Unit of Competency Template

UNIT CODE	**CPCPRE2004**
UNIT TITLE	**Caulk prefabricated concrete elements**
APPLICATION	This unit of competency specifies the skills and knowledge required to caulk concrete prefabricated elements according to specified requirements. It requires using tools and equipment appropriate for caulking prefabricated concrete elements. A person who has achieved this unit of competency would be expected to apply caulking techniques to vertical and horizontal joints between concrete prefabricated elements. Completion of the general construction induction training program, specified in the Safe Work Australia model *Code of Practice: Construction Work,* is required by anyone carrying out construction work. Achievement of *CPCWHS1001 Prepare to work safely in the construction industry* meets this requirement. Licensing, legislative, regulatory or certification requirements apply to this unit of competency in some states and territories. For further information, check with the relevant regulatory authority.
PREREQUISITE UNIT	• CPCCWHS2001 Apply WHS requirements policies and procedures in the construction industry • CPCCCM2012 Work safely at heights
COMPETENCY FIELD	
UNIT SECTOR	**Prefabricated concrete**
ELEMENTS **Elements describe the essential outcomes.**	**PERFORMANCE CRITERIA** **Performance criteria describe the performance needed to demonstrate achievement of the element.**

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1. Access requirements to caulk prefabricated concrete elements.	1.1 Review the erection design documentation and construction drawings to clarify caulking task specifications. 1.2 Review work health and safety (WHS) requirements for the task in accordance with safety plans and policies. 1.3 Conduct working at heights risk assessment and follow appropriate WHS processes. 1.4 Identify safety signage and barricade requirements. 1.5 Review environmental requirements for the task in accordance with environmental plans and legislative requirements. 1.6 Access tools, equipment and materials required to carry out task. 1.7 Locate the joints and confirm safety requirements, including working aloft, fall protection, accessibility and drop zones.
2. Prepare to caulk prefabricated concrete elements.	2.1 Erect identified safety signage and barricade requirements, and fit personal protective equipment (PPE). 2.2 Obtain plant, tools, equipment, check for serviceability and rectify or report any faults. 2.3 Identify materials and associated quantities/measurements required for caulking according to specifications.
3. Prepare concrete prefabricated joint and apply caulking and finishing technique.	3.1 Remove any existing fill and clean joint between concrete prefabricated elements to ensure the surface area is free from laitance, dust and dirt in accordance with manufacturer technical data sheet. 3.2 Review need for bond break tape and install backing rod using a blunt edged tool into joint between concrete prefabricated elements in accordance with manufacturer technical data sheet to control depth of injected caulking material. 3.3 Check backing rod installation to ensure material is firmly secured within the joint, at the depth specified in the erection design documentation, 3.4 Check backing rod installation is free of punctures and air pockets and complies with fire rating and acoustic requirements. 3.5 Assess if priming agent is required and, if so, apply to both edges/sides of the backing rod and concrete prefabricated elements in accordance with the manufacturer technical data sheets. 3.6 Access approved sealant and apply in a constant motion using steady pressure, filling the required void, to achieve a uniform appearance in accordance with the manufacturer technical data sheet. 3.7 Back tool the sealant immediately after caulking, using an appropriate caulking tool in accordance with the manufacturer technical data sheet to achieve a smooth and uniform finish, ensuring both sides of the joint are flush with sealant chamfer end.

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4. Clean up.	4.1 Clear work area and dispose of, reuse or recycle materials in accordance with regulatory and workplace requirements. 4.2 Clean, check, maintain and store tools and equipment in accordance with manufacturer and workplace requirements.
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	https://vetnet.gov.au/pages/trainingdocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad

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TITLE	**CPCPRE2004 Caulk prefabricated concrete elements**
PERFORMANCE EVIDENCE	To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by: • caulking a 20 mm nominal gap between two prefabricated concrete elements, for at least 3 m.

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KNOWLEDGE EVIDENCE	To be competent in this unit, a candidate must demonstrate knowledge of:
	• compliance requirements of legislation, regulations, codes and Australian Standards relevant to joint caulking of concrete prefabricated elements, including:
	  ○ environmental protection and waste disposal
	  ○ work health and safety (WHS) regulations, including:
	  ▪ use of personal protective equipment (PPE) as specified on the safety data sheet (SDS)
	  ▪ risk when working at heights/on ladders
	  ▪ fall protection
	  ▪ drop zones
	  ▪ hazardous substances
	  ▪ safe manual handling techniques
	  ▪ respiratory crystalline silica
	• detrimental effect of water addition to concrete properties
	• precautions that should be taken to minimise any potential adverse effects when finishing concrete
	• caulk manufacturer technical data sheet
	• types, characteristics and purposes of construction drawings to confirm:
	  ○ caulking thickness
	  ○ fire rating requirements
	  ○ specifications used to interpret concrete installation requirements
	• characteristics of caulking materials and their effect on, and appropriateness of use with, priming agents
	• types, characteristics and purposes of caulking surfaces and materials, including:
	  ○ existing silicon or caulking material
	  ○ existing backing rod
	  ○ laitance
	  ○ concrete prefabricated bonding agent residue
	  ○ sealed concrete prefabricated surface
	  ○ painted concrete prefabricated surface
	  ○ moisture content of joint
	  ○ silicone
	  ○ polyurethane
	  ○ modified polymer
	  ○ polysulphide
	  ○ acrylic
	  ○ fire rating
	• caulking tool types and their purpose, including:
	  ○ wire brush
	  ○ soft brush
	  ○ scraper
	  ○ air compressors and hoses
	  ○ portable blower
	  ○ sander/grinder

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	○ caulking 'slicks' (sausages) ○ spatula ○ roller ○ putty knife ○ caulking gun ○ power leads ○ testing equipment (moisture meter) • workplace requirements for caulking prefabricated concrete elements: ○ cleaning up the work area ○ maintaining and storing plant, labelling, tools and equipment ○ reporting problems ○ quality • terminology used for caulking • manufacturer technical requirements • specifications used for joint caulking • types of concrete prefabricated elements • fire rating requirements relevant to concrete prefabricated element rectification • workplace procedures related to communication protocols • principles of sustainability relevant to material reuse • work planning and logical task sequencing • types of concrete surface variables that reduce optimal sealant adhesion • concrete prefabricated release agent residue • impact of laitance, dirt and dust on caulking • difference between closed cell and open cell backing rod • processes for calculating material measurements and quantities.
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 a simulated workplace using realistic conditions, materials, activities, responsibilities, procedures, safety requirements and environmental considerations. Candidates must have access to erection design documentation, manufacturer technical data sheets, materials, plant, tools and equipment required to achieve the performance evidence.
LINKS Mandatory field	https://vetnet.gov.au/pages/trainingdocs.aspx?q=7e15fa6a-68b8-4097-b099-030a5569b1ad

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