

Main Roads Specification

MRS74

Supply and Erection of Prestressed Concrete Deck and Kerb Units

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Supply and Erection of Prestressed Concrete Deck and Kerb Units

1 INTRODUCTION

This Specification applies to the supply and/or transport and erection of precast prestressed concrete deck and kerb units and transverse stressing units for a bridge superstructure.

This Specification shall be read in conjunction with MRS01 *Introduction to Specifications* and other Specifications as appropriate.

This Specification forms part of the Main Roads Standard Specifications and Technical Standards Manual.

2 MEASUREMENT OF WORK

2.1 Standard Work Items

In accordance with the provisions of Clause 2 of MRS01 *Introduction to Specifications*, the Standard Work Items covered by this Specification are listed in Table 2.1.

Table 2.1 – Standard Work Items

Standard Work Item No.	Description	Unit of Measurement
Prestressed Concrete Deck and Kerb Units and Transverse Stressing Units		
8101	Prestressed concrete deck and kerb unit, supply on Site, [<i>depth</i>] mm deep, [<i>length</i>] metres long.	each
8102	Transverse stressing units, supply on Site.	lump sum
8103	Transport of prestressed concrete deck and kerb units to the Site, [<i>depth</i>] mm deep, [<i>length</i>] metres long, ex works [<i>location</i>].	each
8104	Transport of transverse stressing units to the Site, ex works [<i>location</i>].	lump sum
8111	Single layer elastomeric bearings, [<i>length</i>] x [<i>breadth</i>] x [<i>depth</i>].	each
8112	Laminated elastomeric bearings, [<i>length</i>] x [<i>breadth</i>] x [<i>depth</i>].	each
8121	Erection of prestressed concrete deck and kerb units, [<i>depth</i>] mm deep, [<i>length</i>] metres long.	each
8122	Erection of transverse stressing units.	lump sum
8131	Holding-down bolts for deck and kerb units, [<i>length</i>] mm long.	each
8132	Deck unit dowel bars, [<i>length</i>] mm long.	each
8141	Transverse prestressing of deck.	lump sum

2.2 Work Operations

Item 8101 Prestressed concrete deck and kerb unit, supply on Site, [*depth*] mm deep, [*length*] metres long.

Item 8102 Transverse stressing units, supply on Site.

These items are used only where prestressed concrete deck and kerb units and/or transverse stressing units are supplied by the Contractor. Work Operations incorporated in the above items include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Manufacture of prestressed concrete deck and kerb units or transverse stressing units, as appropriate;
- c) Transport to the Site;
- d) Preparation of the Site storage area;

- e) Unloading at the Site; and
- f) Storage at the Site.

Item 8103 Transport of prestressed concrete deck and kerb units to the Site, [depth] mm deep, [length] metres long, ex works [location].

Item 8104 Transport of transverse stressing units to the Site, ex works [location].

These items are used only where prestressed concrete deck and kerb units and/or transverse stressing units are supplied by the Principal for collection by the Contractor at the place of manufacture. Work Operations incorporated in the above items include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Taking delivery of deck and kerb units and/or transverse stressing units at the location and by the mode nominated in the Contract;
- c) Transport to the Site;
- d) Unloading at the Site; and
- e) Storage at the Site.

Item 8111 Single layer elastomeric bearings, [length] x [breadth] x [depth].

Item 8112 Laminated elastomeric bearings, [length] x [breadth] x [depth].

Work Operations incorporated in the above items include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Supply of bearings;
- c) Supply of epoxy putty;
- d) Preparation of bearing seat; and
- e) Installation of bearing.

Item 8121 Erection of prestressed concrete deck and kerb units, [depth] mm deep, [length] metres long.

Work Operations incorporated in the above item include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Removal of advertising labels;
- c) Provision of mortar seatings;
- d) Provision of temporary support including packers;
- e) Installing deck and kerb units on substructure;
- f) Cutting of lifting loops; and
- g) Cleaning of the bridge deck.

Item 8122 Erection of transverse stressing units.

Work Operations incorporated in the above item include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Straightening transverse stressing bars, where necessary;
- c) Inserting transverse stressing bars into cored holes in deck and kerb units; and
- d) Coupling transverse stressing bars, where necessary.

Item 8131 Holding-down bolts for deck and kerb units, [*length*] mm long.

Work Operations incorporated in the above item include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Supply of all materials;
- c) Installation of holding-down bolts; and
- d) Grouting of holding down bolts.

Item 8132 Deck unit dowel bars, [*length*] mm long.

Work Operations incorporated in the above item include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Supply of all materials;
- c) Installation of dowel bars;
- d) Grouting of dowel bars; and
- e) Filling and capping unused cored holes in deck units.

Item 8141 Transverse prestressing of deck.

Work Operations incorporated in the above item include –

- a) Work Operations listed in Clause 2.1.5 of MRS01 *Introduction to Specifications*;
- b) Supply of all materials and equipment including provision of prestressing jack;
- c) Transverse prestressing operations;
- d) Supply and installation of mortar between units and at ends of units;
- e) Grouting of transverse prestressing ducts;
- f) Trimming of prestressing bars;
- g) Painting of exposed anchorages; and
- h) Filling of bearing plate recesses.

2.3 Prestressed Concrete Units and/or Stressing Units Supplied by the Principal

2.3.1 Supply of Prestressed Concrete Units and Stressing Units

Where listed in the Principal Supplied Materials List (Form C6827), prestressed concrete deck and kerb units and transverse stressing units shall be supplied by the Principal. Where not so listed, prestressed concrete deck and kerb units and transverse stressing units shall be supplied by the Contractor.

2.3.2 Supply Location

Prestressed concrete deck and kerb units and/or stressing units supplied by the Principal will be made available at the point of delivery and by the transport mode shown in the Principal Supplied Materials List (Form C6827).

2.3.3 Time of Delivery

The time of delivery shall generally conform to the construction program supplied by the Contractor with its tender.

Should on-site construction be delayed, the Contractor may be required to accept delivery of the deck and kerb units and/or stressing units at any time after the programmed date and to store the members at no cost to the Principal.

2.3.4 Acceptance of Units and/or Stressing Units by the Contractor

The Contractor shall check the prestressed concrete deck and kerb units and/or stressing units for quantity and condition upon taking delivery and shall immediately report to the Superintendent any defect or deficiency. **Nonconformance**

2.3.5 Damage to Units and/or Stressing Units

In the event of any deck or kerb unit or stressing unit sustaining damage after having been accepted by the Contractor, such as cracking, spalling or deformation of projecting reinforcement or bolts or damage to cast-in sockets and formwork cones, the unit shall be set aside until it has been inspected by the Superintendent.

Nonconformance The cost of repairs to damaged precast units and/or stressing units and the cost of replacing rejected precast units and/or stressing units shall be borne by the Contractor.