

E.10/6: BUILDING AND REPLACEMENT OF SETS

RAILWAY ENGINEERING SPECIFICATION

E.10/6: BUILDING AND REPLACEMENT OF SETS CONTENTS

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1. SCOPE

This specification covers the work necessary for the building and replacement of sets.

2. INTERPRETATIONS

2.1 SUPPORTING SPECIFICATIONS

2.1.1 Where this specification is required for a project, the following specifications, shall, inter alia, form part of the contract documents:

- a) The E.10 Gen - General.
- b) The E.10/1 - Laying of rails.
- c) The E.10/2 - Laying of sleepers.
- d) The E.10/4 - Ballasting and tamping.
- e) The E.10/9 - Slewing and alignment.
- f) The E.10/11 - Survey and setting out of track alignment and referencing.

2.1.2 In addition the following specifications, inter alia, may be required:

- a) The E.10/5 - Destressing of rails.
- b) The E.10/7 - Field welding of rail joints.
- c) The E.10/8 - Field welding and corrective grinding of battered rail joints, skid marks and rail crown damage.
- d) The E.10/12 - The installation of insulated rail joints.

2.2 DEFINITIONS

Void.

3. MATERIALS

Void.

4. PLANT

Void.

5. CONSTRUCTION

5.1 GENERAL

Void.

5.2 SAFETY

Void.

5.3 PROGRAMME AND METHOD STATEMENT

The Contractor shall indicate in the proposed programme of work submitted with his tender in accordance with clause 5.3.2 of specification E.10 Gen. which of the methods listed in 5.4.1 hereof he proposes to use.

5.4 METHODS AND PROCEDURES

5.4.1 Except where methods of building sets are specified in the Project Specification, the Contractor may build sets by -

- a) Installing the sets in their final positions after having assembled them elsewhere; or by,
- b) Assembling them in their final positions in new lines or replacing all components of existing sets in open lines.

5.4.2 Where mechanically/electrically/hydraulically operated sets are involved the Contractor shall co-operate with the Engineer and other contractors to ensure the proper installation and commissioning of the sets.

5.4.3 Holes required in components shall be drilled in accordance with the drawings, and all burrs shall be removed. The cost of replacing or repairing any component incorrectly drilled by the Contractor, will be for the Contractor's account.

5.4.4 Curved lead and closure rails shall be curved throughout their length.

5.4.5 Coach screws shall be fitted to all holes in chair plates, tie plates, sole plates and chairs in turnouts, slips and diamond crossings.

5.4.6 One flash butt weld is permitted in each lead and closure rail, provided the weld is not less than 3 m from a fishplated joint.

5.4.7 Guard rails shall be fitted to both legs of all turnouts except to 1:20 turnouts with a movable vee.

5.4.8 Foot guards shall be inserted in all turnouts, slips and crossings behind the crossing frog, in front of the throat, at the heel of the points and at the ends of the wing and guard rails unless foot guards are built in.

- 5.4.9 Bridles and chains shall only be fixed to the switch-box sleepers of turnouts with tumblers. Fixing shall be as directed by the Engineer, with not more than 15 mm of slack in the chains when they are placed over the tumbler levers.
- 5.4.10 In addition to clearances shown in Annexures 1 to 4 to specification E7/1, the end of a counterweight arm shall not be less than 1 980 mm from any track centre line.
- 5.4.11 After final adjustment, the Contractor shall coat all slide chairs with graphite and shall polish the sliding surfaces unless points blade rollers are fitted.
- 5.4.12 Sets shall be replaced according to the approved method statement.

5.5 STANDARDS

The Contractor shall build the sets according to the drawings supplied by the Engineer.

5.6 COMPLETION

Void.

6. TOLERANCES

Void.

7. TESTING

The Contractor shall measure and supply to the Engineer all measurements for checking against the specifications given in the Project Specification and Specification E.10 Gen.

8. MEASUREMENT AND PAYMENT

8.1 SCHEDULED ITEMS

8.1.1 Offload and stack Unit: Set

Offloading and stacking all the components of a set but excluding the sleepers and sleeper fastenings will be measured as a set.

8.1.1.1 Separate items will be scheduled for the following:

- a) Turnouts - of each angle and nominal rail size.
- b) Single slips - of each angle and nominal rail size.
- c) Double slips - of each angle and nominal rail size.
- d) Diamond crossings - of each angle and nominal rail size.
- e) Offloading from wagons and lorries.

8.1.1.2 The rates tendered shall include for the following:

- a) Offloading components from wagons or lorries and placing them on the ground or on dunnage.
- b) Providing dunnage.

