Unit of Competency Template

UNIT CODE	**CPCPRE2001**
UNIT TITLE	**Brace and prop prefabricated concrete elements**
APPLICATION	This unit of competency specifies the skills and knowledge required to brace and prop prefabricated concrete elements. It requires using appropriate tools, equipment and material and working in a team environment. A person who has achieved this unit of competency would be expected to follow safety regulations and relevant specifications. 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	
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.**
1. Access requirements to brace and prop prefabricated concrete elements.	1.1 Review and clarify prefabricated concrete installation task. 1.2 Review erection design documentation, task specifications, and check to make sure they are in accordance with legislation, regulations and codes of practice. 1.3 Review work health and safety (WHS) requirements for the task in accordance with safety plans and policies. 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 plant, tools, equipment, braces props, and materials required to carry out task. 1.7 Access set-out drawings and the erection design documentation to verify the location of prefabricated concrete installations.

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2. Prepare to brace and prop 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 Check braces and props for serviceability and rectify or report any faults. 2.4 Check braces and/or props are correctly labelled with workload limit (WLL), in accordance with AS3850 2.5 Review erection plan and access information on job sequencing, team roles and coordinated activities. 2.6 Verify that the concrete strength of the elements to be braced and the concrete supporting elements for the braces and props have attained the specified minimum strength in accordance with the erection design documentation.
3. Conduct bracing and propping of prefabricated concrete elements.	3.1 Position braces and/or props in accordance with the erection design documentation. 3.2 Position levelling shims/packers to the nominated reduced level (RL) in accordance with the erection design documentation. 3.3 Use a crane to suspend the load 3.4 Prepare and install temporary and or permanent braces and/or props in accordance with the erection design documentation and safety standards. 3.5 Clear all personnel from the drop zone during all lifting, handling, and rotation operations 3.6 Check that all support fixings are all correctly installed, checked and secured in accordance with the erection design documentation, with the correct tightening torque 3.7 Confirm that the element is either adequately braced or fixed to and incorporated into the supporting structure prior to releasing the lifting equipment. 3.8 Check that the installed element is both level and plumb and in accordance with the set-out drawings and erection design documentation. 3.9 Safely access lifting points and release lifting device, in accordance with the instructions provided by the lifting clutch manufacturer.
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.

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UNIT MAPPING INFORMATION	**No equivalent unit.**
LINKS	**Link to Companion Volume Implementation Guide.**

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TITLE	**CPCPRE2001 Brace and prop prefabricated concrete elements**

PERFORMANCE EVIDENCE	To demonstrate competency, a candidate must meet the elements and performance criteria of this unit by
	• bracing two prefabricated concrete elements of a height not less than 7 metres and width 3 metres
	  ○ one of which must be a prefabricated concrete wall panel braced with two braces
	  ○ one of which must include both primary and secondary bracing elements (knee, end and lateral-bracing)
	• propping two prefabricated concrete elements, one of which must end propping only, and the other to be continuously shored.

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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 prefabricated concrete elements:
	  ○ AS3850.1, 2 & 3 'prefabricated concrete elements'
	  ○ environmental protection and waste disposal
	  ○ OHS/WHS regulations, including Safe Work Australia 'Guide to managing risk in construction: prefabricated concrete' 2019
	• erection design documentation
	• the strength of concrete at the time of lifting and handling from the manufacturers' "birth certificate" contained in the erection documentation
	• faulty manufacturing and concrete defects which could compromise the strength of the prefabricated elements and pose a potential safety issue for lifting and handling
	• types of drawings and specifications used to interpret concrete installation requirements
	• erection documentation
	• prefabricated concrete brace and prop specifications, including:
	  ○ erection sequence
	  ○ orientation of prefabricated concrete elements
	  ○ bracing details including type and angle
	  ○ requirement for erection brace and prop footings
	  ○ levelling shims
	  ○ drawings
	• types of bracing, including:
	  ○ single storey (Drop-in) panel propping
	  ○ double storey (Spin-up) panel propping
	  ○ panel to panel propping
	  ○ beam propping
	  ○ spandrels propping
	  ○ column bracing
	  ○ lateral bracing
	  ○ end bracing
	  ○ main bracing
	  ○ knee bracing
	  ○ deadman bracing
	• types of propping, including:
	  ○ single props (Acrow)
	  ○ single frame
	  ○ continuous frame
	• types of concrete prefabricated elements, including:
	  ○ panels
	  ○ columns
	  ○ beams
	  ○ planks
	  ○ stairs

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	○ barriers • workplace requirements when working with prefabricated concrete elements: ○ cleaning up the work area ○ maintaining and storing plant, labelling, tools and equipment ○ adhering to manufacturer specifications ○ reporting problems ○ quality • types of prefabricated concrete elements • types of support fixings, including: ○ brace footing ○ ferrule bolts ○ brace pins • fire rating requirements relevant to concrete prefabricated element rectification • workplace procedures related to communication protocols • relevant OHS/WHS regulations, policies and codes of practice, including: ○ use of personal protective equipment (PPE) ○ fall protection ○ drop zones ○ hazardous substances ○ safe manual handling techniques • principles of sustainability relevant to material reuse • logical task sequencing • types, characteristics and limitations of tools, equipment and materials required for propping and bracing prefabricated concrete elements, including: ○ hammers ○ jacks ○ podgers ○ spanners ○ spirit levels and automatic levels ○ tape measures ○ trolleys ○ wedges ○ wrenches ○ hammer lock ○ theodolite ○ post-installed anchors ○ cast-in-anchors (Grade 4.6 bolts) • concrete supporting elements, including: ○ floor slabs ○ piers ○ footings.

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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, materials, manufacturer specifications, plant, tools and equipment required to achieve the performance evidence.
LINKS Mandatory field	Link to Companion Volume Implementation Guide.

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