

**E.10/13 : MISCELLANEOUS**

## CONTENTS

Clause		Page
1.	<b>SCOPE</b> .....	2
2.	<b>INTERPRETATIONS</b> .....	2
2.1	SUPPORTING SPECIFICATIONS .....	2
2.2	DEFINITIONS .....	2
3.	<b>MATERIALS</b> .....	2
4.	<b>PLANT</b> .....	3
5.	<b>CONSTRUCTION</b> .....	3
5.1	GENERAL .....	3
5.2	SAFETY .....	3
5.3	PROGRAMME AND METHOD STATEMENT .....	3
5.4	METHODS AND PROCEDURES .....	3
5.5	STANDARDS .....	4
5.6	COMPLETION .....	4
6.	<b>TOLERANCES</b> .....	5
7.	<b>TESTING</b> .....	5
8.	<b>MEASUREMENTS AND PAYMENT</b> .....	5

## 1. SCOPE

This specification covers the work necessary to provide and/or install miscellaneous items related to trackwork including the following:

- (i) Cattle guards.
- (ii) Clearance marks.
- (iii) Derail devices.
- (iv) Flange lubricators.
- (v) Grade posts.
- (vi) Kilometre posts.
- (vii) Signboards.
- (viii) Stop blocks.

## 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.10/12 - 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.10/1 - Laying of rails.
- b) The E.10/2 - Laying of sleepers.
- c) The E.10/4 - Ballasting and tamping.
- d) The E.10/9 - Slewing and alignment.

### 2.2 DEFINITIONS

Void.

## 3. MATERIALS

3.1 Cattle guards shall be built in accordance with the Project Specification with the materials specified on the drawings.

3.2 Clearance markers shall consist of lengths of approved material of 1,0 m nominal length.

3.3 Derail devices shall be of the type(s) scheduled or given on the drawings. They may consist of a standard Hayes type, or a stock and switch type compounded with the take-off set of points, or a standard scotch block manufactured from 30 kg/m rail or from any suitable rolled steel section approved by the Engineer. Each scotch block shall be installed with the additional sleepers and fastenings required and fitted with a stout chain and eyebolt to ensure locking in either the on or the off position.

3.4 Where the Project Specification requires the Contractor to supply flange lubricators, they shall comply with the applicable Transnet specification.

3.5 Grade posts and kilometre posts shall be constructed of material as described on the drawings.

3.6 Signboards, whistle boards, siding number boards and other railway signboards required shall be of standard Transnet pattern, shall be painted in accordance with the applicable Transnet specification and shall comply with the regulations of Transnet as described on the type drawings or as specified in the Project Specification. In the case of level crossings, road signs shall conform to the requirements of the applicable Road Traffic Ordinance.

#### **4. PLANT**

Void.

#### **5. CONSTRUCTION**

##### **5.1 GENERAL**

Void.

##### **5.2 SAFETY**

Void.

##### **5.3 PROGRAMME AND METHOD STATEMENT**

Void.

##### **5.4 METHODS AND PROCEDURES**

###### **5.4.1 CATTLE GUARDS**

5.4.1.1 Cattle guards shall be built according to the drawings.

5.4.1.2 Only hardwood sleepers shall be used under cattle guards.

5.4.1.3 On track-circuited and electrified sections a minimum clearance of 50 mm shall be maintained between the rails and the steel components of the cattle guard.

5.4.1.4 On long welded rail track and track with concrete sleepers, wood sleepers shall be inserted as specified in the Project Specification to fix the cattle guards in position.

#### 5.4.2 CLEARANCE MARKERS

5.4.2.1 The Contractor shall cut the material for the clearance markers and lay the clearance markers where the distance between the centre lines of converging tracks is 3,45 m for 1 065 mm gauge tracks and 2,75 m for 610 mm gauge tracks. The upper surface of the clearance marker and the webs of adjoining rails opposite the clearance markers shall be painted with white PVA to serve as points of reference.

#### 5.4.3 DERAIL DEVICES

5.4.3.1 The type and position of derail devices will be as specified in the Project Specification or drawings.

5.4.3.2 Derail devices shall be fitted in accordance with the manufacturer's instructions, and shall be painted with white PVA.

#### 5.4.4 FLANGE LUBRICATORS

5.4.4.1 The type and position of flange lubricators will be as specified in the Project Specification.

5.4.4.2 When installing lubricators and when carrying out maintenance, the Contractor shall fix, adjust and fill rail and flange lubricators in accordance with the manufacturer's instructions.

#### 5.4.5 SIGN POSTS AND BOARDS

5.4.5.1 The Contractor shall dig holes and erect and fix kilometre posts, grade posts, whistle boards, speed boards, level crossing signs and any other signs in the positions shown on the drawings or indicated by the Engineer.

5.4.5.2 The Contractor shall not interfere with any existing track sign without the permission of the Engineer. Signs interfering with the Contractor's work shall be erected in temporary positions approved by the Engineer, and replaced as soon as possible in their original position by the Contractor.

