterproofing systems)	
Type C (drained) protection is defined by BS8102:2009 (Code of practice for protection of below ground structures against water from the ground) as where the structure itself provides primary resistance against WATER penetration and incorporates a drained cavity within the basement structure. There is permanent reliance on this cavity to collect groundwater seepage through the structure and direct it to drains or a sump for removal by drainage or pumping.		
Learners to demonstrate, list or state how to:		Learners need to know:
<p>Locate authorised person to induct you on to site and make introductions</p> <p>Read method statements and risk assessments associated with planned work procedures regarding working within deep structures, using tools and machinery, creating dust and mixing/applying/using products that create hazards.</p> <p>Consider the work schedule and risk assessment regarding the Working at Height Regulations 2005.</p> <p>All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person</p> <p>Select and use safely the correct access equipment for the task.</p>		<p>How to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them.</p> <p>How to amend and update Risk Assessments.</p> <p>How to identify Hazard Warning signs</p> <p>Action to take in the event of a spillage, accident or ingestion</p> <p>Understand manufacturer/COSHH data sheets.</p> <p>All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person</p> <p>How to select and use safely the correct tools and equipment for the task.</p>

Identify storage areas for tools and resources

Identify and confirm site location and position vehicle with equipment and materials as near to location as allowed.

Unload vehicle and resources and return vehicle to permitted parking areas.

Select and wear correct and suitable PPE for the tasks.

Interpret plans and written instructions and identify wall(s) and floor(s) scheduled for waterproofing.

Deploy appropriate warning notices, signage and barriers.

Take appropriate measures to contain and control dust/fume and ventilate work area.

Comply with the Party Wall Act etc 1996.

Overhead and underground services are identified, and locations marked around the work area.

Recognise wall and floor surfaces that are not suitable to receive waterproofing and require preparatory work prior to application.

Check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

Check all inbuilt structural timbers and frame timbers have been removed or isolated from walls to be waterproofed.

How to identify storage areas for tools and resources

How to identify and confirm site location and safest, closest vehicle position with equipment and materials.

Understand how to unload vehicle and resources and return vehicle to permitted parking areas.

How to select and wear correct and suitable PPE for the task.

How to interpret plans and written instructions.

When and where to deploy appropriate warning notices, signage and barriers.

Pre-installation measures and precautions necessary prior to starting work.

How to screen off, protect areas to control dust.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

Identify a party wall and precautions to take before and when working on a party wall.

Ensure the overhead and underground services are identified and locations marked around the work area.

The reason why wall and floor preparation are necessary for the successful application of waterproofing, i.e. exposed reinforcement protection.

How to check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

How to check all inbuilt structural timbers and frame timbers have been removed or isolated from walls.

Identify and safely use Tools & Equipment as required:

- 110v equipment
- Generators and Lighting
- Preparation tools including electrical hammer chisel, breakers, scarifiers, scabblers and abrasive equipment
- Drilling tools
- Hand held power tools including cutters and grinders
- Power washing and pumping equipment
- Cement mixers
- Wheel barrow, shovel, spade, pick-axe and brushes
- Plaster mixers and plastering tools, trowels, floats etc
- Hand tools including hammers, mallets, wrecking bars
- Sharp edge tools including bolsters, chisels, knives, cutters, screwdrivers etc
- Cutting tools including saws, snips, cutters etc
- Measuring tools
- Etc

Clean off loose material, remove old plasters/render and other surface materials.

Safe use of a Club/Lump hammer, bolster and cold chisel.

Safe use of an electrical hammer chisel.

Safe use of scarifying/scabbling equipment.

Safe use of power washing equipment.

Examine exposed masonry and assess suitability for receiving waterproofing materials.

Examine existing solid floor and assess suitability and preparation needs for retention.

Authority from Structural Engineer with regards to suitability of existing slab for use and removing perimeter material.

Understand how to excavate the retained solid floor and form sump chamber(s) and gully rebates for perimeter channel.

How to select and safely use any equipment for preparatory work mentioned in the method statement.

How to examine exposed prepared masonry and floors and assess suitability for receiving waterproofing materials.

What is likely to happen if a waterproofing product is applied on to a poorly prepared wall surface.

Recognise approval from Structural Engineer to suitability of existing slab for use and removing perimeter material.

How to excavate the retained solid floor to form sump chamber(s) and gully rebates for perimeter channel.

Understand the function and construction of a reinforced concrete floor slab designed and approval by a Structural Engineer.

Understand how to cast a reinforced concrete slab incorporating sump chamber(s) and gully rebates for perimeter channel. Slab to be cast level.

Understand how to cast a reinforced concrete slab incorporating sump chamber and outlets, services and connections for other appropriate drainage (spine drainage).

Install perimeter drainage channel into rebate with connections as per manufacturers spec.

Install perimeter drainage channel to floor slab surface and lay sacrificial sand and cement screed former against the channel all to manufacturers spec.

Install perimeter drainage channel to floor slab surface and lay approved insulation material against the channel all to manufacturers spec.

