

RFQ / TENDER

Tender No: BH03/2013



Vendor No: 11001386

BOARD LIST
BOARD LIST
TRANSNET FREIGHT RAIL
PROCUREMENT DEPARTMENT
2000

Purchaser : Buyisiwe Hlatshway
Telephone : 011 584 0665
Fax Number:

Please quote reference:
DJ2/6000585065

Deliver to:
TFR Head Office
Supply Chain Services
2000 Johannesburg

Closing Date : 29.01.2013
Validity Date : 30.04.2013
RFQ No : 6000585065

Currency: ZAR

RFQ/TENDER: BH 03/2013

SUPPLY AND DELIVERY OF TRACK TOOLS AND EQUIPMENT TO TRANSNET FREIGHT RAIL'S ELANDSFONTEIN DEPOT

TENDERS ARE HEREBY INVITED TO QUOTE AND SUBMIT QUOTATION/S AT INYANDA HOUSE 1, 21 WELLINGTON ROAD, PARKTOWN-JOHANNESBURG, NOT LATER THAN TUESDAY 29 JANUARY 2013 AT 10:00 AM, N.B. TENDER BOX IS OPEN FOR 24 HOURS PER WEEK FOR DELIVERING YOUR QUOTATION/S. NB: PLEASE QUOTE AS PER ATTACHMENT SPECIFICATIONS.

1. RETURN OF QUOTATION/S PLEASE FAX: 011 774 9129 OR 774 9186 OR

E-MAIL TO: thuli.mathebula@transnet.net

1.1 QUOTATION/S MUST BE SUBMITTED PUNCTUALLY AT 10:00 ON THE CLOSING DATE AND LATE QUOTATIONS WILL NOT BE CONSIDERED.

1.2 IF DELIVERED BY HAND:

TRANSNET FREIGHT RAIL, SUPPLY CHAIN SERVICES
GROUND FLOOR
INYANDA HOUSE 1
21 WELLINGTON ROAD
PARKTOWN
2193

2. CONDITIONS:

2.2 ANY PURCHASE ORDER PLACED AS A RESULT OF YOUR QUOTATION WILL BE SUBJECT TO THE STANDARD TERMS AND

CONDITIONS OF CONTRACT, FORM US7(LATEST), GENERAL TENDER CONDITIONS, FORM CSS5 (LATEST) AND CONDITIONS MENTIONED HEREIN.

2.3 TENDERERS MAY OFFER AN EARLIER VALIDITY DATE, BUT THEIR QUOTATION MAY, IN THAT EVENT, BE DISREGARDED

DATE:

SIGNATURE OF TENDERER(S):

CONTACT PERSON: TEL No:

RFQ / TENDER

Tender No: BH03/2013 Page
Date : 23.11.2012 2

BOARD LIST TRANSNET FREIGHT RAIL PROCUREMENT DEPARTMENT

FOR THIS REASON.

2.4 TENDERERS ARE REQUIRED TO OFFER ONLY FIRM PRICES. PRICES SUBJECT TO REVIEW IN TERMS OF CLAUSE 32 OF FORM US7 WILL ONLY BE CONSIDERED SHOULD THE DELIVERY PERIOD REQUIRED EXCEED 6 MONTHS.

2.5 BEST DELIVERY TIME MUST BE OFFERED.

2.6 DISCOUNT (TRADE DISCOUNT), VALUE ADDED TAX (VAT) MUCH BE SHOWN SEPARATELY.

2.7 TRANSNET RESERVES THE RIGHT TO NEGOTIATE PRICES AND COMMERCIAL ASPECTS AFTER THE CLOSING DATE OF THE QUOTATION.

2.8 DIRECT DELIVERY INTIMATES DELIVERY BEING EFFECTED INTO THE WAREHOUSE OR THE ACTUAL POINT OF SUPPLY AND SHOULD THEREFORE INCLUDE ANY TRANSPORTATION MODE DEEMED NECESSARY IN EXECUTING THIS METHOD OF DELIVERY BASIS IN ORDER TO MEET THE REQUIRED DELIVERY DATE. TAX CLEARANCE CERTIFICATES: The Regulations in

terms of the Public Finance Management Act, 1999: Framework for Supply Chain Management as published in Government Gazette No. 25767 dated 5 December 2003, Clause 9 (1) (d), stipulates that the accounting authority of an institution to which these regulations apply must reject any bid from a supplier who fails to provide written proof from the South African Revenue that the supplier either has no outstanding tax obligations or has made arrangements to meet outstanding tax obligations.

