



**SPECIFICATION FOR THE SUPPLY OF
CONCRETE BLOCKS FOR WEIGHBRIDGE
WAGON**

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Page 1 of 4

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08/09/2023

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1 INTRODUCTION

1.1 Scope

- 1.1.1.1 This specification document serves to propose suitable concrete blocks for the CR-13 Weighbridge wagon.

2 REQUIREMENTS OF THE WEIGHTS

2.1 Parameters and Restrictions

- 2.1.1.1 The weighbridge wagon requires concrete blocks accumulating to a total load of 81 tonnes.
- 2.1.1.2 The dimensions of the required concrete blocks are illustrated in Appendix A.
- 2.1.1.3 All parameters of the concrete blocks i.e. the height, width and length shall be met as indicated in the design drawings, and no parameter shall be infringed.
- 2.1.1.4 Transnet Engineering requires 6 Concrete blocks as illustrated in Appendix A. The blocks are each to weigh 13.5 tons.
- 2.1.1.5 Should the supplier not be able to meet the required tonnage using the parameters stipulated in Appendix A, alternative additional method like the use of steel reinforcement should be explored.
- 2.1.1.6 Each concrete block shall have a total of 4 lifting lugs (two on each side) made of corrosive resistance material and should be strong enough to maintain the structural integrity of the blocks.
- 2.1.1.7 The concrete blocks shall have a minimum density of 2 434 kg/m³.
- 2.1.1.8 As part of the submission, the supplier is required to provide details of how long it will take to manufacture all blocks and how long it will take to cure.
- 2.1.1.9 Provision must be made to prevent the cracking of the concrete blocks.
- 2.1.1.10 Concrete should be supplied with a CEM II A-M(L) 52.5N and Dura Pozz Blend or equivalent.
- 2.1.1.11 The strength capacity of the mixture should be 30 MPa.
- 2.1.1.12 Concrete must be supplied with a slump of +125mm.
- 2.1.1.13 The supplier shall make provision for a substance to prevent water from penetrating the concrete blocks (SIKA or Similar Approved substance).
- 2.1.1.14 The supplier must cater for blocks reinforcement and provide the concrete block reinforcement drawing for all the blocks to be supplied.
- 2.1.1.15 All Work in Accordance with the relevant sections of SANS 1200 and as required by the local Authorities or statutory bodies.
- 2.1.1.16 Where the reference is made to the South African Standards Specifications, the current edition shall be used.
- 2.1.1.17 The engineer shall be notified should there be any discrepancy between drawings, details, and specification.
- 2.1.1.18 The reinforcement to be checked and approved by the certified engineer prior to casting.

- 2.1.1.19 Concrete block to be cured using approved curing compounds.
- 2.1.1.20 Concrete should be supplied square; no screeding up will be allowed as this will affect the block tie down mechanism as shown on Annexure C.
- 2.1.1.21 All the Sharp exposed edges shall be chamfered 20 x 20 mmm.
- 2.1.1.22 The supplier shall provide maintenance procedure for repairing of cracks and chips on the blocks.
- 2.1.1.23 The supplier must advise on the correct method of handling the blocks during loading and offloading of the blocks.
- 2.1.1.24 The supplier shall provide the material certification for the mixture used.
- 2.1.1.25 The supplier shall be responsible for the delivery of the concrete blocks and the logistic related to it, Transnet will provide a space where the blocks will be placed. The supplier to provide the mobile crane for offloading the blocks.
- 2.1.1.26 It is a responsibility for the supplier to provide required stabilisation and levelling for the crane during offloading of blocks.
- 2.1.1.27 Transnet will not be held liable for any delays resulting from inclement weather or any other delays as a result of the client.
- 2.1.1.28 Each block will have a tolerance of +- 50 kg.
- 2.1.1.29 The supplier shall provide the dimension and weight certificate for each block supplied.
- 2.1.1.30 The supplier shall provide weight certificate for each block and stencil the weight on the blocks.
- 2.1.1.31 The supplier shall stencil an asset/block number on each individual concrete block. Transnet will provide the asset/block number configuration to the awarded supplier. However, provision must be made by the supplier during the quotation stage.

