

ACCREDITATION REQUIREMENTS – CLASSES 40-46

APPLICATION OF WATERPROOFING COATINGS TO DOMESTIC, RESIDENTIAL AND COMMERCIAL BUILDINGS

Editorial Note: This is an initial document.

1. SCOPE

- a) This document establishes the accreditation requirements for contractors involved in the Protective Coatings Category, Class 40 Application of waterproofing coatings. This Class covers the surface preparation and installation of a waterproof barrier or a physical barrier to walls and floors to prevent moisture penetration through the structure by the Applicant Contractor.
- b) It needs to be noted that PCCP is a trademark registered with IP Australia and is owned by CSIRO and is protected by applicable laws. Unauthorised use is prohibited.

2. INTRODUCTION & BACKGROUND

- a) For details of the PCCP scheme, its history, management, and operation, refer to PCCP Documents D001 to D004.
- b) For details on the various protective coating accreditation Categories, Classes, and Sub-classes, refer to PCCP Document D007.
- c) According to the insurance industry, waterproofing failure is one of the most expensive claims. It is also a major cause of residential building disputes due to failed or poorly installed water membranes to shower recesses, balconies, rooftops, and other wet areas.
- d) Waterproofing – domestic or commercial - is the biggest construction defect today and is the cause for millions of dollars in rectification works annually. The most reported complaints in the building industry have root causes based on water ingress issues. These issues can stem from several sources, including, but not limited to:
 - i. Preparation and/or installation inadequate or not to specification,
 - ii. Lack of experience, training, and education,
 - iii. Variability in commonwealth, state and territory licensing and regulatory requirements for waterproofing contractors,
 - iv. Selection and use of Inferior Materials,
 - v. Job Supervision, and
 - vi. inadequate or no maintenance
- e) Domestic waterproofing requires that adherence to standards to coat concrete and other substrates go hand with rust-proofing sub frame metal structures. There are different waterproofing measures to keep exposed surfaces like bathrooms, kitchens, and wash areas free from micro-bacterial and fungal build-ups.

3. AUTHORITY & RESPONSIBILITY

The Executive Officer, PCCP (EO) is responsible for the content of this procedure and has the authority to implement the requirements.

4. REFERENCED DOCUMENTS

This procedure refers to the following PCCP documents:

1. Document PP-D001 How PCCP Operates.
2. Document PP-D003 Schedule of fees
3. Document PP-D004 Complaint handling
4. Document PP-D007 Categories and Classes
5. Document PP-D008 SHREQ management system criteria
6. Form PP-F001 – Initial application for PCCP accreditation

All PCCP documents and forms are available for downloading from the Documents section of the PCCP web site at:

[Documents – Painting Contractor Certification Program \(csiro.au\)](http://Documents – Painting Contractor Certification Program (csiro.au))

AS/NZS ISO 9001: 2015 *Quality management systems – Requirements.*

AS/NZS 2311-2000 Guide to the Painting Industry

AS 3740 Australian Waterproofing Standards

AS 4654.1-2012. Waterproofing membranes for external above-ground use materials.

AS/NZS 4858:2004 (R2020) Wet area membranes - Building

Available for purchase from the SAI-Global web site at

<https://www.saiglobal.com/online/>

5. DEFINITIONS & ACRONYMS

5.1 Acronyms

ABN	Australian Business Number
ACN	Australian Company Number
CSIRO	Commonwealth Scientific and Industrial Research Organisation
EO	Executive Officer, PCCP
ITE	Inspection and test equipment
ITP	Inspection and Test Plan
KPI	Key Performance Indicator
NCR	Non-conformance report
PCCP	Painting Contractor Certification Program
RPL	Recognition of Prior Learning
SDS	Safety Data Sheet
SHREQ	Safety Health, Regulatory, Environmental and Quality (management systems)
SWMS	Safe Work Method Statement
TDS	Technical data sheet
VOC	Volatile organic compound
WHS	Work Health & Safety

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5.2 Definitions

Applicant – an organisation applying for accreditation under the PCCP Scheme. The Applicant can be a company or trading entity with (in Australia) a valid ABN or ACN.

Domestic property - building(s) or self-contained part of a building which is used wholly for the purposes of living accommodation (e.g. house, townhouse or unit)

Residential property- building(s) in which sleeping accommodation is provided for normal residential purposes, and includes one or more dwellings, hostels, dormitories, apartment houses, flats and private garages of such buildings.