Tenderers will be disqualified if a valid tax clearance certificate or written proof from the South African Revenue Service that supplier has made arrangements to meet outstanding tax obligations is not submitted with the tender. COMPANY DETAILS:

NAME OF COMPANY: _____ CONTACT PERSON: _____ TEL. _____

No. _____ FAX No. _____ REG. No. _____ BROAD BASE BLACK

ECONOMIC EMPOWERMENT (BBBEE) Transnet fully endorses and supports the Government's Broad-based Black Economic Empowerment Programme and it is strongly of the opinion that all South African Business Enterprises have an equal obligation to redress the past. Transnet will therefore prefer to do business with local business enterprises who share these same values.

Transnet will endeavour to do business enterprises that possess a BBBEE "recognition level" of at least a level 5. Transnet urges Tenderers (large enterprises and QSE's- see below) to have themselves accredited by any one of the various Accreditation Agencies available, who do their BBBEE ratings in accordance with the latest Codes (i.e. those promulgated on 9 February 2007) and whose names appear on the present ABVA (Association of BEE Verification Agencies)-"List of Full Members" as displayed on the

ABVA website (www.abva.co.za) Although no agencies have, as yet, been accredited by SANAS (SA National Accreditation System), Transnet will, in the interim, accept rating certificates of tenderers who have been verified by any of the listed agencies. Enterprises will be rated by such agency based on the Following: 1. Large Enterprises (i.e. annual turnover > R 35 million: "Rating level base on all seven elements of the BBBEE scorecard. 2. Qualifying Small Enterprises-(QSE)(i.e. annual turnover > R5M but < R35m "Rating based on any four elements of the BBBEE scorecard. NB:

3. Emerging Micro Enterprises-(EME) (i.e. annual turnover < R5m) are exempted from being rated/verified: "Automatic rating of Level 4 BBBEE irrespective of race of ownership, i.e. 100% BBBEE recognition "Black ownership > 50% or Black Women ownership > 30% automatically qualifies as level 3 BBBEE, i.e. 110% BBBEE recognition.

"EME's should provide certified documentary proof of annual turnover (i.e. audited financials) plus proof of Black ownership if Black ownership > 50% or Black Women ownership > 30% from the EME's Auditor/ Accounting Officer.

4. In addition to the above, Tenderers who wish to enter into a Joint Venture or subcontract portions of the contract to BBBEE companies, must state in their tenders the percentage of the total contract value that will be allocated to such BBBEE companies should they be successful in being awarded any business. A rating certificate in respect of such BBBEE JV-partners and /or sub-contractor/s, as well as a breakdown of the distribution of the aforementioned percentage must also be furnished

DATE:

SIGNATURE OF TENDERER(S):

.....

RFQ / TENDER

Tender No: BH03/2013
Date : 23.11.2012

Page
3

BOARD LIST TRANSNET FREIGHT RAIL PROCUREMENT DEPARTMENT

In view of the high emphasis which Transnet places on Broad-based Black Economic Empowerment, Transnet will allow certain preference points for BBBEE in the evaluation of all responses. Depending upon the value of the ensuing business award (i.e. below or in excess of R2m), the 80/20 or 90/10 point preference systems will be utilized where BBBEE will count out of 20 or 10 respectively in the evaluation process.

EACH RESPONDENT IS REQUIRED TO FURNISH PROOF OF THE ABOVE TO TRANSNET
FAILURE TO DO SO WILL RESULT IN A SCORE OF ZERO BEING ALLOCATED FOR BBBE
Turnover: Kindly indicate your company's annual turnover for the past year R _____

"If annual turnover < R5m, please attach certified confirmation from your Auditor/Accounting Officer

"If annual turnover > R5m please attach original or certified copy of accreditation certificate and detailed scorecard by an ABVA accreditation agency (registered as a "Full Member")

PAYMENT TERMS

The following payment terms will apply as from 1 October 2008.
"All suppliers will be paid 30 days from receipt of month and statement.
i.e. payment term F055

CONDITIONS:

This quotation is subject to the provisions of the Standard Terms and Conditions of Contract, Form US7, (Latest) and the General Tender Conditions, Form CSS5 (Latest) and any other standard or special conditions mentioned and/or embodied in the quotation request.

SCHEDULE OF REQUIREMENTS

TENDERERS SHOULD INSERT THEIR PRICE/S UNDER THE APPROPRIATE HEADING HEREUNDER;

IN THIS REGARD THE TENDERER'S ATTENTION IS DIRECTED TO PARAGRAPH 16 OF FORM CSS5 (LATEST).

NB. TENDERERS OFFERING GOODS FROM IMPORTED SUPPLIES MUST SUBMIT THEIR PRICES ON THE DELIVERY BASIS APPEARING UNDER COLUMN (C) OF THIS SCHEDULE OF REQUIREMENTS.