3 MANUALS AND CATALOGUES

- 3.1.1.1 The following documentation must be provided in English.
 - 3.1.1.1.1 The Detailed specification of the concrete mixture.
 - 3.1.1.1.2 The certificate for the design mixture used.
 - 3.1.1.1.3 The calculations for the mixture

4 QUALITY ASSURANCE

- 4.1.1.1 The supplier shall establish an adequate Quality Management System to fulfil the design, manufacturing requirements and tests to achieve a safe, reliable and available to the rail industry norms.

5 WARRANTY

- 5.1.1.1 Two-year warranty shall be applicable and will only commence once Transnet has received and commissioned the concrete blocks.

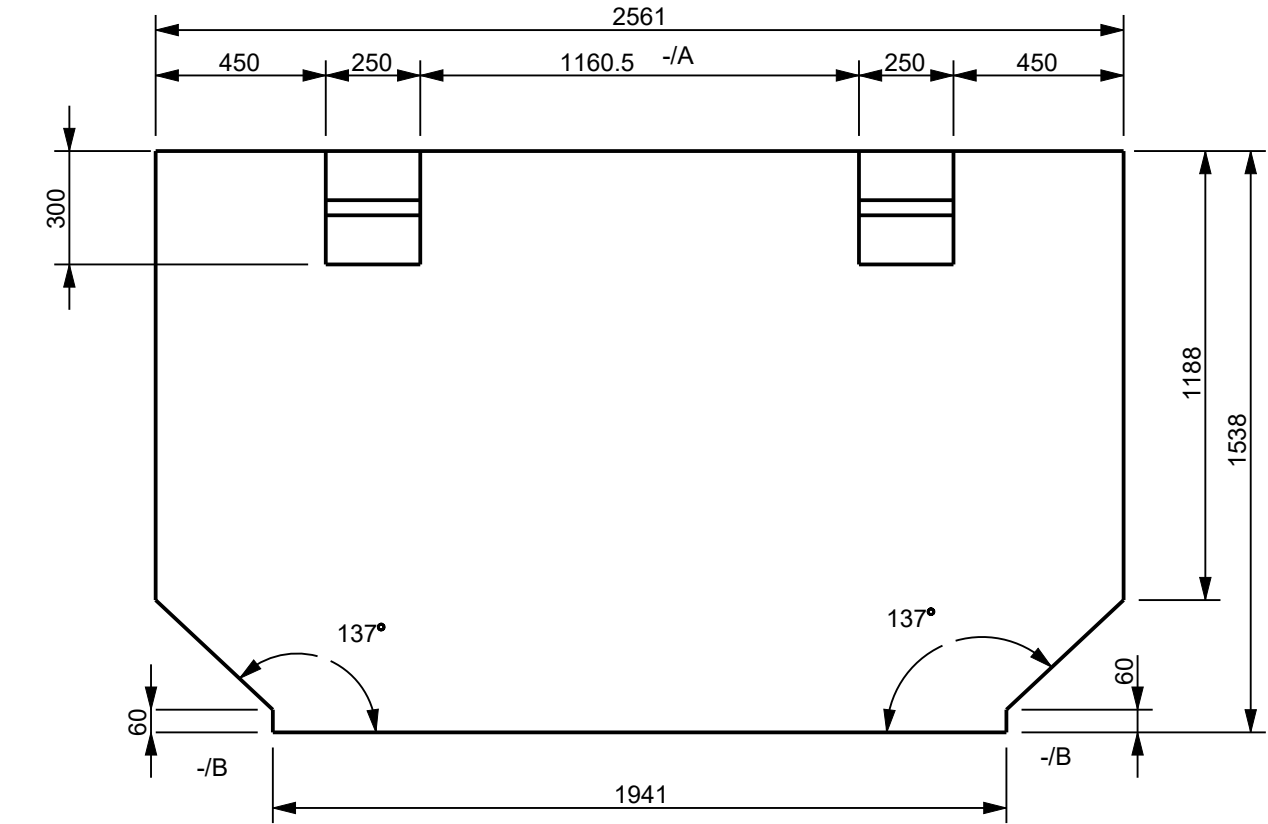
APPENDIX A