Fit inspection access/maintenance ports to the channel at key changes in direction or every 8 – 10 metres as per manufacturers spec.

Install sump correctly in chamber as per manufacturers spec.

Complete connections between sump and drainage channel

Make good and repair excavated sump and channel floor edges with sand and cement mortar incorporating waterproof additive.

Apply a specialised waterproof product coat to walls to provide primary resistance to passage of water and to provide a flat prepared surface to receive the waterproofing system in accordance with manufacturer's instructions.

Apply anti-lime coating to any new concrete walls and floor.

Flood test floor and drainage to ensure test water runs freely to sump

Check wall and floor surfaces have been prepared correctly to receive the waterproofing system.

How a Structural Engineer approved design reinforced concrete slab is constructed.

How to cast a reinforced concrete slab incorporating sump chamber(s) and gully rebates for perimeter channel. Slab to be cast level.

How to cast a reinforced concrete slab incorporating sump chamber and outlets, services and connections for other appropriate drainage (spine drainage).

How to install perimeter drainage channel with connections into formed rebates in the floor slab to manufacturers spec.

How to install perimeter drainage channel on the floor slab surface to manufacturers spec.

How to lay sacrificial sand and cement screed or approved insulation against the channel to manufacturers spec.

How to fit inspection access/maintenance ports to the channel at key changes in direction or every 8 – 10 metres as per manufacturers spec.

How to install sump correctly in chamber as per manufacturers spec.

How to complete connections between sump and drainage channel

How to make good and repair excavated sump and channel floor edges with sand and cement mortar incorporating waterproof additive.

How to mix and apply a specialised waterproof product to walls and floors to provide primary resistance to passage of water and apply a tight waterproof render coat to walls/floors to create a flat, sound surface and apply product(s) in accordance with the manufacturer's instructions

How to apply anti-lime coating to new concrete walls and floor.

How to flood test floor and drainage to ensure it runs freely to sump

How to assess all wall and floor surfaces have been prepared correctly to receive a waterproofing membrane.

Calculate the amount of membrane product(s) that will be required in relation to the work area/specification in accordance with the manufacturer's instructions.

Fix Cavity Drainage Membrane to walls and vaulted surfaces in accordance with manufacturer's instructions using correct fixings and joint tapes.

Fix Cavity Drainage Membrane to walls in accordance with manufacturer's instructions using correct fixings, joint tapes and detailing at the perimeter for independent dry lining systems.

Fix Cavity Drainage Plaster Membrane to walls in accordance with manufacturer's instructions using correct fixings and joint tapes and detailing at the perimeter in readiness to receiving plaster direct or dot and dab fixed plasterboard.

Fix Cavity Drainage Membrane to walls in accordance with manufacturer's instructions using correct fixings and joint tapes and detailing at the perimeter to receive timber battens or frame fixed to membrane fixings from floor to ceiling to form dry lining ready to receive plasterboard.

Prepare surfaces of soffits to enable the installation of a Cavity Drainage System.

Lay appropriate Cavity Drainage Floor Membrane over prepared floor or approved insulation in accordance with manufacturer's instructions using correct joint tapes and detailing at the perimeter to receive various floor finishes.

Identify the need for continuation of the waterproofing system in stepped and multi-level basements.

Ensure compatibility between products/systems.

Mark final positions of rodding and jetting access points for maintenance and service of the drainage channels.

How to calculate the amount of product(s) that will be required in relation to the work area/specification in accordance with the manufacturer's instructions.

How to fix Cavity Drainage Membrane to walls and vaulted surfaces in accordance with manufacturer's instructions using correct fixings and joint tapes.

How to fix Cavity Drainage Plaster Membrane to walls and vaulted surfaces in accordance with manufacturer's instructions using correct fixings, joint tapes and detailing at the perimeter in readiness to receiving plaster direct or dot and dab fixed plasterboard.

How to fix Cavity Drainage Membrane to walls and vaulted surfaces in accordance with manufacturer's instructions using correct fixings, joint tapes and detailing at the perimeter to receive timber battens or frame fixed to membrane fixings from floor to ceiling to form dry lining and ready to receive plasterboard.

How to identify and prepare surfaces of soffits to enable the installation of a Cavity Drainage System.

How to lay appropriate Cavity Drainage Floor Membrane over prepared floor or approved insulation in accordance with manufacturer's instructions using correct joint tapes and detailing at the perimeter in readiness to receive floor finishes.

How to identify the need for continuation of the waterproofing system in stepped and multi-level basements.

How to ensure compatibility between products/systems.

How to mark-up final positions for rodding and jetting access points for maintenance and service of the drainage channels.