Commercial property – building(s) used for commerce, trade or businesses and not zoned as residential property.

6. CLASSES

Waterproofing is the formation of an impervious barrier over surfaces of foundations, roofs, walls, and other structural members. The function is twofold - first an impermeable barrier is to prevent positive water penetration and secondly as a negative or moisture barrier as part of the multi defence strategy.

The following Classes are available:

Class 40 - Liquid Waterproofing Membrane

The liquid membrane consists of a primer coat and two topcoats. The application of the coatings is by spray, brush roller, or trowel. The liquid layer is more malleable and offers more flexibility than the cementitious types of waterproofing. The elongation properties of liquid applied materials can reach as high as 280%.

Class 41 - Torch Applied Bituminous Membrane

Bituminous membrane waterproofing is a popular method used for low-sloped roofs due to their proven performance. The bituminous waterproofing membrane has a torch on the layer and self-adhesive membrane. Self-adhesive compounds comprise asphalt, polymers, and filler; additionally, certain resins and oils may be added to improve adhesion characteristics. The self-adhesive type has a low shelf life as bonding properties of the membrane reduces with time.

Class 42 - Self-Adhered Sheet Membrane

Self-adhered membranes—commonly referred to as “peel-and-stick” products—have a long history of being used to waterproof below-grade vertical surfaces. This type of waterproofing is widely available, and is especially popular for waterproofing foundations, pedestrian tunnels, and other below-grade concrete work in residential and commercial construction. The advantage

is the same product at the same thickness every time it applied as it is factory made and controlled membrane.

Class 43-Mechanically Bonded to Poured Concrete

This is a pre-applied membrane which mechanically bonds to poured concrete. This membrane system incorporates a cell mesh, bonded to a blended polyethylene/polypropylene membrane, which allows poured concrete to interlock, forming a tenacious mechanical bond.

Class 44 - Cementitious Waterproofing

Cementitious waterproofing is the easiest method of waterproofing in construction. The applications of the cementitious waterproofing technique are in the internal wet areas, such as toilets because it does not go through the contract and expansion process. This method is used for water and sewage treatment facilities, bridges, dams, railway and subway systems, marine cargo ports and docks, river locks/channels, parking structures and tunnels.

Class 45 – Thermoplastic Elastomer Membrane

These products are the strongest waterproofing materials on the market. When heated correctly, the material will transform from solid to semi-solid. This allows a professional to seal the sheets or panels together. In return, this makes thermoplastic waterproofing more effective for the intended purpose.

Class 46 - Remedial Liquid Injection

Remedial waterproofing is the process of repairing damage caused by a failed waterproofing system and the waterproofing system itself. Water reactive injection systems prove valuable for many scenarios where the only solution is to repair the leak from the negative side. These systems work by using a high-pressure pump to inject a water swellable polyurethane liquid into the crack or joint. Once the polyurethane meets with the water it instantly swells and creates a pressure seal.

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7. ACCREDITATION REQUIREMENTS

7.1 General

- a) In order to become an accredited contractor, the Applicant must be able to provide evidence that the following three major elements are routine parts of their normal business.
- i) A working SHREQ management system complying with the requirements detailed in PCCP document PP-D008 is in place and being regularly used to drive the business.
 - ii) Technical capability and specialist processes relevant to the application of coatings are in place and being regularly used to drive the business. Refer PP-D008 clause 7.5.
 - iii) Specialist equipment necessary to carry out activities to the satisfaction of the client, are available and being regularly used to drive the business. Refer clause 8 below.
- b) The Applicant also needs to be able to show that throughout the organisation, at all levels, there is a commitment to Quality principles, a desire to improve the business using those principles, and a knowledge of the organisation's position on quality. Senior management is expected to be intimately involved in the process via;
- i) Regular management review of results (KPI, NCR, complaints), trends
 - ii) The provision of adequate resources (human, skills, equipment etc) to enable policies, goals & objectives to be achieved.

