

Code of Practice

Reinforced concrete panels for reinforced soil structures

1. Scope and Application

BTN009 Reinforced concrete panels for reinforced soil structures states VicRoads' requirements for detailing of precast concrete facing panels for Reinforced Soil Structures (RSS).

Bridge Technical Notes are a Code of Practice. Compliance with Bridge Technical Notes is mandatory.

BTN009 is to be read in conjunction with the following documents:

- Section 682 of VicRoads Standard Specification which states requirements for the supply of materials, manufacture and construction of Reinforced Soil Structures.

This document:

- does not apply to alternative facing systems for RSS such as blockwork, geotextiles or gabions.

2. Concrete facing panels

2.1. General requirements

Concrete facing panels shall comply with the requirements of AS5100 together with Sections 610 Structural concrete, 611 Steel reinforcement, 620 Precast concrete units and Section 682 Reinforced soil structures of VicRoads Standard Specification.

In addition to the foregoing requirements, facing panels shall have:

- minimum concrete grade of VR330/32 subject to the requirements of the design
- panels ≤ 150 mm thick - minimum reinforcement to control shrinkage and temperature related cracking - $500\text{mm}^2/\text{m}$ in both directions at mid-depth of the panel
- panels > 150 mm thick - minimum reinforcement to control shrinkage and temperature related cracking - $500\text{mm}^2/\text{m}$ in both directions in both faces of the panel
- sufficient strength to resist loads due to soil pressure and those arising from handling, transport, storage and placing
- minimum cover to reinforcement in accordance with AS 5100

- embedded fittings for connection to the soil reinforcing elements with a minimum design life of 100 years
- a minimum Class 3 surface finish on exposed faces or the specified surface special finish whichever is the higher standard
- a method of connecting panels to prevent relative displacement normal to the wall face
- chamfers on exposed edges to prevent spalling during handling.

2.2. Requirements for road over rail bridges

In addition to the foregoing, RSS shall comply with the requirements of CI 15.3 of AS5100:2017 Part 1 and CI 11.4 of AS5100:2017 Part 2.

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Bridge Technical Notes are subject to periodic review and may be superseded.