TRANSNET INSISTS ON HONESTY AND INTEGRITY BEYOND REPROACH AT ALL TIMES AND WILL NOT TOLERATE ANY FORM OF IMPROPER INFLUENCING, BRIBERY, CORRUPTION, FRAUD, OR ANY OTHER UNETHICAL CONDUCT ON THE PART OF BIDDERS /TRANSNET EMPLOYEES. IF, IN THE OPION OF TRANSNET,S CHIEF OPERATING OFFICER, A TENDERER/CONTRACTOR/SUPPLIER HAS OR CAUSED TO BE PROMISED, OFFER OR GIVEN TO ANY TRANSNET EMPLOYEE, ANY BRIBE, COMMISSION, GIFT LOAN ADVANTAGE OR OTHER CONSIDERATION, TRANSNET SHALL BE ENTITLED TO REVOKE THE TENDER/CONTRACT BY FOLLOWING ITS INTERNAL POLICIES THAT

DATE:

SIGNATURE OF TENDERER(S):

.....

RFQ / TENDER

Tender No: BH03/2013
Date : 23.11.2012

Page
4

BOARD LIST TRANSNET FREIGHT RAIL PROCUREMENT DEPARTMENT

GOVERN THE ECLUSION PROCESS.IN SUCH AN EVENT TRANSNET WILL BE ENTITLED TO PLACE ANY TENDERER/CONTRACTOR/SUPPLIER WHO HAS CONTRAVENED THE PROVISIONS OF TRANSNET'S BUSINESS ETHICS ON ITS LIST OF EXCLUDED TENDERERS.THIS LIST WILL ALSO BE DISTRIBUTED TO ALL OTHER STATE OWNED ENTERPRISES AND GOVERNMENT DEPARTMENTS.

TRANSNET INVITES ITS VALUED SUPPLIERS TO REPORT ANY ALLEGATIONS OF FRAUD, CORRUPTION OR OTHER UNETHICAL ACTIVITIES TO TRANSNET TIP-OFFS ANONYMOUS, AT ANY OF THE FOLLOWING ADDRESSES/ CONTACT NUMBERS:

TOLL-FREE ANONYMOUS HOTLINE-0800 003 056
EMAIL-transnet@tip-offs.com
FAX NUMBER-0800 007 788
FREEPOST DBN 298, UMHLANGA ROCKS, 4320

ADDITIONAL INFORMATION REQUIRED:(WHERE APPLICABLE)

3.1 THE FOLLOWING ADDITIONAL INFORMATION IS REQUIRED:

- (A) DISCOUNT:-----
(B) SETTLEMENT DISCOUNT:-----
(C) PRICE/S FIRM:-----
(D) PRICE/S FIRM UNTIL:-----THEREAFTER SUBJECT TO REVIEW.
(E) PRICE/S NOT FIRM:-----
(F) SABS MARK:-----
(G) SABS PERMIT NO:-----
(H) BRAND/MAKE/TYPE:-----
(I) FULL NAME AND ADDRESS OF MANUFACTURER:-----

(J) FULL NAME AND ADDRESS OF INSPECTION POINT:

(K) COUNTRY OF ORIGIN:-----

(L) YEAR 2000 CONTRACT COMPLIANCE:

Vendor/proposers shall indicate their year 2000 compliance with:

- A. Technology Products.
B. Equipment, products, components or parts
C. Products and Services

Non-compliance with either (A) or (B) shall result in your bid/proposal being deemed non-responsive. Non-Compliance with (C) may cause you bid/proposal to be deemed non-responsive. If you indicate that none of the following apply, please provide a written justification for your determination. Transnet will review this justification and will make a final determination.

Year 2000 Compliance means that (A) the information Technology,

DATE:

SIGNATURE OF TENDERER(S):

.....

RFQ / TENDER

Tender No: BH03/2013
Date : 23.11.2012

Page
5

BOARD LIST TRANSNET FREIGHT RAIL PROCUREMENT DEPARTMENT

(B) Equipment/Products/Components/Parts (Collectively Products) supplied.

(C) Products and Services contracted, will accurately process date and time data from into and between the 20th and 21th centuries. The year 1999 and 2000 and for all leap year. Process date and time includes, but is not limited to, data calculation, logistical functions, program branching, format conversion, edits and validations and the use of dates in comparasons, sorting sequencing, merging, retrieving, searching and indexing. Furthermore year 2000 compliance when (A) used in combination with other information technology, (B) used in combination with other products, (C) used in combination with their(Vendor) other date required interfaces, shall accurately process date and time data (A) if the other technology, (B) If the other products, (C) either passed to or received from their other customers/suppliers, properly exchange date and time data with it/ them.