7.2 Specific Requirements

- a) The Applicant needs to be able to show that it has the specialist equipment requirements detailed in Clause 8 below.
- b) The Applicant needs to be able to demonstrate a client base and a history of successfully undertaking a range of jobs appropriate to the Class of accreditation sought.
- c) The Applicant shall utilise appropriate engineering and procedural controls to ensure worker, public and environmental safety. As well as being capable of producing a high standard of surface preparation and painting nominated in the specification or client requirements. worker, public and environmental safety. As well as being capable of producing a high standard of surface
- d) preparation and painting nominated in the specification or client requirements.
- e) The Applicant needs to be able to provide a Certificate III in Waterproofing.

Note: Formal qualifications need to be based on state requirements

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8. TECHNICAL CAPABILITY

8.1 Inspection & test equipment (ITE)

Requirements for ITE will depend on measuring requirements nominated in the product TDS (technical data sheet). For example, if restrictions are placed on environmental conditions during application (temperature & relative humidity) then these must be measured and adhered to. In addition, surface moisture content and material film builds (dry & wet) are to be recorded. Any enclosed space (e.g., a room with 4 walls and a ceiling or roof) could, in certain conditions, still exceed any temperature or humidity restrictions nominated in a TDS and should therefore be measured. Wherever measurements are taken, records shall be kept.

1. Requirements

M = Mandatory requirement. Organisation *must* own (or has ready access to) the indicated equipment.
O = Optional that the organisation could own (or has access to).

Classes:

- 40 – Liquid Waterproofing Membrane (e.g. polyurethanes)
- 41 – Torch Applied Bituminous Membranes
- 42 – Self Adhered Sheet Membrane (e.g. HDPE)
- 43 - Mechanically Bonded to Poured Concrete (e.g. Proofex Engage)
- 44 – Cementitious Waterproofing (e.g. Xypex type products)
- 45 – Thermoplastic Elastomer Membrane (e.g. rubber, weldable TPV/TPER)
- 46 – Remedial Liquid Injection (hydrophilic or Hydrophobic)

Test Equipment	Classes Requirements ⁽¹⁾						
	Class 40	Class 41	Class 42	Class 43	Class 44	Class 45	Class 46
Temperature - ambient	M	M	M	M	M	M	O
Relative Humidity - electronic	M	M	M	M	M	M	O
Dew Point – electronic	M	O	M	M	M	M	O
Dew Point – calculator	O	O	O	O	O	O	O
Optical Magnifier (x10)	O	O	O	O	O	O	O
Wet film thickness gauge	M						
Dry film thickness gauge (1-10mm) suitable for the material being tested	O						
Set of primary DFT shims	M						
Pencil hardness set	O						
Pull-off adhesion tester	O						
Moisture Meter	M	M	M	M	O	M	
Seam probe		M	M			M	

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Surface Preparation Plant, Equipment	Classes Requirements						
	Class 40	Class 41	Class 42	Class 43	Class 44	Class 45	Class 46
Diamond Grinder – Hand	M	M	M	M	M	M	
Diamond Grinder – Walk behind	O	O	O	O	O	O	
Angle Grinder	M	M	M	M	M	M	M
Disk Sander	O	O	O	O	O	O	O
High Pressure Water Cleaner	M	M	M	M	M	M	
Dust Collection System	M	M	M	M	M	M	M
Drill	M				M		M
Jack Hammer	M	O			O		
Vacuum Cleaner Wet / Dry	M	M	M	M	M	M	M
Vacuum surface preparation tools	M	M	M	M	M	M	M

General resources	Classes Requirements						
	Class 40	Class 41	Class 42	Class 43	Class 44	Class 45	Class 46
PPE & first aid gear appropriate to activity	M	M	M	M	M	M	M
Exhaust conduits/flexible	O	O					
Extractor fans/sleeves	O	O					
Appropriate signage	M	M	M	M	M	M	M
Covered paint store with sufficient capacity	O	O	O	O	O	O	O



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Application Equipment	Classes Requirements						
	Class 40	Class 41	Class 42	Class 43	Class 44	Class 45	Class 46
Hand trowels	M				M		
Conventional spray gun	O						
Airless spray gun	O						
Paint rollers	M						
Brushes	M						
Measuring equipment - weight	O						
Measuring equipment - volume	O				O		
Power mixing equipment	M				M		
Scrappers/Filling Blades	M						
Crack injection equipment							M
Flame Proof Lighting	M						
Heat gun/Welder		M	M				
Gas torch		M	M				
Pressure Rollers		M	M				
Penny rollers		M	M				
Injection (caulking) gun	M	M	M				M
Injection machine							M