	<p>Connect outlet pipes to sump and to approved drainage or suitable land drainage.</p> <p>Final Test system and drainage for leakage and efficiency.</p> <p>Understand service and maintenance schedules for system.</p> <p>Identify different waste materials, segregate as necessary, bag up and store safely for disposal.</p> <p>Dispose of contaminated or hazardous waste materials and product containers in line with employer procedures.</p> <p>Check whether sign off Construction Quality Assurance site inspection has been carried out.</p> <p>Check sign off in line with employer's procedures, i.e. clear site for last time; where feasible retain usable materials for re-use; safely load van; return to depot; unload tools and materials and record as appropriate; clean and store appropriately.</p>	<p>How to connect outlet pipes to sump and to suitable drainage outlet with approved connection</p> <p>Understand where pumped water should be discharged to (suitable drainage) e.g. not a soakaway.</p> <p>How to flood test system and drainage to ensure it runs freely to sump.</p> <p>Understand the need for appropriate ground land drainage.</p> <p>How to inspect channel, sump and pumps and clear site debris.</p> <p>How to flood test system and commission pumps.</p> <p>Be aware of the service and maintenance schedules for system</p> <p>Understand the importance of safe disposal of contaminated or hazardous waste materials and product containers.</p>
4.7	Install drains, sump and pumping ancillaries	
	<p>The basic principle of a Type C waterproofing system is that a cavity is formed between the ground retaining elements and the internal finishes. These cavities are used to direct water to collection channels that in turn deliver water to a point where it can be discharged. The process of water management is generally achieved using cavity drain membranes (CDM) and drainage channels or pipes directing to a sump and pump system to manage the disposal of the collected water. Pumped water should be discharged into suitable drainage, not a soakaway, which can manage large quantities of water and not susceptible to flood or re-entry into the building.</p>	
	Learners to demonstrate, list or state how to:	Learners need to know:
	Locate authorised person to induct you on to site and make introductions	How to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them.

Read method statements and risk assessments associated with planned work procedures regarding working within deep structures, using tools and machinery, creating dust and mixing/applying/using products that create hazards.

Consider the work schedule and risk assessment regarding the Working at Height Regulations 2005.

All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person

Select and use safely the correct access equipment for the task.

Identify storage areas for tools and resources

Identify and confirm site location and position vehicle with equipment and materials as near to location as allowed.

Unload vehicle and resources and return vehicle to permitted parking areas.

Select and wear correct and suitable PPE for the tasks.

Interpret plans and written instructions and identify wall(s) and floor(s) scheduled for waterproofing.

Deploy appropriate warning notices, signage and barriers.

Take appropriate measures to contain and control dust/fume and ventilate work area.

Comply with the Party Wall Act etc 1996.

How to amend and update Risk Assessments.

How to identify Hazard Warning signs

Action to take in the event of a spillage, accident or ingestion

Understand manufacturer/COSHH data sheets.

All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person

How to select and use safely the correct tools and equipment for the task.

How to identify storage areas for tools and resources

How to identify and confirm site location and safest, closest vehicle position with equipment and materials.

Understand how to unload vehicle and resources and return vehicle to permitted parking areas.

How to select and wear correct and suitable PPE for the task.

How to interpret plans and written instructions.

When and where to deploy appropriate warning notices, signage and barriers.

Pre-installation measures and precautions necessary prior to starting work.

How to screen off, protect areas to control dust.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

Identify a party wall and precautions to take before and when working on a party wall.

Overhead and underground services are identified, and locations marked around the work area.

Recognise wall and floor surfaces that are not suitable to receive waterproofing and require preparatory work prior to application.

Check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

Check all inbuilt structural timbers and frame timbers have been removed or isolated from walls to be waterproofed.

Identify and safely use Tools & Equipment as required:

- 110v equipment
- Generators and Lighting
- Preparation tools including electrical hammer chisel, breakers, scarifiers, scabblers and abrasive equipment
- Drilling tools
- Hand held power tools including cutters and grinders
- Power washing and pumping equipment
- Cement mixers
- Wheel barrow, shovel, spade, pick-axe and brushes
- Plaster mixers and plastering tools, trowels, floats etc
- Hand tools including hammers, mallets, wrecking bars
- Sharp edge tools including bolsters, chisels, knives, cutters, screwdrivers etc
- Cutting tools including saws, snips, cutters etc
- Measuring tools
- Etc

Clean off loose material, remove old plasters/render and other surface materials.

Safe use of a Club/Lump hammer, bolster and cold chisel.

Safe use of an electrical hammer chisel.

Ensure the overhead and underground services are identified and locations marked around the work area.

The reason why wall and floor preparation are necessary for the successful application of waterproofing, i.e. exposed reinforcement protection.

How to check all pipe and electrical services have been removed from wall and floor surfaces, or if retained, have been prepared with correct joints and or seals for the waterproofing application.

How to check all inbuilt structural timbers and frame timbers have been removed or isolated from walls.

How to select and safely use any equipment for preparatory work mentioned in the method statement.

Safe use of scarifying/scabbling equipment.
Safe use of power washing equipment.

Wall and floor preparation is necessary for the installation of drainage components e.g. exposed reinforcement protection.

Examine exposed masonry and assess suitability for receiving waterproofing and drainage components.

Carry out pre-installation checks on the condition and installation of the drainage channels & inspection ports, spine drains, sump and drainage connections.

Carry out flood test of the system to test wall and floor membrane, drainage to ensure test water runs freely to sump and carry out remedial works should they be required.