Comply: _____ Does not Comply: _____ Not Comply: _____

Justification:-----

(M) SURPLUS MATERIAL:

TENDERERS MUST INDICATE IF THEY WILL BE PREPARED TO PURCHASE BACK FROM TRANSNET ANY SURPLUS MATERIAL WHICH MAY BECOME AVAILABLE FROM ANY RESULTING PURCHASE ORDER/CONTRACT ORIGINATED FROM THE QUOTATION SUBMITTED:

(N) PAYMENT OVERSEAS:

ONLY IF TRANSNET LIMITED IS REQUESTED BY THE TENDERER TO EFFECT PAYMENT OVERSEAS DIRECT TO THE TENDERER'S PRINCIPAL/SUPPLIER THE FOLLOWING INFORMATION IS REQUIRED:

* EXCHANGE RATE ON WHICH THE QUOTATION PRICE IS BASED:R 1.00 SA CURRENCY BEING EQUAL TO----- (FOREIGN CURRENCY).

* PERCENTAGE IN RELATION TO THE QUOTATION PRICE TO BE REMITTED OVERSEAS:

* NAME OF COUNTRY TO WHICH PAYMENT IS TO BE MADE:

* APPLICABLE DATE OF EXCHANGE RATE:

* BENEFICIARY'S NAME AND FULL ADDRESS:

* BENEFICIARY'S BANKERS AND FULL ADDRESS:

DATE:

SIGNATURE OF TENDERER(S):

.....

RFQ / TENDER

Tender No: BH03/2013 Page
Date : 23.11.2012 6

BOARD LIST
TRANSNET FREIGHT RAIL
PROCUREMENT DEPARTMENT

* APPLICABLE ACCOUNT NUMBER:

(O) DELIVERY DATE:

TENDERERS MUST FURNISH THEIR ACTUAL DELIVERY AND MANUFACTURING PERIOD
HEREUNDER NOTWITHSTANDING THE DELIVERY DATES SPECIFIED BY TRANSNET.

THE FOLLOWING MUST ALSO BE FURNISHED IN REGARD TO THE ABOVE:

1. PERIOD REQUIRED TO OBTAIN RAW MATERIAL.----(DAYS)
2. MANUFACTURING PERIOD.------(DAYS)
3. PERIOD TO TRANSPORT MATERIAL TO DESTINATION.-(DAY)

MATERIAL NO.	1.(PERIOD)	2. (PERIOD)	3. (PERIOD)

Item	Qty	Material	Description
------	-----	----------	-------------

00010	6	Diesel Hydraulic power unit	
			R..... Each

Delivery Date: 01.02.2013

FULL DETAILS OF DESCRIPTION

00020	12	Hydraulic tie tamping machines	
			R..... Each

Delivery Date: 01.02.2013

FULL DETAILS OF DESCRIPTION

00030	3	Hydraulic rail drilling machines	
			R..... Each

Delivery Date: 01.02.2013

FULL DETAILS OF DESCRIPTION

00040	3	Hydraulic rail saws/cutters - 400mm	
			R..... Each

Delivery Date: 01.02.2013

DATE:

SIGNATURE OF TENDERER(S):

.....

RFQ / TENDER

Tender No: BH03/2013
Date : 23.11.2012

Page
7

BOARD LIST
TRANSNET FREIGHT RAIL
PROCUREMENT DEPARTMENT

Item	Qty	Material	Description
------	-----	----------	-------------

FULL DETAILS OF DESCRIPTION

00050 6 Hydraulic impact wrench machine

R.....
Each

Delivery Date: 01.02.2013

FULL DETAILS OF DESCRIPTION

00060 6 Hydraulic track toe jacks 10000kg

R.....
Each

Delivery Date: 01.02.2013

FULL DETAILS OF DESCRIPTION

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DATE:

SIGNATURE OF TENDERER(S):

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INFRASTRUCTURE MAINTENANCE

SPECIFICATION

Specification For A Hydraulic Power Supply Unit

Author: Chief Engineering Technician Molefi Moeketsane

Small Plant & Equipment

Approved: Senior Engineer Hendrik Esterhuyse

Equipment Technology

Authorised: Senior Engineer Hendrik Esterhuyse

Equipment Technology

Date: 08 May 2012

Circulation Restricted To:

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Contents

1. Scope	3
2. Operating Conditions.....	3
3. Qualifications	3
4. Performance.....	3
5. General Requirements	4
6. Detailed Requirements	4
6.1 Duty Cycle.....	4
6.2 Engine.....	4
6.3 Battery	4
6.4 Fuel Tank.....	4
6.5 Hydraulic System Requirements	5
6.6 Power Unit Mobility.....	5
6.7 Frame.....	6
6.8 Weight and Dimensions.....	6
6.9 Component Markings	6
6.10 Measuring Gauges & Indicators	6
6.11 Colour and Finish	6
6.12 Safety And Protection.....	6
6.13 Ergonomics.....	7
6.14 Additional Requirements	7
7. Quality Control.....	7
8. Legal and Operational	8

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1. Scope

- 1.1 This specification outlines the requirements of a diesel engine driven, wheel mounted, hydraulic power unit that will be used for the maintenance of railway infrastructure.
- 1.2 The unit must supply two Type 1 System outputs, which will be used at the same time, and one Type RR System output, as per HTMA performance standards.
- 1.3 At any given time, either Type 1 systems or Type RR system will be in use.

2. Operating Conditions

- 2.1 Machines will be operated in all weather conditions at altitudes varying from sea level to 1850 m above sea level, relative humidity 10% to 90% and atmospheric conditions which vary from heavily saline to dry and dusty.
- 2.2 Ambient air temperatures ranging from -5° C to 45° C.
- 2.3 The machines will be used on and around railway tracks and on loose ballast.

3. Qualifications

- 3.1 The design of the machine is to be that of the manufacturer, but must be of robust construction in order to meet the sustained heavy-duty demands of railway infrastructure maintenance.
- 3.2 Power supply units must be compatible with hydraulic tools that operate on the “Open Centre Circuit” hydraulic system.
- 3.3 A “no-tool” adjustment machine is preferred.
- 3.4 Only products proven in service will be considered. A list of users, both South African and international, is to be submitted.

4. Performance

- 4.1 A service life of not less than 7 years is expected from each machine. The actual design life of the machines are to be stated.
- 4.2 The machines are to be easily and economically maintained with standard workshop tools and equipment.
- 4.3 The power supply unit must be compatible with hydraulic oil of viscosity grades 46 and 68 – details as per SANS 1218:2005 (Hydraulic Oil – Anti-wear Type).

5. General Requirements

- 5.1 The power unit must be a heavy-duty wheel mounted machine.
- 5.2 The machine must be complete with hydraulic manifold.
- 5.3 It should be manoeuvrable by one man.
- 5.4 The unit must have guidance wheels for use on rail.
- 5.5 The unit must use a high efficiency hydraulic oil pump/s complete with cooler and return line filter operating on a continuous basis and a suitable tank size to comply to the conditions of this specification.

6. Detailed Requirements

6.1 Duty Cycle

- 6.1.1 The machine must be rated for 100% duty cycle.

6.2 Engine

- 6.2.1 The machine must be diesel engine driven
- 6.2.2 The engine must have sufficient power to comfortably meet the hydraulic requirements at the highest altitude level. Due cognisance must be given to the life requirement of the machine.
- 6.2.3 The engine must be fitted with an automatic shut-down in event of either low engine oil level, low oil pressure level or overheating.
- 6.2.4 The engine must be air cooled.

6.3 Battery

- 6.3.1 The unit must have a sealed lead acid battery of adequate capacity for electric starting.
- 6.3.2 The battery must be secured against theft.

6.4 Fuel Tank

- 6.4.1 The capacity of the fuel tank must not be less than 15 litres.

6.5 Hydraulic System Requirements

- 6.5.1 Details of the hydraulic manifold circuit must be furnished.
- 6.5.2 The power unit must have a suitably sized hydraulic oil tank to comply with the conditions of this specification
- 6.5.3 Flush fitted 12mm ($\frac{1}{2}$ "") fixed male and female quick release, flat-face fittings that comply to HTMA standards must be used.
- 6.5.4 The quick release fittings must be fitted with dust caps.
- 6.5.5 The hydraulic system must have sufficient heat rejection capacity to limit the maximum oil temperature to 60 °C at 100% duty cycle and maximum expected ambient temperature – see clause 2.2.
- 6.5.6 Should a hydraulic oil cooler be fitted, it must automatically switch on and off as and when required and it must be properly protected with a steel grid or plate.
- 6.5.7 System relief valves should be adjusted for cracking pressure as per HTMA requirements.
- 6.5.8 All adjustments must be sealable and tamper proof.

6.6 Power Unit Mobility

- 6.6.1 A suitable power driven mechanism must be offered in order that one operator can move the machine, as specified in this section, under its own power.
- 6.6.2 Notwithstanding clause 6.6.4, a free-wheel operation to allow for manual positioning of the machine must also be available.
- 6.6.3 The unit must have fully variable speed from 0 to the maximum speed..
- 6.6.4. The maximum speed of the machine is not to exceed that which can be managed by a pedestrian.
- 6.6.5 The hydraulic power unit must be permanently fitted with pneumatic rubber tyre wheels.
- 6.6.6 The wheels must be foam filled.
- 6.6.7 The wheels must not be less than 300mm diameter.
- 6.6.8 The tyres are to be to be heat resistant in extreme hot conditions.
- 6.6.8 Tyres to be at least industrial type 4 ply rating.
- 6.6.9 A rail conversion, which allows the machine to be manually pushed along tracks, must be supplied.
- 6.6.10 The rail conversion will be used on track gauges of 1065 to 1105mm, with and without check rails
- 6.6.11 The rail conversion must be such that when on rail, the bottom of the power pack is 300mm above the rail.
- 6.6.11 The rail conversion must be quickly and easily attached and detached.
- 6.6.12 A parking brake(s), effective on and off rail, must be fitted to the power unit.
- 6.6.13 A "dead man" feature must be fitted to the power pack i.e. should the operator let go of the controls, the machine must not move from any position.
- 6.6.14 It must be easy for the power pack to climb onto and off the rail.
- 6.6.15 The machine has not less than 70mm ground clearance.
- 6.6.16 A single man must be able to safely move the machine up and down on rough terrain and standard ballast inclines in free-wheel and powered mode either forwards or backwards.
- 6.6.17 The power unit must be stable while navigating standard ballast inclines.

6.7 Frame

- 6.7.1 The frame and components of the power unit must be robust.
- 6.7.2 The unit must be well protected against rust.
- 6.7.3 The unit must have a compact design with manoeuvring arms and handles.
- 6.7.4 The arms and handles must be designed and positioned in a manner that would allow the unit to be manoeuvred safely and easily. They should also be retractable.
- 6.7.5 The grip on the handles must have a non-slip surface.
- 6.7.6 A lifting point must be fitted and situated such that the unit is balanced when lifted.
- 6.7.7 The machine must be designed and manufactured in a manner that would prevent accidental damage and damage when the power pack is lifted onto/over the rail.

6.8 Weight and Dimensions

- 6.8.1 The weight of the completed unit is not to exceed 280kg.
- 6.8.2 The length of the completed unit is not to exceed 1180 mm (handles folded).
- 6.8.3 The width of the completed unit is not to exceed 1020mm
- 6.8.4 The height of the integral lifting point, measured from ground level to the top of the lifting point, is not to exceed 990mm.
- 6.8.5 The total height of the power pack, measured from ground level, is not to exceed 990mm.

6.9 Component Markings

- 6.9.1 All hydraulic couplers, valves and other critical equipment on the power pack is to be clearly marked with respect to the capacities and type of fluid that is to be contained within that component.
- 6.9.2 Coupling points are also to indicate whether they are supply or return points.

6.10 Measuring Gauges & Indicators

- 6.10.1 The unit must be fitted with a well-protected and reliable electric hour meter and fuel gauge.
- 6.10.2 A hydraulic oil system level gauge and thermometer is to be included in the power unit design.
- 6.10.3 A light indicator for low engine fuel and oil level is to be included in the power unit design.
- 6.10.4 The gauges and light indicators must be positioned such that they are clearly visible.

6.11 Colour and Finish

- 6.11.1 Machine frame and components will be accepted in standard factory finish and colour. Due cognisance must be given to the life requirement of the machine.

6.12 Safety And Protection

- 6.12.1 It must be easy to stop the machine in an emergency. If the normal shutdown device is not readily accessible for this purpose, additional emergency shutdown must be fitted.

6.13 Ergonomics

6.13.1 The power unit must be ergonomically designed for maximum operator productivity and safety.

6.14 Additional Requirements

6.14.1 The power unit must come with a support grid for two sets of 15m, 12mm (1/2") hydraulic hoses.

6.14.2 The grid must be generally in accordance with drawing BBC1651 and must be adapted to suit the machine.

6.14.3 The machine must come with hydraulic extension hoses. These hoses are to comply with specification BBC7688 version 1.

7. Quality Control

7.1 All machines must be manufactured in an environment that complies with the latest ISO 9000 to ISO 9004 or similar quality control standards. Details must be furnished.

7.2 Machines will be subject to a technical evaluation and the final decision will, amongst others, be based on these findings.

