



Australian Government

# **CPCSPS4006 Apply sprayed concrete to shape and finish swimming pools and spas**

Release: 2

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## Modification History

- |           |                                                                                                                                             |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Release 2 | This version first released with CPC Construction, Plumbing and Services Training Package Release 5.1.<br>Correction to Knowledge Evidence. |
| Release 1 | This version first released with CPC Construction, Plumbing and Services Training Package Release 5.0.<br>New unit.                         |

## Application

This unit specifies the skills and knowledge required to apply the process of spraying concrete to variously shaped in-ground swimming pool and spa shells using high pressure equipment. It includes knowledge of structural principles and properties and the performance of concrete.

This unit reflects the role of those who are responsible for the process of applying, shaping and finishing pool and spa shells. It applies in a range of contexts:

- private swimming pools
- public swimming pools, including:
  - hydrotherapy and therapeutic exercise pools
  - wading and receiving pools associated with water slides
  - wave pools.

This unit is suitable for those using specialised knowledge to complete routine and non-routine tasks, and their own judgement to deal with predictable and sometimes unpredictable problems.

No licensing or certification requirements apply to this unit at the time of publication.

## Pre-requisite Unit

Nil.

## Unit Sector

Swimming Pool and Spa Building

## Elements and Performance Criteria

Elements describe the essential outcomes.

Performance criteria describe what needs to be done to demonstrate achievement of the element.

- |                                                            |                                                                                                                                                                   |
|------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 Plan to spray concrete for swimming pool and spa shells. | 1.1 Access, read and interpret relevant concrete swimming pools and spas information from plans, specifications, codes and standards.                             |
|                                                            | 1.2 Interpret and apply work health and safety and environmental requirements relating to concrete spraying of swimming pool and spa shells.                      |
|                                                            | 1.3 Identify shape and finish of sprayed concrete and confirm with relevant person.                                                                               |
|                                                            | 1.4 Determine concrete properties from specifications and calculate quantity.                                                                                     |
|                                                            | 1.5 Determine job priorities and sequence job tasks in consultation with others on site.                                                                          |
|                                                            | 1.6 Schedule delivery of concrete and required plant and equipment in consultation with equipment operators.                                                      |
| 2 Determine compliance with structural principles.         | 2.1 Establish swimming pool and spa reinforcing design meets the structural principle requirements for the shape, size and capacity of the swimming pool and spa. |
|                                                            | 2.2 Inspect reinforcement and components and check they are fixed as specified in structural plans and comply with standards and codes.                           |
| 3 Prepare for concreting work.                             | 3.1 Test delivered concrete for swimming pool and spa shell meets the stated specifications, standards and codes.                                                 |
|                                                            | 3.2 Conduct a pre-operation check on plant and equipment.                                                                                                         |
|                                                            | 3.3 Check luminaires bonding, other cabling services, filtration and recirculation plumbing are correctly installed.                                              |
|                                                            | 3.4 Confirm accuracy, stability and strength of formwork as required.                                                                                             |
|                                                            | 3.5 Mask and protect ancillary installations from concrete                                                                                                        |

overspray.

- |                                                         |     |                                                                                                                    |
|---------------------------------------------------------|-----|--------------------------------------------------------------------------------------------------------------------|
| 4 Supervise spray and finish process to concrete shell. | 4.1 | Select, fit and use personal protective equipment appropriate for activity.                                        |
|                                                         | 4.2 | Establish starting point for application of concrete.                                                              |
|                                                         | 4.3 | Direct the application of concrete to specified thickness and reinforcement coverage.                              |
|                                                         | 4.4 | Control the spraying and shaping of pool shell contours, stairs and landing.                                       |
|                                                         | 4.5 | Observe and direct the even finish of walls, base, coving and stairs to specified dimensions and falls.            |
|                                                         | 4.6 | Check cleanliness and operation of recirculation system.                                                           |
| 5 Clean up site.                                        | 5.1 | Clear the work area and reuse, recycle or dispose of materials following workplace and environmental requirements. |
|                                                         | 5.2 | Clean tools and equipment, check for serviceability, report any damage or faults and store and secure.             |

## Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

## Unit Mapping Information

No equivalent unit.

## Links

Companion volumes to this training package are available at the VETNet website - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>

# Assessment Requirements for CPCSPS4006 Apply sprayed concrete to shape and finish swimming pools and spas

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## Performance Evidence

To demonstrate competency, a candidate must meet the performance criteria of this unit by applying the operations of spraying and finishing for one of the following:

- one swimming pool
- one spa.

In doing this, the candidate must:

- evaluate the properties and performance of concrete and impacts on concrete integrity, and analyse the ability of concrete shell to withstand imposed forces and pressures
- ensure consistent concrete thickness and coverage on steel reinforcing as specified
- direct the shaping of concrete pool shell and finishing to obtain an even and defect-free surface in preparation for interior finish
- apply specified concrete curing methods.

## Knowledge Evidence

To be competent in this unit, a candidate must demonstrate knowledge of:

- regulations, standards and codes relevant to concrete swimming pools and spas
- relevant sections of the National Construction Code (NCC)
- features of swimming pool and spa project plans and specifications
- pool fencing requirements
- properties, applications and limitations of swimming pool and spa materials, products and components
- workplace quality assurance systems
- processes, procedures and techniques for:
  - building swimming pools and spas
  - calculating concrete quantities

- using digital devices to track, monitor and control concrete delivery
- applying 'shotcrete'
- applying internal finishes to concrete swimming pools and spas
- type, nature and performance of concrete:
  - properties and uses of cement
  - principles of reinforced concrete using steel, wire, fibres
  - effects of impurities in concrete
  - detrimental effects on concrete of poor or no curing
  - types of curing methods:
    - accelerated curing
    - continuously wetting concrete
    - impermeable membrane curing
- records include details of:
  - causes of surface defects during concrete placement
  - compaction of concrete
  - finishing processes and surface treatments for swimming pool and spa shell
- operational and functional features of tools and equipment
- relevant sections of work health and safety regulations
- workplace procedures and workplace safety:
  - hierarchy of control
  - hazardous manual tasks
  - hazardous chemicals
  - falls from heights
  - temporary safety barriers and fences around pools
  - competency requirements for operating pumping equipment
- workplace and environmental requirements relating to waste disposal and clean-up.

## Assessment Conditions

Assessors must meet the requirements for assessors contained in the Standards for Registered Training Organisations.

Assessment must be conducted in the workplace or in a simulated workplace environment.

Candidates must have access to:

- regulations, standards and codes relevant to concrete swimming pools and spas
- relevant sections of the NCC
- project plans, specifications and manufacturer instructions
- workplace safety and environmental requirements
- a swimming pool and spa construction site.

## Links

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<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad>