



Australian Government

Department of Education, Employment and Workplace Relations

PMC552054C Spin concrete pipes

Revision Number: 1

PMC552054C Spin concrete pipes

Modification History

Not applicable.

Unit Descriptor

Unit descriptor	This unit of competency covers the operation of pipe spinning equipment and the production of spun concrete pipes. It involves ensuring the mould is correctly assembled, loading and operating equipment correctly, monitoring the process and removing and inspecting the product.
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Application of the Unit

Application of the unit	<p>This unit of competency applies to operators who are responsible for spinning concrete pipes of various sizes in a concrete plant. It includes the operation of all ancillary equipment.</p> <p>This competency is typically performed by operators working either independently or as part of a work team.</p>
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Licensing/Regulatory Information

Not applicable.

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Assemble and prepare the pipe mould	1.1. Check mould for distortion, cracks or other defects 1.2. Clean mould cavity and apply stripping agent 1.3. Check and insert reinforcing cage and/or other fitments and secure in accordance with procedures/work instructions 1.4. Check cover to steel and fix or report as appropriate 1.5. Check holding of cage 1.6. Assemble mould and secure in accordance with procedures/work instructions 1.7. Move pipe mould to spinning equipment
2. Load mould onto pipe spinning equipment	2.1. Load pipe mould onto spinning equipment 2.2. Check that mould is stabilised and correctly mounted on rollers 2.3. Make adjustments to equipment settings to ensure conformance with procedures/work instructions 2.4. Notify appropriate personnel of intention to start spinning equipment
3. Spin pipe	3.1. Conduct additional pre-start checks as required in accordance with procedures/work instructions 3.2. Ensure an adequate supply of the specified concrete mix is available to meet production requirements 3.3. Start spinning equipment in accordance with procedures/work instructions 3.4. Monitor instrument/control panels and adjust rate of spin and material flow as necessary to remain within specified operating parameters 3.5. Make observations of plant and equipment at specified intervals to identify any anomalies in procedures/work instructions 3.6. Maximise product throughput and efficiency to maintain target parameters 3.7. Communicate with appropriate personnel regarding the status of operations in line with enterprise requirements 3.8. Employ safe working practices which conform to occupational health and safety (OHS) and enterprise requirements
4. Finish and cure pipe	4.1. Float/finish pipes as required 4.2. Remove spun pipe and mould from spinning

ELEMENT	PERFORMANCE CRITERIA
	<p>equipment</p> <p>4.3. Inspect inside diameter of pipe, ends and inside surface finish</p> <p>4.4. Undertake any repairs to pipe caused by irregularities in material flow</p> <p>4.5. Move pipe to curing tunnel or kiln in accordance with procedures/work instructions</p> <p>4.6. Monitor curing of pipe to ensure compliance with enterprise quality requirements</p> <p>4.7. Remove pipe and mould from curing equipment</p>
5. Demould pipe	<p>5.1. Remove any separators, non-permanent inserts, plugs or blinds</p> <p>5.2. Disassemble mould and release pipe in accordance with safe working practice and procedures/work instructions</p> <p>5.3. Return mould segments for reuse or storage in accordance with enterprise storage quality requirements</p>
6. Inspect and store pipe	<p>6.1. Inspect pipe outside diameter and ends/flanges for defects</p> <p>6.2. Make allowable repairs in accordance with specification and procedures/work instructions</p> <p>6.3. Identify and mark pipe with appropriate brand or identification number</p> <p>6.4. Apply appropriate interior surface coatings or coverings as required by the specification</p> <p>6.5. Move pipe and store in compliance with enterprise storage quality/quantity requirements</p>
7. Rectify routine problems	<p>7.1. Identify the range of faults that can occur during the operation</p> <p>7.2. Determine and rectify fault causes in accordance with procedures/work instructions</p> <p>7.3. Identify and rectify equipment failure causes in accordance with procedures/work instructions</p> <p>7.4. Ensure appropriate records and log books of equipment operations are maintained to meet procedures/work instructions</p> <p>7.5. Identify non-routine problems and report to designated person</p>

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

Required skills include:

- recognising conditions leading to unsafe machine operation and taking appropriate action
- recognising conditions which will lead to out of specification product and taking appropriate action
- implementing the enterprise's procedures and relevant regulatory requirements within time constraints and in a manner relevant to the operation of the equipment
- conveying information relevant to the operation clearly and effectively
- reading and numeracy to interpret workplace documents and technical information

Required knowledge

Required knowledge includes:

- operational aspects of the spinning equipment being employed
- appropriate safety procedures concerning the operation of the equipment
- procedures relating to the reporting of hazardous conditions
- appropriate shut down procedures

Evidence Guide

EVIDENCE GUIDE	
The Evidence Guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	The unit will be assessed in as holistic a manner as is practical and may be integrated with the assessment of other relevant units of competency.
Critical aspects for assessment and evidence required to demonstrate competency in this unit	<p>It is essential that the equipment and process be understood and that the importance of critical material properties is known. Competence must be demonstrated in the ability to recognise and analyse potential situations requiring action and then in reporting the condition to the appropriate individual.</p> <p>Consistent performance at the required standard should be demonstrated. In particular look to see that:</p> <ul style="list-style-type: none"> • types of concrete to be spun and its additives are able to be identified • individual material feed and distribution systems are understood • OHS and safe work practices are followed • mould is carefully checked for defects to ensure it is safe to spin • unsafe spinning conditions are recognised and appropriate action taken • mould and pipe transfer movements are monitored and appropriate safe working practices employed • signage, tags and isolation procedures are conformed to • basic maintenance and inspection practices are carried out. <p>Competence must be demonstrated in the operation of all ancillary equipment to the level required for this unit of competency.</p>
Context of and specific resources for assessment	<p>Assessment will require access to an operating plant over an extended period of time, or a suitable method of gathering evidence of operating ability over a range of situations.</p> <p>Assessment will occur over a range of situations which will include disruptions to normal, smooth operation.</p>

EVIDENCE GUIDE	
	Simulation or case studies/scenarios may be required to allow for timely assessment of parts of this unit of competency. Simulation should be based on the actual plant and will include 'walk-throughs' of the relevant competency components. A bank of scenarios/case studies/what ifs and questions will be required to probe the reasoning behind observable actions.
Method of assessment	Individual enterprises may choose to add prerequisites and co-requisites relevant to their processes.
Guidance information for assessment	Assessment processes and techniques must be culturally appropriate and appropriate to the language and literacy capacity of the candidate and the work being performed.

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.

Procedures

All operations are performed in accordance with standard procedures and work instructions

Typical problems

Typical problems may include:

- maintaining correct sectional thicknesses and distribution of materials
- selecting optimum spinning speeds and conditions for the size of pipe being produced
- correctly selecting and positioning/securing cages and inserts in moulds

OHS

All operations are subject to stringent OHS requirements and these must not be compromised at any time. Where there is an apparent conflict between performance criteria and OHS requirements, the OHS requirements take precedence

Unit Sector(s)

Unit sector

Operational/technical

Competency field

Competency field

Co-requisite units

Co-requisite units		