COSVR556

Produce and repair plaster and render finishes on conservation or restoration projects

Overview

This standard is about producing and repairing plaster and render finishes on conservation or restoration projects or earthen structures, interpreting information, adopting safe, healthy and environmentally responsible work practices, selecting and using materials, components, tools and equipment, in accordance with organisational requirements which are equal to or exceed current statutory and legislative requirements This standard is for people working in the occupational area of heritage skills and can be used by operatives, supervisors and managers

Performance criteria

You must be able to:

Interpretation of information

P1 interpret the information relating to the work and resources as relevant to geographical location and climatic conditions to confirm its relevance for the following:

- drawings
- specifications
- schedules
- method statements
- risk assessments
- manufacturers' and suppliers' information
- oral, written or electronic instructions
- current regulations, legislation, official guidance and permits

Safe work practices

P2 comply with the relevant, current legislation and official guidance to carry out the work and maintain safe and healthy work practices relating to the following:

- methods of work
- safe use of appropriate personal protective equipment (PPE)
- safe use of access or lifting equipment
- safe use, storage and handling of materials, tools and equipment
- safe use of health and safety control equipment
- specific risks to occupational health and safety including mental health awareness
- specific risks associated with hazardous or asbestos containing materials

Selection of resources

P3 select the required quantity and quality of resources for the methods of work for:

- materials and components
- tools and equipment

Minimise the risk of damage

P4 comply with organisational procedures to minimise the risk of damage to the work and surrounding area by:

- taking relevant steps to protect the work and its surrounding area from accidental or unintended damage
- working with an awareness of the environment in liaison with other occupations
- maintaining a safe, clear and tidy work area
- disposing of waste in accordance with current legislation

Meet the contract specification

P5 comply with the contract information to produce and repair plaster and render finishes efficiently to the required specification by:

• demonstrating work skills to:

- measure
- mark out
- set out flat surfaces
- plumb and level screeds
- remove
- apply
- spread
- rule off
- finish
- position of angles and junctions with other finishes
- secure

• using and maintaining hand and power tools, mixing machinery and associated equipment

• producing a running mould including taking impressions (a squeeze) from an existing moulding

• on-site casting from a squeeze to match existing

• preparing backing coats prior to receiving further coats of plaster or render, to include:

- dubbing out
- scratch
- pricking up
- floating coat
- finishing coat

• producing internal plaster and external render finishes to work instructions relating to the following:

- removal of defective plaster and render
- removal of defective laths or reed
- preparation of background surfaces:

o lath or reed

o solid

- one, two and three coat work
- vertical, inclined, curved and ceiling surfaces
- setting out and forming internal and external angles to match existing:

o solid corner
o timber staff bead
o plaster staff bead
- replication of existing finishes
- moulded sections
• repairing plaster or render surfaces to working instructions for four of the following:
- vertical
- ceiling
- inclined
- run in-situ moulded
- moulded with cast enrichment
- curved:
o dome
o barrel
o vault
o lunette
- in-situ hand modelled
- floors
• repairing or replacing and finishing to match existing gypsum and lime-based plaster or lime-based render surfaces using trowel finish for two of the following:
- float finish
- sponge finish
- ashlar
- harled
- pargetted

Allocated time

P6 complete the work within the estimated, allocated time, taking account of climatic conditions, in accordance with organisational procedures, the programme of work and to meet the needs of other occupations and/or client

Knowledge and understanding

You need to know and understand:

P1 Interpretation of information
K1 why organisational procedures have been developed and how they are implemented
K2 types of information, their source and how they are interpreted in relation to:
• drawings
• specifications
• schedules
• method statements
• risk assessments
• manufacturers' and suppliers' information
• contractual information
• current legislation, regulations, official guidance and permits including but not limited to listed buildings and scheduled monuments
• conservation reports and plans
• oral, written or electronic instructions
K3 the importance of organisational procedures to solve problems with the information, and why it is important to follow them
K4 information for relevant, current legislation, official guidance and site-specific requirements and how it is applied
P2 Safe work practices
K5 how emergencies should be responded to in accordance with organisational authorisation and personal skills in relation to:
• fires and the types of fire extinguishers and how and when they are used in relation to water, CO2, foam and powder
• spillages and injuries
• emergencies relating to occupational activities
• identification of and reporting of hazardous substances including but not limited to asbestos containing materials and lead carbonate
K6 the organisational and site-specific security procedures for tools, plant and equipment in relation to:
• site
• workplace
• vehicles

• company
• operatives
• clients
• the general public

K7 how to report risks and hazards identified by the following:

• methods of work
• risk assessments
• personal assessment
• manufacturers' technical information
• statutory regulations
• official guidance
• Control of Substances Hazardous to Health (COSHH)

K8 the accident reporting procedures and who is responsible for making the report

K9 why, when and how health and safety control equipment identified by the principles of prevention should be used in relation to:

• collective protective measures
• personal protective equipment (PPE)
• respiratory protective equipment (RPE)
• local exhaust ventilation (LEV)

K10 how to comply with environmentally responsible work practices to meet current legislation and official guidance when dealing with potential accidents, health hazards and the environment whilst working in the workplace in relation to:

• below ground level
• confined spaces
• working at height
• tools, plant and equipment
• materials and substances
• moving and storing materials by manual handling and mechanical lifting

P3 Selection of resources

K11 why the characteristics, quality, uses, sustainability, suitability, limitations and defects associated with the resources are important and how defects should be reported

K12 why sustainable and ethical work practices and materials should be adopted

K13 the organisational procedures to select resources, why they have been developed and how they are used K14 how to confirm the resources and materials conform with the specification