Recognise and mark final positions of rodding and jetting access points for maintenance and service of the drainage channels.

Install the pumps, alarm system and battery back-up systems in accordance with manufacturer's instructions.

Connect pump outlet pipes to suitable drainage with approved connection.

Carry out inspection of channel, sump and pumps for debris and remove before testing.

Final check of all pipe connections.

Check to ensure electrical installation has been carried out by appropriately qualified person.

Flood test system and commission pumps.

Check pipes, system and drainage for leakage and obstruction.

Check that the pumped water has discharged into suitable drainage.

Ensure all paperwork relating to the drainage system is handed over to the appropriate person e.g. service and maintenance schedules for system.

Identify different waste materials, segregate as necessary, bag up and store safely for disposal.

Dispose of contaminated or hazardous waste materials and product containers in line with employer procedures.

The reason why wall and floor preparation are necessary for the installation of drainage components e.g. exposed reinforcement protection.

How to examine exposed prepared masonry and floors and assess suitability for receiving waterproofing and drainage components.

How to carry out pre-installation checks on the condition and installation of the drainage channels & inspection ports, spine drains, sump and drainage connections.

How to flood test floor and drainage to ensure test water runs freely to sump and carry out remedial works should they be required.

How to mark-up final positions for rodding and jetting access points for maintenance and service of the drainage channels.

How to install pumps, alarm system and battery back-up systems in accordance with manufacturer's instructions.

How to connect pump outlet pipes into suitable drainage with approved connection.

How to inspect channel, sump and pumps for debris and remove before testing.

How to check all pipe connections.

Be aware that an appropriately qualified person needs to connect electrics to pumps, alarms and battery back-up.

How to flood test system and commission pumps

How to check pipes, system and drainage for leakage or obstructions.

How to check that the pumped water has discharged into suitable drainage.

Be aware of the service and maintenance schedules for system.

Understand the importance of safe disposal of contaminated or hazardous waste materials and product containers.

Check whether sign off Construction Quality Assurance site inspection has been carried out.

Check sign off in line with employer's procedures, i.e. clear site for last time; where feasible retain usable materials for re-use; safely load van; return to depot; unload tools and materials and record as appropriate; clean and store appropriately.

4.8 Prepare and install Gas Membranes (based on British Geomembrane Association Specialist Up-Skilling Programme)

The Installation of Gas Membranes to buildings is a highly skilled specialized activity and is becoming more of a requirement in the Construction Industry of today due to the release of greater amounts of Brownfield Land because of Government directives for the construction of a wide range of buildings including homes, industrial units, shops, sports centres etc.

Dangerous ground gases such as Radon, Methane and Carbon dioxide can infiltrate buildings and build up in areas of poor ventilation and create dangerous environments for inhabitants of the buildings which can be harmful to health. Methane is explosive, and an asphyxiating gas and carbon dioxide is asphyxiating.

Awareness of Gas Membranes – where hot works specified, these can only be applied with hot works permit, extremely unlikely to be used by new entrant.

Learner to demonstrate, list or state how to:

Locate authorised person to induct you on to site and make introductions

Read method statements and risk assessments associated with planned work procedures regarding working within deep structures, using tools and machinery, creating dust and mixing/applying/using products that create hazards.

Take appropriate measures to contain and control dust/fume and ventilate work area.

Learners need to know:

How to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them.

How to amend and update Risk Assessments.

How to identify Hazard Warning signs

Action to take in the event of a spillage, accident or ingestion

Understand manufacturer/COSHH data sheets.

Pre-installation measures and precautions necessary prior to starting work.

How to screen off, protect areas to control dust.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

Comply with the Party Wall Act etc 1996.

Make equipment which generate heat available for inspection and state which fire extinguishers are to be available on site.

Confirm if a hot works permit is needed and if so is in place.

Identify storage areas for tools and resources.

Identify and confirm plot location and drive vehicle with equipment and materials as near to location as allowed.

Unload vehicle and resources and return vehicle to permitted parking areas.

Prepare the surrounding site with appropriate signage and locate crates for cleaning footwear prior to stepping into areas where gas membranes will be installed.

Overhead and underground services are identified, and locations marked around the work area.

Check specification against the site conditions to confirm base material and associated venting requirements are correct.

Identify the penetration points associated with drains venting, water, gas, electric.

Installing venting media to include the following:

- Pipe and Gravel system
- Geo-composite
 - Polystyrene
 - Clean stone single size
- Block and Beam with Vented Void
- Clean air blanket
- Pressurized Passive Extraction

Place aggregate 150mm depth in base of trench. Lay venting pipe and connect T pieces surround pipe work and fill trench.

Check that T pieces are installed and at the correct centre, not near doorways, not obstructed by foundations.

Blind above venting material.

Check that all periscope vents are in place.

Identify a party wall and precautions to take before and when working on a party wall.

How to identify storage areas for tools and resources

How to identify and confirm plot location and drive vehicle with equipment and materials as near to location as allowed.

Understand how to unload vehicle and resources and return vehicle to permitted parking areas.