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8. Legal and Operational

- 8.1 All machines must comply with the requirements of the Machinery and Occupational Safety Act, (Act 85 of 1993 – General Machinery Regulations) and The Machinery Directive 98/37/EC.
- 8.2 The power pack must be completely assembled and filled with lubricants and ready for service in all respects.
- 8.3 Where grease nipples are fitted these are to be to DIN 71412 in easily accessible positions. Full details of lubrication applicable to machines on offer to be submitted.
- 8.4 An operator's handbook, service manual and spare parts list must be supplied with each machine in order to ensure that the machine is operated in accordance to the manufacturer's instructions.
- 8.5 All machines and equipment must be supplied complete with essential tools such as allen keys, spanners etc. in order to make essential adjustments as well as to fit or remove consumable items.
- 8.6 Suppliers of hydraulic machinery will be required to stock a full range of readily available spare parts required for the maintenance of these machines throughout their life span. Full details of service organisation are to be submitted.
- 8.7 Consumable items must be available locally and must be of standardised format in order to be used on equipment of more than one supplier.
- 8.8 All machines and equipment is to be guaranteed for a minimum period of 12 months against faulty material and workmanship - fair wear and tear excluded. Full details of guarantee is to be submitted.
- 8.9 The information as requested by the various clauses in this specification are to be supplied in the form of technical data, pamphlets and/or drawings. If this is not complied to, offers may be overlooked.
- 8.10 Each machine purchased will be issued with a project number consisting of 20 characters which must be stamped or engraved directly onto the machine or on the manufacturer's data plate or a separate riveted plate on the particular machine.
- 8.11 Sufficient training must be given to all operators of these machines.
- 8.12 Machines not already in service with Transnet Freight Rail must be made available for testing/evaluation during the adjudication of the tender. Technical improvements on existing machines/equipment is to be substantiated by physical examples.
- 8.13 Tenderers shall indicate clause-by-clause a statement of compliance with the specification. This shall take a form of separate document listing all the specification clause numbers indicating individual statement of compliance or non-compliance. If complies, brief description on how compliance is met shall be given.
- 8.1.4 Failure to comply with clause 8.1.3 above could preclude a tender from consideration.



INFRASTRUCTURE MAINTENANCE

SPECIFICATION

Specification For A Hydraulic Tie Tamper

Author: Chief Engineering Technician Ashwin Singh
Small Plant & Equipment

Approved: Senior Engineer Colin Blandford
Engineering

Authorised: Senior Engineer Colin Blandford
Engineering

Handwritten signature of Ashwin Singh, positioned above a dotted line.

Handwritten signature of Colin Blandford, positioned above a dotted line.

Handwritten signature of Colin Blandford, positioned above a dotted line.

Date: 1 April 2008

Circulation Restricted To:

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Contents

1. Scope.....	3
2. Operating Conditions	3
3. Qualifications.....	3
4. Performance.....	3
5. General Requirements.....	4
6. Detailed Requirements	4
6.1 Mass	4
6.2 Hydraulic System Requirements.....	4
6.3 Impact Energy	4
6.4 Impact Rate.....	4
6.5 Operator Comfort.....	4
6.6 Noise Emission	5
6.7 Tool	5
6.8 Height.....	5
6.9 Body	5
6.10 Ergonomics.....	5
7. Quality Control.....	5
8. Legal and Operational	6

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1. Scope

- 1.1 This specification outlines the requirements of a heavy duty hydraulic tie tamper that will be used for the maintenance of railway infrastructure.

2. Operating Conditions

- 2.1 Machines will be operated in all weather conditions at altitudes varying from sea level to 1850 m above sea level, relative humidity 10% to 90% and atmospheric conditions which vary from heavily saline to dry and dusty.
- 2.2 Ambient air temperatures ranging from -5°C to 45°C .

3. Qualifications

- 3.1 The design of the tie tamper is to be that of the manufacturer, but must be of robust construction in order to meet sustained heavy-duty demands of railway infrastructure maintenance.
- 3.2 A “no-tool” bit changing system is preferred.
- 3.3 Machines will be acceptable in standard factory production finish and colour. Details to be furnished.
- 3.4 Only products proven in service will be considered. A list of users, both South African and international, is to be submitted.

4. Performance

- 4.1 A service life of not less than 7 years is expected from each machine. The actual design life of the machine is to be stated.
- 4.2 The tampers are to be easily and economically maintained with standard workshop tools and equipment.
- 4.3 The tampers must be compatible with hydraulic oil of viscosity grades 46 and 68 – details as per SANS 1218:2005 (Hydraulic Oil – Anti-wear Type)

5. General Requirements

- 5.1 A heavy duty hydraulically operated tie-tamper for the tamping of rail ballast, tamping of asphalt and the breaking of concrete.

6. Detailed Requirements

6.1 Mass

- 6.1.1 The total mass of the unit, including the tamper bit and whip hoses, must not exceed 25 kg.