8.1.2 Offload and distribute Unit: Set

Offloading and distributing all the components of a set but excluding the sleepers and sleeper fastenings will be measured as a set.

8.1.2.1 Separate items will be scheduled for the following:

- a) Turnouts - of each angle and nominal rail size.
- b) Single slips - of each angle and nominal rail size.
- c) Double slips - of each angle and nominal rail size.
- d) Diamond crossings - of each angle and nominal rail size.
- e) Offloading from wagons and lorries.

8.1.2.2 The rates tendered shall include for the following:

Offloading and distributing components from wagons or lorries.

8.1.3 Load from stack Unit: Set

Loading all the components of a set but excluding the sleepers and sleeper fastenings will be measured as a set.

8.1.3.1 Separate items will be scheduled for the following:

- a) Turnouts - of each angle and nominal rail size.
- b) Single slips - of each angle and nominal rail size.
- c) Double slips - of each angle and nominal rail size.
- d) Diamond crossings.
- e) Offloading from different type of vehicles.

8.1.3.2 The rates tendered shall include for the following:

Loading components onto lorries or wagons.

8.1.4 Build sets outside the track.....Unit: Set

Each set built outside the track will be counted.

8.1.4.1 Separate items will be scheduled for the following:

- a) Turnouts - of each angle and nominal rail size.
- b) Single slips - of each angle and nominal rail size.
- c) Double slips - of each angle and nominal rail size.
- d) Diamond crossings - of each angle and nominal rail size.

8.1.4.2 The rates tendered shall include for the following:

- a) Preparing the sites for pre-assembling the sets.
- b) Preparing all components including drilling of holes, cutting to length and curving lead and closure rails.
- c) Assembling the components.

8.1.5 Install pre-assembled sets in the trackUnit: Set

Each pre-assembled set installed in the track will be counted.

8.1.5.1 Separate items will be scheduled for the following;

- a) Sets in new track.
- b) Sets in existing track.
- c) Replacing sets in existing track.
- d) Turnouts - of each angle and nominal rail size.
- e) Single slips - of each angle and nominal rail size.
- f) Double slips - of each angle and nominal rail size.
- g) Diamond crossings - of each angle and nominal rail size.

8.1.5.2 The rates tendered shall include for the following:

- a) Removing the existing set/track.
- b) Moving the new set into position.
- c) Installing foot guards, bridles and chains.
- d) Installing longer sleepers.
- e) Ballasting and tamping underneath the set.
- f) Making final adjustments.
- g) Coating all slide chairs and polishing the sliding surfaces.
- h) Measuring all dimensions and gauges and supplying the measurements to the Engineer.

8.1.6 Build sets in the track by replacing each component.....Unit: Set

Each set replaced will be counted.

8.1.6.1 Separate items will be scheduled for the following:

- a) Turnouts - of each angle and nominal rail size.
- b) Single slips - of each angle and nominal rail size.
- c) Double slips - of each angle and nominal rail size.
- d) Diamond crossings - of each angle and nominal rail size.

8.1.6.2 The rates tendered shall include for the following:

- a) Removing the components of the existing set.
- b) Preparing all components including drilling of holes, cutting to length and curving lead and closure rails.
- c) Installing the components of the new set.
- d) Installing foot guards, bridles and chains.
- e) Ballasting and tamping underneath the set.
- f) Making final adjustment.
- g) Coating all slide chairs and polishing the sliding surfaces.
- h) Measuring all dimensions and gauges and supplying the measurements to the Engineer.

8.1.7 Load released setsUnit: Set

Each set loaded but excluding the sleepers and fastenings will be counted.

8.1.7.1 Separate items will be scheduled for the following:

- a) Turnouts - of each angle and nominal rail size.
- b) Single slips - of each angle and nominal rail size.
- c) Double slips - of each angle and nominal rail size.
- d) Diamond crossings - of each angle and nominal rail size.

8.1.7.2 The rates tendered shall include for the following:

- a) Dismantling the set.
- b) Loading the sets onto wagons or lorries.

8.1.8 Transport sets with lorriesUnit: Set

Each set transported but excluding the sleepers and fastenings will be counted.

8.1.8.1 Separate items will be scheduled for the following:

- a) Turnouts - of each angle and nominal rail size.
- b) Single slips - of each angle and nominal rail size.
- c) Double slips - of each angle and nominal rail size.
- d) Diamond crossings - of each angle and nominal rail size.

8.1.6.2 The rates tendered shall include for the following:

Transporting the set over the free haul distance.