FOR UNTOLERANCED DIMENSIONS SEE ISO 2768-1:
FOR GENERAL TOLERANCE ON WELDED CONSTRUCTIONS SEE ISO 13920: CLASS

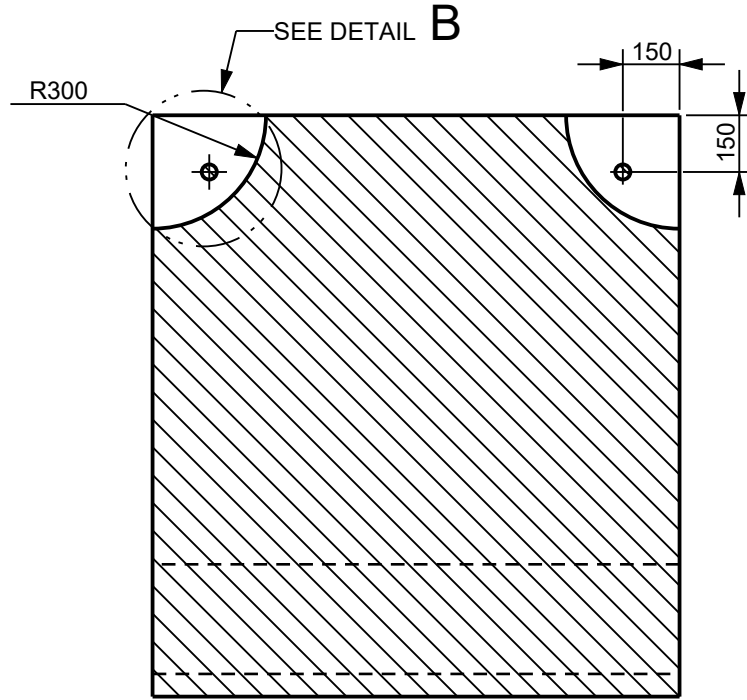
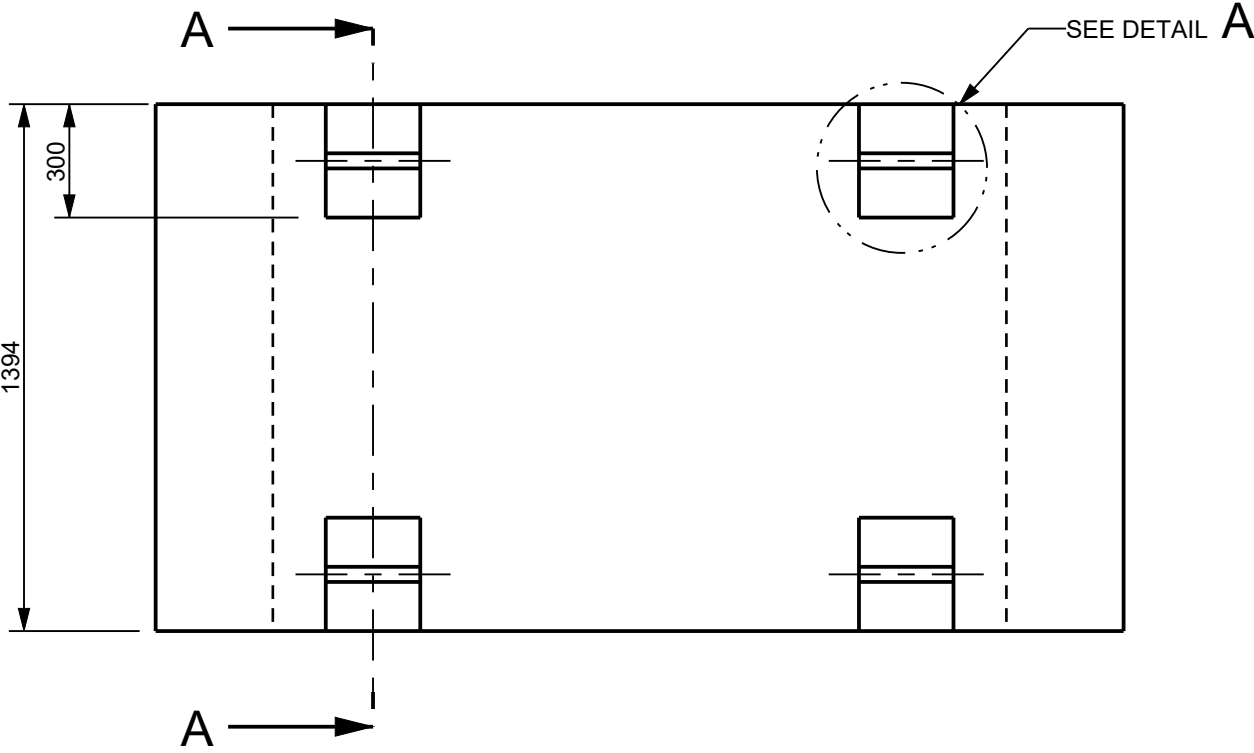
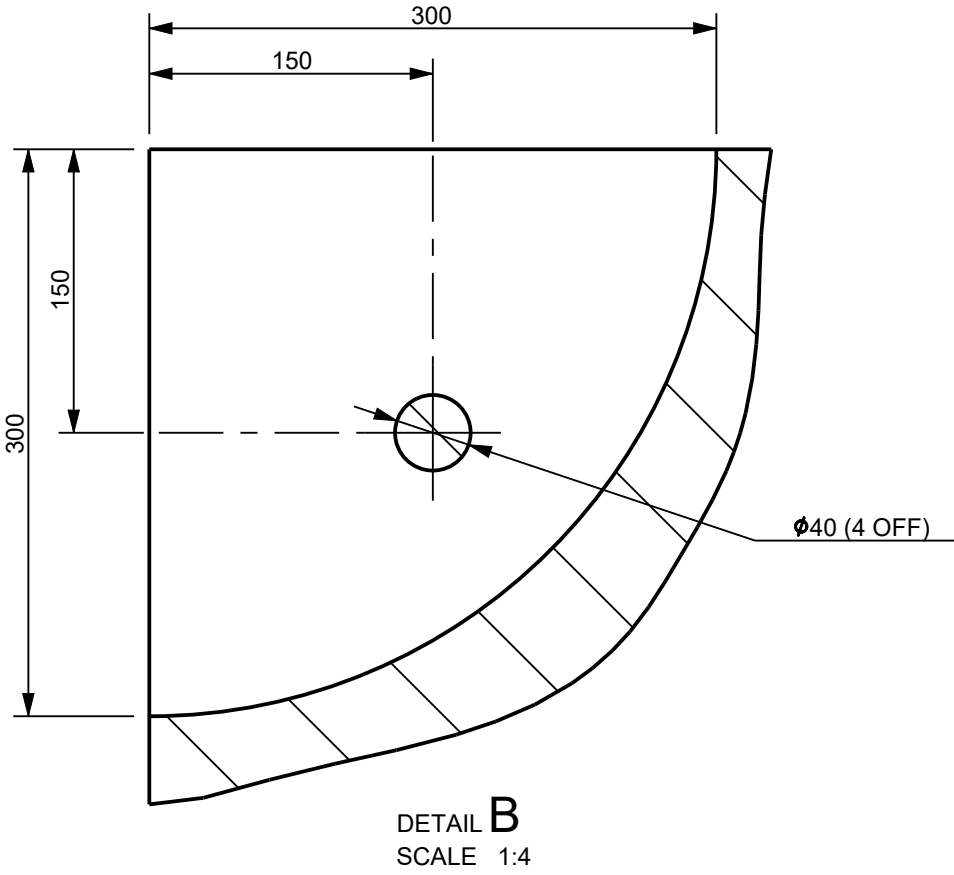
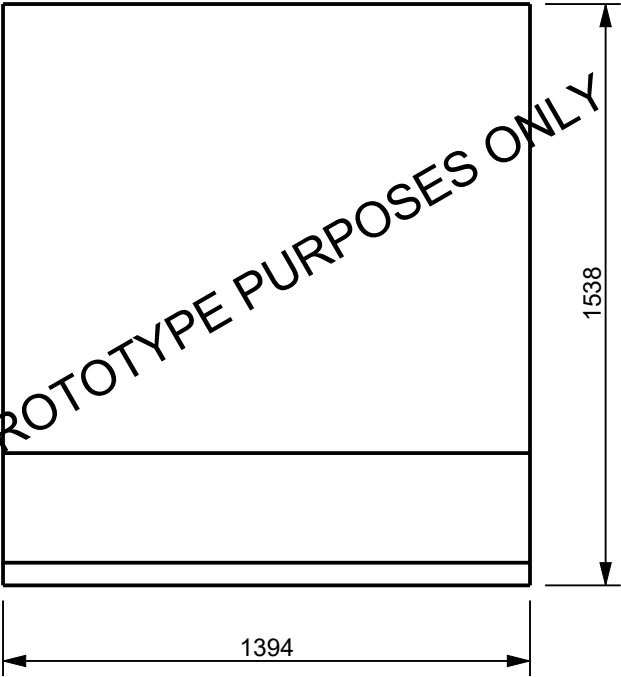
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2D STATUS