When and where to deploy appropriate warning notices, signage and barriers.

Ensure the overhead and underground services are identified and locations marked around the work area.

How to examine exposed prepared masonry and floors and assess suitability for receiving membrane materials.

Make visual checks that the correct blinding materials have been used and correctly laid with appropriate finish.

Visually check that there are no sharp objects on the areas where membrane is to be installed.

No areas of ponding.

Clean off mortar droppings on Block and Beam floors with scraper where necessary

Sign off Sub-base Acceptance Form to be completed and provided to main contractor, Grounds works contractor and Environmental Engineer validating the installation.

Select correct PPE:

- Hard hat
- Gloves
- Safety shoes

Select Tools and Equipment:

- Hot Air Gun
- Appropriate temperature settings where run up test

Allow for warm up period allowing for:

- Regular temp checks
- Start up
- After lunch, any breaks
- Climatic conditions
- Thickness of membrane
- New rolls
- Moisture

Identify Correct Membrane i.e. 1200 gauge, 1600 gauge Reinforced, 1600-gauge Foil Core Reinforced, 1mm HDPE, 1mm LDPE, 1mm PP, 1.5mm HDPE.

Make sample joint for quality assurance records highlighting method of jointing, materials and dates for retention by Main Contractor and Validation Inspector or Environmental Engineer and Installer.

Cut samples for Archiving:

- 200mm contractor
- 200mm Installer
- 200mm Validation company

How to select and safely use any equipment for work mentioned in the method statement.

Roll Out Membrane to applicable site dimensions and:

- Correct Manual Handling
- Check Direction of Membrane Measure
- Cut
- Final Placement
- Make the joints welded and taped
- Cut and form around penetrations
- Condition perimeter membrane and floor membrane to receive tape:
 - Install Tape Make Joint
 - Form Corners from full sheets, hospital corners,
 - Install Preformed Corners, (Self-adhesive)
 - Acoustic details
 - Robust details
 - Door openings
 - External corner first
 - Welded methods
 - Cut around Service Entries
 - Install Top Hat Pre-formed unit with gas tight
 - Seal to pipework.
 - Seal using SAGM to columns/pipes
 - Clear site, dispose of cut of membrane in appropriate skips.

Physically inspect surface of membrane and identify areas of damage:

Pin holes Cuts Tears

Patch repair damage

Clean, condition, Radius and patch the area damaged

Patch with appropriate size patches i.e.

100mm 150mm laps

Cut out and radius prior to patching.

Identify different waste materials, segregate as necessary, bag up and store safely for disposal.

Collect, contain and dispose of waste correctly at appropriate waste disposal facility

Check whether sign off Construction Quality Assurance site inspection has been carried out.

Understand the importance of safe disposal of contaminated or hazardous waste materials and product containers.

	<p>Check sign off in line with employer's procedures, i.e. clear site for last time; where feasible retain usable materials for re-use; safely load van; return to depot; unload tools and materials and record as appropriate; clean and store appropriately.</p>	
	<p>Validation and Inspection</p> <p>Learner to demonstrate, list or state how to:</p> <p>Provide information that Install is ready to be validated.</p> <p>Provide the samples of welds carried out at the beginning of the contract.</p> <p>Work with Validation Inspector and carry out patch repairs and provide information on installation process as requested.</p> <p>Carry out patch repairs as and when identified</p> <p>Ensure Validator inspects patch repairs</p> <p>Take receipt of Validation test certificate/ report on successful inspection.</p> <p>Installer gets copy</p> <p>Installer forwards to main contractor</p> <p>Contractor to main client filed in "Operation and Maintenance" file.</p>	<p>Understand:</p> <p>Who the appropriate person is to carry out a Validation test.</p> <p>That a Validation test must be independent of the company installing the membrane.</p> <p>The Validation and Testing procedures; how and why they are carried out covering the following:</p> <ul style="list-style-type: none"> • Subgrade acceptance • Venting media • Inlets & outlets in correct position • Point stress test (pick test) • Air lance • Pressure test • Tracer gas test • Dielectric testing • Smoke testing <p>Making good prior to Validation Inspection.</p> <p>After inspection cover tape installation.</p> <p>Sign off as per company procedures.</p> <p>That a validation inspection can occur at any time.</p> <p>That experience and reputation can lead to a reduced number of validations being requested.</p> <p>Who must be provided with a Validation Certificate.</p> <p>Failure of one plot may lead to other plots requiring inspection.</p>
4.9	Prepare for and apply concrete (Type B Waterproofing Systems).	

Type B (structurally integral) protection as defined by BS8102:2009 (Code of practice for protection of below ground structures against water from the ground) where the structure itself is constructed as an integral water-resistant shell. Invariably built of reinforced concrete, the basement structure must be designed within certain strict parameters to ensure it is water resistant.

When considering and or specifying a Type B integral system, this should only be carried out where there is knowledge and understanding of waterproofing in relation to BS 8102: (2009) and in the case of concrete structures an understanding and competence in concrete construction. The water tightness of the Type B construction is reliant upon the design and construction of the basement as an integral shell, using a concrete of low permeability, and appropriate joint detailing.

