



Australian Government

**MSMPMC335 Fabricate, assemble and
place reinforcement in precast concrete
products**

MSMPMC335 Fabricate, assemble and place reinforcement in precast concrete products

Modification History

Release	Comments
1	This unit of competency was first released in MSM Manufacturing Training Package Release 9.0.

Application

This unit describes the skills and knowledge required to interpret reinforcement specifications for precast concrete products, fabricate and assemble reinforcement, and place the reinforcement in a mould. Fabrication and assembly may take place either inside or outside the mould. This unit includes cutting, bending, fixing and tying. It does not include welding of reinforcement, which is covered in separate welding units.

The unit applies to individuals who work in accordance with pre-determined instructions and established standard operating procedures (SOPs). They work in a team, but take responsibility for their own work using discretion and judgement to monitor work processes and solve both routine and non-routine problems.

The reinforcement in precast concrete products is subject to various statutory and industry requirements, and the relevant legislation, industry standards and codes of practice within Australia must be applied. Requirements may vary across states and territories.

Licensing/Regulatory Information

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

Pre-requisite unit(s)

No prerequisite units.

Competency field(s)

N/A

Unit sector(s)

N/A

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1. Plan work requirements	1.1 Identify steel types and dimensions from reinforcement schedule 1.2 Identify required work process, equipment and materials based on reinforcement schedule 1.3 Estimate quantities of reinforcement based on schedule, allowing for bends and bar thickness 1.4 Identify upstream and downstream processes that impact work and organise tasks accordingly 1.5 Identify hazards associated with reinforcement work and follow risk control procedures
2. Fabricate and assemble reinforcement	2.1 Obtain and safely locate required reinforcement materials and accessories ready for use 2.2 Check and set up equipment and materials in accordance with SOPs 2.3 Cut and bend reinforcement to instructions and in accordance with workplace safety requirements 2.4 Assemble reinforcement using tying and fixing methods detailed in reinforcement schedule 2.5 Recognise potential and actual problems and make adjustments to meet job requirements 2.6 Dispose of waste in accordance with workplace waste management procedures
3. Place and secure reinforcement	3.1 Lift and move assembled reinforcement in accordance with workplace safety procedures 3.2 Place reinforcement using bar chairs, ligatures and spacers to meet job requirements 3.3 Support and secure reinforcement material to meet schedule 3.4 Check and confirm depth of coverage, clearance, spacing and lap length of reinforcement meet schedule prior to concrete pour 3.5 Complete workplace documentation in accordance with SOPs

Foundation Skills

This section describes those language, literacy, numeracy and employment skills that are essential to performance.

- Numeracy skills to:
 - locate and interpret explicit information about dimension
 - estimate material quantities.
- Reading skills to locate and interpret explicit information in visual and text-based workplace instructions and procedures
- Writing skills to complete familiar workplace documentation.
- Oral communication skills to share information with team members during reinforcement process.
- Teamwork skills to work cooperatively with others during processes involving multiple people.

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

Range of conditions

No conditions apply to this unit of competency at the time of publication.

Unit Mapping Information

Current Code and Title	Previous Code and Title	Comments	Equivalence
MSMPMC335 Fabricate, assemble and place reinforcement in precast concrete products		This unit has been created to address a skill or task required by industry that is not covered by an existing unit of competency	Newly created

Assessment Requirements for MSMPMC335 Fabricate, assemble and place reinforcement in precast concrete products

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Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and demonstrated the ability to:

- fabricate, assemble and place reinforcement in precast concrete in accordance with work instructions on two occasions.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- key features of reinforcement schedules, including:
 - types of information included and how the information is used when fabricating and placing reinforcement
 - main requirements of the Australian Standards that apply to reinforcement
 - implications of not following schedules
- common types of reinforcement in different precast concrete products and their application
- key variables for reinforcement and how these impact the fabrication and assembly process, including:
 - bar type
 - lap length
 - shape
 - dimension and dimensional tolerance
 - steel coverage
- fabrication and assembly methods
- requirements to ensure safe cutting of materials
- commonly used equipment for cutting, bending, tying and fixing, including features and operating principles
- requirements for placement of reinforcement, including:

- importance of exact placement and implications of incorrect placement
 - handling
 - safe lifting of prefabricated cages
 - fixing methods and when specialist skills are needed
 - importance of adequate cover
- typical reinforcement process and product problems, including:
 - early warning signs
 - possible causes
 - corrective actions
- storage requirements for different types of reinforcement and implications of inappropriate storage
- hazards associated with fabrication, assembly and placement of reinforcement in precast concrete products, including:
 - their possible causes
 - potential consequences
 - workplace risk controls.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
 - operational concrete manufacturing facility equipped with tools, machinery and materials for concrete reinforcement
 - safety and personal protective equipment
 - work instructions
 - standard operating procedures.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Link

Companion volumes, including implementation guides, are found on the national training register - <https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=d1287d36-dff4-4e9f-ad2c-9d6270054027>.