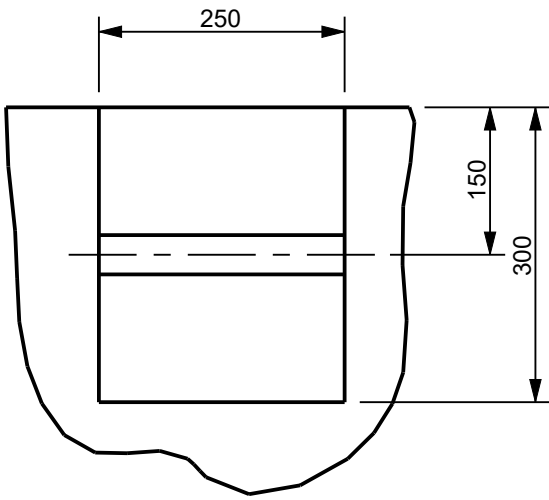
IN WORK



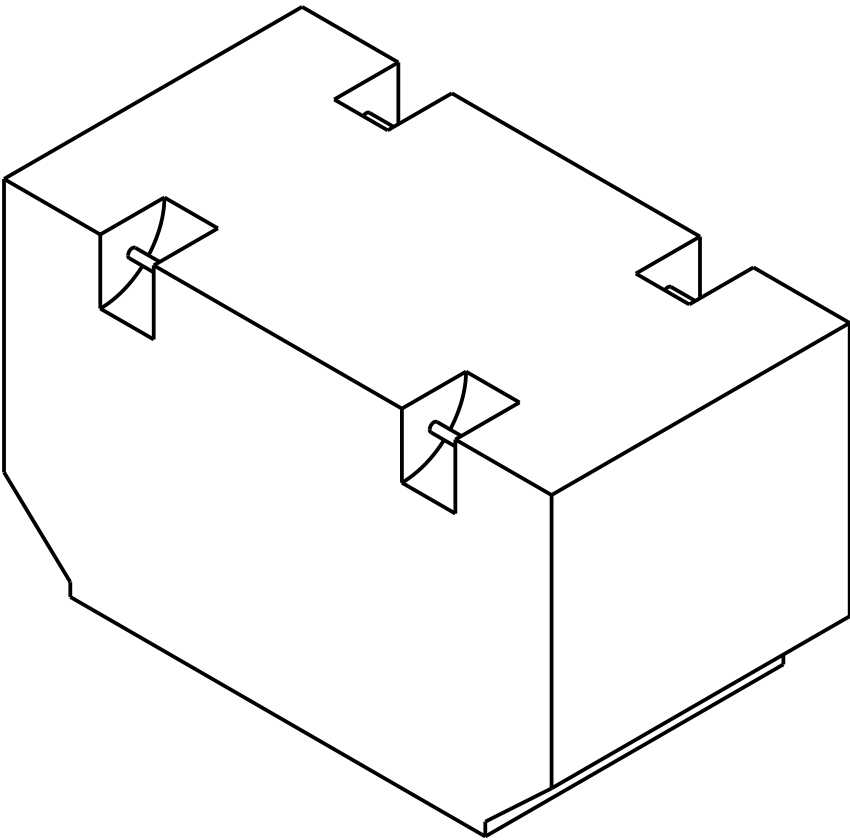
FOR PROTOTYPE PURPOSES ONLY



SECTION A-A



DETAIL A
SCALE 13:100



SCALE 1:25

-/A
DIMENSIONS ADDED
ECR0003053
2024/08/21
E.Z.Z.

ECN000085
2023/10/31 E.Z.Z.

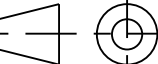
AMENDMENTS

MASS 13 500 Kg

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A-2

PROJECTION



ASSEMBLY DRG No.

DRAWN

E.Z.Z.

CHECKED

J.F.N.

APPROVED

K.M.

TYPE CR13 WEIGHBRIDGE

DATE

20/06/2023

WAGONS

SCALE

1:20

DOCUMENT REFERENCE No.

PD_PEW_KLP_DRW_918C

KILNER PARK

WAGONS

CONCRETE BLOCK
CR13 WEIGHBRIDGE WAGON

MATERIAL

CONCRETE BLOCK

CONCRETE 1394 THINK
1538 x 2561

SHEET 1 OF 1

TRANSNET ENGINEERING

No.

PEW918C0056

REV

A