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ENGINEERING TECHNOLOGY MANAGEMENT

SPECIFICATION

SPECIFICATION FOR THE HANDLING AND MAINTENANCE OF STRAIGHT EDGES USED FOR TRACK WELDING

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Table of Contents

- 1.0 Scope**
- 2.0 Introduction**
- 3.0 Requirements of the track straight edge.**
- 4.0 Requirements of the master track straight edge**
- 5.0 Transportation**
- 6.0 Inspection of straight edge before use**
- 7.0 Use of a straight edge**
- 8.0 Inspection interval**
- 9.0 Withdrawal from service**

SPECIFICATION FOR THE HANDLING AND MAINTENANCE OF STRAIGHT EDGES USED FOR TRACK WELDING

1.0 SCOPE

The scope of this specification covers the use, transportation and calibration of the one metre and 0.5-meter straight edge that is used by track welding staff.

2.0 INTRODUCTION

- 2.1 The one-meter straight edge is to be used by welding personnel to check all the welding activities in accordance with the track-welding manual.
- 2.2 The one-meter straight edge is used because it does not measure a slack in track. Therefore if there are any readings it will indicate a defect that has to be addressed.
- 2.3 Only approved straight edges are to be used.

3.0 REQUIREMENTS OF THE TRACK STRAIGHT EDGE.

- 3.1 The straight edges that are to be used will be made up of
 - Hardened and tempered spring steel (HTSS) and
 - Cadmium plated
- 3.2 The dimensions are 1(+0.005) m in length and 50 (+1) mm in height and 2 (+0.5) mm in width.
- 3.3 The bevel edge (blade) is 1 (± 0.2) mm thick with a slope of 10:1
- 3.4 The straight edge must be stored in a PVC bag or authorised container.
- 3.5 The straight edge must be flexible in bending over the length. The arc must not be more than 0,5mm concave when resting free on its side on a flat surface.
- 3.6 A 0,05 mm feeler gauge may not pass through the entire 1m-blade length as measured over the master.

4.0 REQUIREMENTS OF THE MASTER TRACK STRAIGHT EDGE

- 4.1 The master straight edge will be kept at the Depot Engineer's office.

4.2 This straight edge will be 1m in length, 40mm in height and 8mm in thickness with no bevels.

4.3 It has to be made from tool steel.

4.4 The measuring surface must be true. Accuracy must be within 0.005mm.

5.0 TRANSPORTATION

5.1 Only approved means of transportation are to be used.

5.2 The straight edge can be transported at the back of the vehicles provided it is secured appropriately. It must be transported in a PVC or approved container

5.3 In the case of the Road Rail Vehicle the straight edge must be stored in the allocated shelf.

6.0 INSPECTION OF STRAIGHT EDGE BEFORE USE

6.1 Before using the straight edge the following inspection must be done

- The blade should not be more than 1.5mm thick
- There must be no arc burns or weld splatter on the measuring edge.
- The measuring end must not have any mechanical damage.
- The straight edge must have no modifications done to it for example
 - No additional hole to be made
 - No welding attachments
 - No dimensional markings on the blade.
- It must be straight over the entire length

7.0 USE OF A STRAIGHT EDGE

7.1 The straight edge is a measuring tool and must be treated with care.

7.2 The straight edge must not be dropped on track.

7.3 When measuring, the straight edge must be placed gently on the railhead.

7.4 When measuring at different locations the straight edge must not be dragged on the crown. It must be lifted and place on the different measuring points.

- 7.5 Where closures or insulated block joints are placed in track, ensure that the track circuits are completed before using the straight edge
- 7.6 During welding and grinding activities always ensure that the straight edge is placed correctly and safely.
- 7.7 When measurements are taken ensure that the straight edge is gently held against the rail to ensure correct readings are taken. Do not force the straight edge side ways during measurements

8.0 INSPECTION INTERVAL

- 8.1 The welding supervisor must regularly do visual examination.
- 8.2 The straight edge must be checked against the master every six months.
- 8.3 If the blade thickness is more than 1,5mm then the straight edge is to be reconditioned as per paragraph 3.

9.0 WITHDRAWAL FROM SERVICE

- 9.1 If the straight edge is damaged beyond repair or it does not conform to the above requirements, it must be withdrawn from service.