Defects can be minimised by correct specification and design and by careful construction.

Concrete structures are constructed using metal structural formwork, Rebar - steel rods formed into metal frames of various thicknesses, designed to reinforce the concrete. Type B Waterproofing structures are generally formed of poured concrete reinforced floors and walls, although other concrete/metal structures such as steel piles, underpinning etc are used to construct the walls.

Learners to demonstrate, list or state how to:

Locate authorised person to induct you on to site and make introductions

Read method statements and risk assessments associated with planned work procedures regarding working within deep structures, using tools and machinery, creating dust and mixing/applying/using products that create hazards.

Consider the work schedule and risk assessment regarding the Working at Height Regulations 2005.

All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person

Select and use safely the correct access equipment for the task.

Identify storage areas for tools and resources

Identify and confirm site location and position vehicle with equipment and materials as near to location as allowed.

Unload vehicle and resources and return vehicle to permitted parking areas.

Learners need to know

How to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them.

How to amend and update Risk Assessments.

How to identify Hazard Warning signs

Action to take in the event of a spillage, accident or ingestion

Understand manufacturer/COSHH data sheets.

All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person

Understand how to select and use safely the correct tools and equipment for the task

How to identify storage areas for tools and resources

How to identify and confirm site location and safest, closest vehicle position with equipment and materials.

Understand how to unload vehicle and resources and return vehicle to permitted parking areas.

Select and wear correct and suitable PPE for the tasks.

Interpret plans and written instructions and identify wall(s) and floor(s) scheduled for waterproofing.

Deploy appropriate warning notices, signage and barriers.

Take appropriate measures to contain and control dust/fume and ventilate work area.

Comply with the Party Wall Act etc 1996.

The roles of the structural engineer, architect and waterproofing designer responsible for the design and function of the reinforced concrete slab, walls, piled walls, underpinning and waterproofing detail.

Be aware of plans and written instructions relating to site investigation, water table, ground conditions, ground drainage, soil type and conditions, site de-watering and ground gases.

The role of ground works for site excavation relating to foundations and formation of reinforced floor slab.

The role of ground works in formation of sheet piled wall construction forming sheet piled walls/ steel retaining walls.

The role of underpinning specialists in excavation and formation of underpinned walls.

The function and construction of a reinforced concrete floor slab including the importance of a 'kicker' joint for wall formation.

The basic function and construction of a reinforced concrete wall.

The function and construction of structural metal formwork and shuttering works for formation of reinforced concrete slab and wall formation.

How to select and wear correct and suitable PPE for the task.

How to interpret plans and written instructions.

How to identify Hazard Warning signs

When and where to deploy appropriate warning notices, signage and barriers.

How to screen off, protect areas to control dust.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

Identify a party wall and precautions to take before and when working on a party wall.

How to interpret plans and written instructions from the structural engineer, architect and waterproofing designer for the design and function of the reinforced concrete slab, walls, piled walls, underpinning and waterproofing detail.

Understand the role of ground works for site excavation creating foundations and formation of reinforced floor slab.

Understand the role of ground works involving sheet piled wall construction forming sheet piled walls/ steel retaining walls.

Understand the role of underpinning specialists in excavation and formation of underpinned walls.

Understand how a reinforced concrete floor slab including the importance of a 'kicker' joint for wall formation is constructed.

Understand how a reinforced concrete wall is constructed.

Understand how structural metal formwork and shuttering works for formation of reinforced concrete slab and wall formation is constructed.

Materials and product(s) that will be required to construct formwork and shuttering in relation to the work specification.

The function and construction of approved ground drainage for structural waterproofing and the role of external land drainage.

The function and construction of rodding and jetting access points to maintain and service external land drainage.

Ensure the overhead and underground services are identified and locations marked around the work area before commencement.

Check site conditions are conducive to concrete placement.

Identify the penetration points associated with drains, venting, water, gas, electric

What Tools & Equipment are required:

- 110v equipment
- Generators and Lighting
- Preparation tools including electrical hammer chisel, breakers, scarifiers, scabblers and abrasive equipment
- Drilling tools
- Hand held power tools including cutters and grinders,
- Cement mixers
- Wheel barrow, shovel, spade, pick-axe and brushes
- Hand tools including hammers, mallets, wrecking bars
- Sharp edge tools including bolsters, chisels, knives, wire cutters, screwdrivers etc
- Cutting tools including saws, snips, cutters, grinders etc,
- Measuring tools
- Concrete compaction and placement equipment

Understand how to work out the amount of materials and product(s) that will be required to construct formwork and shuttering in relation to the work specification.

Understand how to excavate and construct appropriate and effective ground drainage.

Understand how to install and form effective rodding and jetting access points to maintain and service external land drainage.

Understand how to check that overhead and underground services are identified, and locations marked around the work area before commencement.

Understand how to check site conditions are conducive for concrete placement.

Understand how to identify and mark up penetration points associated with drains, venting, water, gas, electric.

