

## **INFRASTRUCTURE ENGINEERING**

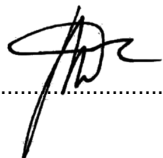
### **PROCUREMENT SPECIFICATION**

---

## **Provision For The Supply of Manually Operated Chain Lever Hoist**

---

Author:                      Engineering technician                      Molefi Moeketsane  
                                    Small plant and Equipment

  
.....

Date:                      30 January 2014

Circulation Restricted To:

Transnet Freight Rail – Rail network  
Approved third parties

© This document as a whole is protected by copyright. The information herein is the sole property of Transnet Ltd. It may not be used, disclosed or reproduced in part or in whole in any manner whatsoever, except with the written permission of and in a manner permitted by the proprietors.

---

# Contents

1. Scope .....	3
2. Environmental Conditions .....	3
3. Qualifications.....	3
4. Performance.....	3
5. Technical Requirements .....	3
5.1 General Description .....	3
5.2 Working load limit and range of lift .....	3
5.3 Operation .....	4
5.4 Hooks.....	4
5.5 Load chain .....	4
6. Safety.....	4
7. Quality Control .....	4
8. Legal and Operational.....	5
Annexure A : Schedule of requirements .....	6

---

## **1. Scope**

- 1.1 This specification outlines the requirements of a manually operated chain lever hoist.
- 1.2 The chain lever hoist shall be delivered to the depot as will be stipulated on the contract for this procurement event.
- 1.3 Tenderers are requested to read this specification and related documents as highlighted in the specification.
- 1.4 Tenderers are to submit the complete specification for products on offer at the tendering stage.

## **2. Environmental Conditions**

- 2.1 The lever hoist shall be used in all weather conditions having altitudes varying from sea level to 1850m above sea level, relative humidity 0% to 90% and atmospheric conditions which vary from heavily saline to dry and dusty.
- 2.2 Ambient air temperatures ranging from -5° C to 50° C.

## **3. Qualifications**

- 3.1 The design of the lever hoists is to be that of the manufacturer, but must be of robust construction in order to meet sustained heavy duty demands, yet they must be light and easy for safe use.
- 3.2 The lever hoist will be acceptable in standard factory production finish and colour. Details to be furnished.

## **4. Performance**

- 4.1 The actual design of the chain lever hoists shall have the capacities as stated in annexure A of this specification.
- 4.2 The lever hoists are to be easily and economically maintained/repaired with standard workshop tools and equipment when necessary.

## **5. Technical Requirements**

### **5.1 General Description**

- 5.1.1 Transnet Freight Rail requires heavy duty, portable tool with steel chain and operated by a lever to give a mechanical advantage for lifting, lowering or suspending load under railway service condition.
- 5.1.2 The equipment shall conform to the requirements as laid down in this specification, SANS 1636:2007 and relevant SANS standards.

### **5.2 Working load limit and range of lift**

- 5.2.1 The lever hoist shall have a working load limit higher than the specified safe working load.
- 5.2.2 The lever hoist safe working load shall be specified and clearly marked on the unit.
- 5.2.3 The fitted length of the load chain shall be such that it will allow the full required range of lift to be achieved without imposing a load on the chain stop.
- 5.2.4 Lever hoist offered shall be as per schedule of requirements under annexure A of this specification.

---

## **5.3 Operation**

- 5.3.1 The load shall be moved by the operation of the lever and the direction shall be determined by means of a ratchet arrangement.
- 5.3.2 The ratchet shall be such that full engagement is maintained even when the friction components are wearing.

## **5.4 Hooks**

- 5.4.1 Hooks shall be forged from quality steel and be free from internal and surface defects.
- 5.4.2 The rotating parts of the swivel shank hooks shall be capable of being lubricated both on installation and during service.
- 5.4.3 Both the top and bottom hooks shall be so designed to allow rotation and be fitted with safety latch to prevent accidental disconnection of either the load or the anchor.
- 5.4.4 All hooks shall be such when tested to 4 X working load limit, the deformation of the hook shall be such that the release of the load is not possible.
- 5.4.5 The manufacturer shall supply a means of information to determine if the hook throat opening is in excess of the manufacturer's recommended specifications.
- 5.4.6 All hooks shall have a minimum factor of safety of 4, the working load limit, safe working load and manufacturer's trade mark or name shall be forged into the hook.

## **5.5 Load chain**

- 5.5.1 The load chain shall comply with the requirements of SANS 1592.
- 5.5.2 The lever hoist shall have load chain guides to guide the load chain onto the load wheel and twisting of the load chain during operation must be prevented.
- 5.5.3 The load chain wheel shall be such that the chain pockets are compatible with the load chain and that smooth operation is ensured at all times.

## **6. Safety**

- 6.1.1 The lever hoist shall have an automatic brake that is capable of arresting and holding the load under all working conditions.
- 6.1.2 The lever hoist shall provide a smooth and controlled lowering of the load without impairing the efficient working of the lever hoist.
- 6.1.3 The brake system shall be assisted by the use of pawls. Double pawls operating mechanism is required.

## **7. Quality Control**

- 7.1 All equipment as required by various clauses of this specification must be manufactured in an environment that complies to the latest SANS ISO 9001 to ISO 9004 or similar quality control standards. Details must be furnished.

---

## **8. Legal and Operational**

- 8.1 The chain lever hoist is to comply with the requirements of this specification, SANS 1636:2007, related SANS standards, Safety and Environmental standards in force at the time of tendering.
- 8.2 The information as requested by the various clauses in this specification is to be supplied in form of technical data, pamphlets and/or drawings. If this is not complied with, offers may be overlooked.
- 8.3 All equipment is to be guaranteed for a minimum period of 24 months against faulty material and poor workmanship - fair wear and tear excluded. Full details of guarantee are to be submitted.

---

### **Annexure A : Schedule of requirements**

<b>Description</b>	<b>Size</b>	<b>QTY</b>	<b>Unit price</b>	<b>Final price</b>
Chain Lever Hoist	3T x 3 m Lift	63		
Chain Lever Hoist	0.5T x 3 m Lift	63		