K15 how the resources should be used and how any problems associated with the resources are reported in relation to:
• lath and reed work
• gypsum plasters
• earth plasters
• earth renders
• clays
• pozzolans
• aggregates
• natural and man-made fibres
• natural cements
• limes:
- non hydraulic:
o lime putty
o quick lime
- hydraulic
• beads:
- timber
- stainless steel
• additives
• bonding agents
• materials to be used for squeezes
• fittings and fixings
• hand and power tools, plant, mixing machinery and associated equipment
• digital equipment
K16 how to identify and report the hazards associated with the resources and methods of work and how they are managed with reference to method statements and risk assessments
K17 methods of calculating the quantity, length, area and wastage associated with the method and procedure to produce and repair plaster and render finishes on conservation or restoration projects
P4 Minimise the risk of damage
K18 how to protect work and its surrounding area from damage and the purpose of protection from general workplace activities, other operations and adverse weather conditions and how to minimise damage
K19 how to, and the importance of, carrying out the safe disposal of waste in

accordance with the following:
• environmental responsibilities
• organisational procedures
• manufacturers' information
• suppliers' information
• statutory regulations
• official guidance
K20 why it is important to maintain a safe, clear and tidy work area
P5 Meet the contract specification
K21 how the methods of work to meet the specification are carried out, and how problems are identified and reported, by the application of knowledge for safe, healthy and environmental work practices, procedures and skills, relating to:
• the difference between flat and plumb with regards to preparing and repairing solid plaster and rendered surfaces
• where and when to use flat and plumb with regards to preparing and repairing solid plaster and rendered surfaces
• how to stabilise and prepare background surfaces appropriate to plaster and render finish to include:
- lath and reed
- solid
- control of suction with water
- existing plastered and rendered surfaces
- raking out of joints if appropriate
• how and when to use heavy and lightweight, lime and gypsum plasters
• how to prepare backing coats prior to receiving further coats of plasters and renders, to include:
- dubbing out
- scratch
- pricking up
- floating coat
- finishing coat
• how to apply and finish internal plaster (one, two and three coat), and external render work to:
- vertical
- inclined
- curved

- ceiling surfaces
• why it is important to allow time for initial carbonation and drying between coats for internal plaster and external render
• why it is important to have a void behind the laths to assist with carbonation
• why it is important that external render receives protection and aftercare from the elements
• the optimum temperatures and conditions for the application of plaster and render, internally and externally
• how to set out and form internal and external angles to match existing:
- solid corner
- timber staff bead
- plaster staff bead
• how to carry out curved work, including but not limited to:
- dome
- barrel
- vault
- lunette
- arched openings
• how to repair or replace and finish to match existing lime-based plaster or render surfaces using trowel finish for two of the following:
- float finish
- sponge finish
- ashlar
- harled
- pargetted
• why it is important to replicate existing finishes on a like for like basis including:
- run in-situ moulded
- moulded with cast enrichment
- curved:
o dome
o barrel
o vault
o lunette
- in-situ hand modelled
- floors
• how to replicate existing finishes on a like for like basis including:

- run in-situ moulded
- moulded with cast enrichment
- curved:
o dome
o barrel
o vault
o lunette
- in-situ hand modelled
- floors
• what the different methods are for taking impressions of existing mouldings prior to the production of moulds and enrichments
• what are the advantages and disadvantages of taking impressions from existing heritage plasterwork when using the following:
- templating
- plaster squeeze
- silicone squeeze (thixotropic)
- clay
- plaster loose piece
- 3D scanning
• on-site casting to include:
- material choice
- reinforcement
- fixing points
• how to identify where and when to use timber or stainless-steel beads
• how to prepare:
- clay
- earth plasters
- earth renders
- coarse stuff
- lime putty
- plaster
- natural cements
- pozzolans
- aggregates
• why it is important to protect unmixed and mixed materials prior to application
• how to protect unmixed and mixed materials prior to application

• how to develop moulding profiles
• how to repair lime-based floors using:
- lath
- lime
- gypsum
- ash
• why it is important to validate appropriate ways in which the work should be carried out
• why it is important to recognise sensitive areas
• why it is important to maintain heritage and archaeological integrity
• why it is necessary to maintain the principles of minimum intervention and reversible alterations
• why it is necessary to record work carried out (written and digital formats)
• why it is important to recognise and report endangered and protected flora and fauna (masonry bees)
• why it is necessary to remove deteriorated and inappropriate materials
• why it is important to maintain existing structure
• why it is necessary to integrate existing and new constructional components
• how to store salvageable fabric, materials and structural components
• why it is important to recognise and determine when specialist skills and knowledge are required and report accordingly
• the relevance of an assessment of significance
• why it is important to determine specific requirements for:
- structures of special interest
- traditional build (pre-1919)
- historical significance
• how to recognise specific requirements for:
- structures of special interest
- traditional construction
- hard-to-treat buildings
- historical significance
• how to use all hand and power tools, mixing and associated equipment
• how and why operative care and maintenance of all hand and power tools and mixing and associated equipment is carried out
• how to work at height using access equipment
• how to work with, around and in close proximity to plant and machinery

K22 the organisational procedures with respect to site behaviours, and recognise and action fairness, inclusion and respect within the working environment, and how to address and report inappropriate site behaviours K23 the importance of methods of work, interpersonal relations and communication and the needs of other occupations associated with producing and repairing plaster and render finishes on conservation or restoration projects

P6 Allocated time
K24 the programme of work to be carried out including the estimated and allocated time, and why deadlines should be kept or reported if likely to be missed
K25 the types of progress charts, timetables and estimated times and the organisational procedures for reporting circumstances which will affect the work programme

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