How to select and safely use any equipment for preparatory work mentioned in the method statement.

CONCRETE

Concrete is pre-mixed and ordered to a quality-controlled specification and either delivered to site in pre-mix specialised vehicles or mixed on site using a site mixing plant. The pre-mixed concrete is either gravity dropped into formwork/shuttering or using booms that pump the concrete up from the vehicle container and deposit it into the formwork. Foundations and the reinforced floor of the concrete building are poured first. Service and Utility pipes are pre-installed before the concrete is poured. Once the floor and foundation have cured, the walls and pillars can be poured. Rebar from the floor is tied to the rebar set in the wall forms.

The most common defects are: permeable concrete; honeycombing through lack of compaction; contamination of or cold joints; cracks due to thermal contraction and shrinkage; poor and inadequate placement of waterbars, hydrophilic strips and joints.

Learners to demonstrate, list or state how to:

An understanding of reinforced concrete.

Understand construction of structures using correctly specified concrete and concrete admixtures.

Understand Insulated Concrete Formwork (ICF) Construction for Basements.

Calculate the amount of concrete that will be required in relation to the work area/specification.

Make visual checks that all shuttering and formwork have been correctly erected for loading and pouring of concrete.

Check site conditions are conducive to concrete placement.

Identify the penetration points associated with drains, venting, water, gas, electric and their correct preparation.

Visually check that there are no sharp objects on the areas where membranes are to be used.

Concrete - type, cement, sand, aggregates and water ratios together with additives to create 'Watertight concrete' in accordance with BS EN 8500: 2012.

Understand the principle of receiving and assessing correct concrete mix type at point of delivery, accepting or rejecting batches delivered to site.

Understand how to oversee unloading and optimum pour sizes of concrete mixes.

Learners need to know:

What is reinforced concrete.

How to construct structures using reinforce concrete including Insulated Concrete Formwork (ICF).

How to calculate the amount of concrete that will be required in relation to the work area/specification.

How to check that all shuttering and formwork have been installed correctly prior to loading and pouring concrete.

Understand how site conditions can affect concrete placement e.g. temperature.

Check for any penetration points associated with drains, venting, water, gas, electric and have been correctly prepared.

How to check for sharp objects to areas where membrane is to be installed.

Understand concrete - type, cement, sand, aggregates and water ratios together with additives to create 'Watertight concrete' in accordance with BS EN 8500: 2012.

How to receive and check correct concrete mix type at point of delivery, accepting or rejecting batches delivered to site.

How to oversee the unloading and optimum pour sizes of concrete mixes.

	<p>Understand how to download and cast concrete correctly into pre-formed structures; levelling and compacting correctly.</p> <p>Construction joints, day joints, expansion joint, movement joints and typical installation joints.</p> <p>Understand how to waterproof construction joints, e.g. hydrophilic strips, water bars, metal strips, etc.</p> <p>Understand how to strike, dismantle shuttering and support formwork from cured concrete correctly.</p> <p>Understand the causes and remediation of defects – cracks, honeycombing, cracking and lack of compaction and remedial options available.</p> <p>Assessment of suitability of all wall and floor surfaces to receive a waterproofing membrane.</p> <p>Identify different waste materials, segregate as necessary, bag up and store safely for disposal.</p> <p>Collect, contain and dispose of waste correctly at appropriate waste disposal facility.</p> <p>Check whether sign off Construction Quality Assurance site inspection has been carried out.</p> <p>Check sign off in line with employer's procedures, i.e. clear site for last time; where feasible retain usable materials for re-use; safely load van; return to depot; unload tools and materials and record as appropriate; clean and store appropriately.</p>	<p>How to download and cast concrete correctly into pre-formed structures, levelling and compacting correctly.</p> <p>Understand the importance of construction joints, day joints, expansion joint, movement joints and typical installation joints.</p> <p>How to waterproof construction joints, e.g. hydrophilic strips, water bars, metal strips, etc.</p> <p>How to strike, dismantle shuttering and support formwork from cured concrete correctly.</p> <p>What are the causes of defects – cracks, honeycombing, cracking and lack of compaction and the remediation options available.</p> <p>How to assess all wall and floor surfaces have been prepared correctly to receive a waterproofing membrane.</p> <p>Understand the importance of safe disposal of contaminated or hazardous waste materials and product containers.</p>
<p>4.10</p>	<p>Dismantling and removing temporary work area protection and safety equipment</p> <p>Learners to demonstrate, list or state how to:</p> <p>Locate authorised person to induct you on to site and make introductions</p>	<p>Learners need to know</p> <p>How to apply safe work practices, follow procedures, report problems and establish the authority needed to rectify them.</p>

Read method statements and risk assessments associated with planned work procedures regarding working within deep structures, using tools and machinery, creating dust and dismantling materials that create hazards.

Select and wear correct and suitable PPE for the tasks.

Take appropriate measures to contain and control dust/fume and ventilate work area.

Consider the work schedule and risk assessment regarding the Working at Height Regulations 2005.