#### 5.4.6 STOP BLOCKS

5.4.6.1 The Contractor shall assemble and install stop blocks at the ends of dead ends and paint them with white PVA. Sliding type stop blocks shall be installed with the back end approximately 3 m from the end of the running rail.

5.4.6.2 Stop blocks, other than sliding types, shall be fishplated to the ends of rails.

#### 5.5 STANDARDS

Void.

#### 5.6 COMPLETION

Void.

**6. TOLERANCES**

Void.

**7. TESTING**

Void.

**8. MEASUREMENT AND PAYMENT**

**8.1 GENERAL**

8.1.1 For each item scheduled in this specifications, separate items will be scheduled for the following:

- a) Supply and fit.
- b) Remove and replace.

**8.2 SCHEDULED ITEMS**

**8.2.1 Cattle guards..... Unit: Set**

Each set of cattle guards installed will be counted, where a set includes all items required to guard both sides of a level crossing.

8.2.1.1 Separate items will be scheduled for the following:

- a) Single lines.
- b) Multiple lines. (state number and spacing of lines).
- c) Long welded rail track.
- d) Track with rails 36 m and shorter.

8.2.1.2 The rates tendered shall include for the following:

- a) Building the cattle guards.
- b) Painting the cattle guards.
- c) Doing the necessary minor earthworks.
- d) Laying wood sleepers.
- e) Installing the cattle guards.
- f) Cleaning the site after completion of work.

**8.2.2 Clearance markers .....Unit: Each**

Each clearance marker installed will be counted.

8.2.2.1 Separate items will be scheduled for the following:

Different types of material for the clearance markers.

8.2.2.2 The rates tendered shall include for the following:

- a) Cutting approved material to the correct length.
- b) Measuring and determining the correct position for the clearance markers.
- c) Installing the clearance markers.
- d) Painting the clearance marker and adjoining rail webs.
- e) Removing and replacing the clearance markers.

**8.2.3 Derail devices .....Unit: Each**

Each derail device installed will be counted.

8.2.3.1 Separate items will be scheduled for the following:

Different types of derail devices.

8.2.3.2 The rates tendered shall include for the following:

- a) Building the derail devices where applicable.
- b) Painting the derail devices.
- c) Installing the derail devices with the necessary chain and eyebolt to ensure locking where directed.
- d) Supplying and installing the additional sleepers where applicable.
- e) Removing and replacing the derail devices.

**8.2.4 Flange lubricators .....Unit: Each**

Each lubricator installed and/or maintained will be counted.

8.2.4.1 Separate items will be measured for the following:

- a) Different type of lubricators to be installed.
- b) Maintenance of lubricators.

8.2.4.2 The rates tendered shall include for the following:

- a) Drilling holes in the rail to fasten the lubricators.
- b) Attaching, filling and adjusting the lubricators.
- c) Filling and cleaning of lubricators.
- d) Adjusting the greasing plates.
- e) Removing and replacing lubricators or subassemblies.

**8.2.5 Sign posts and boards.....Unit: Each**

Each complete sign with post installed will be counted as a unit.

8.2.5.1 Separate items will be scheduled for the following;

- a) Different types of signs.
- b) Erecting new signs.
- c) Move existing signs permanently.

8.2.5.2 The rates tendered shall include for the following:

- a) Supplying and fitting the signs.
- b) Moving existing signs.
- c) Removing and replacing existing signs.

**8.2.6 Temporarily move existing signs .....Unit: Each**

Each sign moved will be counted.

8.2.6.1 Separate items will be scheduled for the following:

Different type of signs.

8.2.6.2 The rates tendered shall include for the following:

- a) Removing and erecting the sign at the temporary position.
- b) Re-erecting the sign at the original position.

**8.2.7 Stop blocks.....Unit: Each**

Each complete stopblock installed will be counted.

8.2.7.1 Separate items will be scheduled for the following:

- a) Fixed type stopblocks.
- b) Sliding type stopblocks.

8.2.7.2 The rates tendered shall include for the following:

- a) Assembling the stopblocks.
- b) Installing the stopblocks.
- c) Painting the stopblocks.
- d) Removing and replacing existing stopblocks, where specified.

**8.2.8 Transport miscellaneous items .....Unit: Each**

Each item transported will be counted.

8.2.8.1 Separate items will be scheduled for the following:

- a) Cattle guards.
- b) Clearance markers.
- c) Flange lubricators.

- d) Signs.
- e) Stopblocks.
- f) Transport material to be installed.
- g) Transport released material.
- h) Transport with wagons.
- i) Transport with lorries.

8.2.8.2 The rates tendered shall include for the following:

- a) Loading the material.
- b) Transporting it over the free haul distance.
- c) Offloading the material.
- d) Stacking the material.
- e) Distributing the material.

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