All scaffold systems including mobile scaffold towers only to be dismantled by PASMA certified person

Identify and confirm site location and position vehicles near to location as allowed.

Dismantle basic access equipment.

Dismantle safely site equipment.

Load vehicle and resources correctly.

Safely dismantle and remove from site warning notices, signage and barriers.

How to amend and update Risk Assessments.

How to identify Hazard Warning signs

Action to take in the event of a spillage, accident or ingestion

Understand manufacturer/COSHH data sheets.

How to select and wear correct and suitable PPE for the task.

When and where to deploy appropriate warning notices, signage and barriers.

How to screen off, protect areas to control dust.

How to use mechanical extraction equipment for dust and fumes or passive equipment to ventilate work areas.

All scaffold systems including mobile scaffold towers only to be erected, adjusted or dismantled by PASMA certified person

How to identify and confirm site location and safest, closest vehicle position for dismantling site equipment and materials

Understand how to dismantle safely site access equipment

Understand how to dismantle safely site tools and equipment

Understand how to load vehicle and resources correctly.

How to Safely dismantle and remove from site Hazard Warning signs.

How to Safely dismantle and remove from site warning notices, signage and barriers.

How to Safely dismantle and remove from site any mechanical extraction equipment.

How to Safely dismantle and remove from site tools and equipment for the task.

	<p>Identify different waste materials, segregate as necessary, bag up and store safely for disposal.</p> <p>Collect, contain and dispose of waste correctly at appropriate waste disposal facility.</p> <p>Check whether sign off Construction Quality Assurance site inspection has been carried out.</p> <p>Check sign off in line with employer's procedures, i.e. clear site for last time; where feasible retain usable materials for re-use; safely load van; return to depot; unload tools and materials and record as appropriate; clean and store appropriately.</p>	<p>Understand the importance of safe disposal of contaminated or hazardous waste materials and product containers.</p>
	<p>Disposal of Waste</p> <p>Adopt safe manual handling techniques, by practical application of lifting, pushing and carrying of waste loads.</p> <p>As required secure waste materials in a safe location on site whilst awaiting permanent disposal.</p> <p>Segregate as necessary different waste types including hazardous /special waste.</p> <p>Dispose of waste correctly and know when to use designated waste disposal sites.</p>	<p>Disposal of Waste</p> <p>Learners need to know how to:</p> <p>Correct handling techniques including task assessment, where mechanical aids are available to assist with waste movement.</p> <p>Store waste material on site in a safe manner least likely to cause a hazard, injury or obstruction to others.</p> <p>What constitutes hazardous/special waste and specific requirements for its disposal</p> <p>How to Identify different waste materials, segregate as necessary, bag up, store safely and dispose of waste correctly at appropriate waste disposal facility</p> <p>How to dispose of contaminated or hazardous waste materials and product containers.</p>
<p>FINAL TESTING AND SIGN OFF</p>		
<p>The practicable and knowledge will be assessed through various disciplines including: Observation, Professional Discussion, Photographic and other methods, all subject to an agreed Assessment Plan with the learner</p>		
	<p>Each learner is to provide performance evidence in Structural Waterproofing VQ Level 2 in:</p> <p>Health & Safety on site.</p> <p>Handling & Storage on site.</p> <p>Documentation & Communication on site.</p> <p>Site preparation.</p> <p>Prepare surfaces for Waterproofing</p> <p>Material application/installation.</p>	<p>Job Knowledge:</p> <p>Qualification Credit Framework Assessment in following Units:</p> <p>VR 641</p> <p>VR 642</p> <p>VR 643</p> <p>VR 491</p> <p>VR 492</p>

Application equipment preparation Carry out structural waterproofing	Options (one of following) VR 360 VR 400 VR 401 VR 657 Professional discussion Witness Testimony
<p>Final Sign Off</p> <p>The penultimate visit, usually visit 3 during months 14 – 15 – ((see 4) Assessment) will include a check of the N/SVQ requirements and the drawing up of an action plan for the completion of the new entrant’s individual N/SVQ Portfolio and final sign off the N/SVQ.</p>	

Section 9.0 Glossary of Terms

CITB	Construction Industry Training Board
COSHH	Control of Substances Harmful to Health
CSCS	Construction Skills Certification Scheme
CSSW	Certificated Surveyor in Structural Waterproofing
DPC	Damp Proof Course

HSWA	Health and Safety at Work Act
MEWPs	Mobile Elevated Work Platforms
MSDS	Material Safety Data Sheet
NOS	National Occupational Standards
N/SVQ	National and Scottish Vocational Qualification
PASMA	Prefabricated Access Suppliers' & Manufacturers' Association
PAT	Portable Appliance Testing
PCA	Property Care Association
PPE	Personal Protective Equipment
QCF	Qualification Credit Framework

Section 10.0 Key Parties

Training Provider:

Property Care Association
 11 Ramsay Court
 Kingfisher Way
 Hinchingsbrooke Business Park
 Huntingdon
 Cambs
 PE29 6FY

T: 0844 375 4301

E: pca@property-care.org

W: www.property-care.org