6.2 Hydraulic System Requirements

- 6.2.1 The hydraulic input will meet the requirements of HTMA Type 1 System and the tamper must operate effectively on this standard.
- 6.2.2 The tie tamper must comply to HTMA standards for hydraulic tool operation
- 6.2.3 The machine must operate on the "Open Centre Circuit" hydraulic system.
- 6.2.4 The tie tamper must be equipped with 12mm ($1/2$ ")hydraulic whip hoses that comply to DIN EN 853 - 2SN (Rubber Hoses and Hose Assemblies - Wire Braid Reinforced Hydraulic Type).
- 6.2.5 The whip hoses must be fitted with 12mm ($1/2$ ") fixed male and female quick release flat-face fittings that comply to HTMA standards. The quick release fittings must be fitted with dust caps.
- 6.2.6 The whip hoses must be 400mm long.
- 6.2.7 Hose connections must be placed in a position that would assist in the balance of the machine and make it easy for the operator to handle and move the machine.

6.3 Impact Energy

- 6.3.1 The impact energy must be a minimum of 60 joules.

6.4 Impact Rate

- 6.4.1 The impact rate must be in the range of 1200 – 1800 blows per minute.

6.5 Operator Comfort

- 6.5.1 The tie tamper must comply with SANS 8662-1:1998 (Hand-Held Portable Power Tools - Measurement of Vibrations at the Handle Part 1:General) and SANS 8662 – 5:2003 (Hand-Held Portable Power Tools - Measurement of Vibrations at the Handle Part 5: Pavement breakers and hammers for construction work).

6.6 Noise Emission

6.6.1 The tie tamper must comply to Noise Directive 2000/14/EC.

6.7 Tool

6.7.1 The tool shank size must be HEX 25mm X 108 mm long.

6.7.2 The retaining mechanism must be compatible with the tool shank – see 6.7.1.

6.7.3 The total length of the tool will be approximately 600mm.

6.7.4 The tip width will be approximately 80mm.

6.7.5 The weight of the tool will be approximately 5 kg.

6.8 Height

6.8.1 The height of the tamper handles, with a tamping bit in place, must be approximately 950 - 1020mm measured from the tip of the bit.

6.8.2 The total height of the unit, with the tamping bit in place, must be in the range of 1000 – 1050mm.

6.9 Body

6.9.1 The frame and components of the tamper must be robust.

6.9.2 The machine must be well protected against rust.

6.9.3 The grip on the handles must have a non-slip surface.

6.9.4 The tie tampers will be accepted in standard factory finish and colour.
Due cognisance must be given to the life requirement of the machine.

6.10 Ergonomics

6.10.1 The tie tamper must be ergonomically designed for maximum operator productivity and safety.

6.10.2 The tamper must have an anti-vibration handle.

6.10.3 A suitable synthetic protection cover must be provided to allow for a smooth sliding action on the operator's leg.

7. Quality Control

7.1 All machines must be manufactured in an environment that complies to the latest ISO 9000 to ISO 9004 or similar quality control standards. Details must be furnished.

7.2 Machines will be subject to a technical evaluation and the final decision will, amongst others, be based on these findings.

8. Legal and Operational

- 8.1 All machines must comply with the requirements of the Machinery and Occupational Safety Act, (Act 85 of 1993 – General Machinery Regulations) and The Machinery Directive 98/37/EC.
- 8.2 The machine must be completely assembled and filled with lubricants and ready for service in all respects.
- 8.3 Where grease nipples are fitted these are to be to DIN 71412 (Lubricating Nipples – Cone Type) in easily accessible positions.
Full details of lubrication applicable to machines on offer to be submitted.
- 8.4 An operator's handbook, service manual and spare parts list must be supplied with each machine in order to ensure that the machine is operated in accordance to the manufacturer's instructions.
- 8.5 All machines and equipment must be supplied complete with essential tools such as allen keys, spanners etc. in order to make essential adjustments as well as to fit or remove consumable items.
- 8.6 Suppliers of hydraulic machinery will be required to stock a full range of readily available spare parts required for the maintenance of these machines throughout their life span.
Full details of service organisation is to be submitted.
- 8.7 Consumable items must be available locally and must be of standardised format in order to be used on equipment of more than one supplier.
- 8.8 All machines and equipment is to be guaranteed for a minimum period of 12 months against faulty material and workmanship - fair wear and tear excluded. Full details of guarantee is to be submitted.
- 8.9 The information as requested by the various clauses in this specification are to be supplied in the form of technical data, pamphlets and/or drawings. If this is not complied to, offers may be overlooked.
- 8.10 Each machine purchased will be issued with a project number consisting of 20 characters which must be stamped or engraved directly onto the machine or on the manufacturer's data plate or a separate riveted plate on the particular machine.
- 8.11 Sufficient training must be given to all operators of these machines.
- 8.12 Machines not already in service with Transnet Freight Rail must be made available for testing/evaluation during the adjudication of the tender. Technical improvements on existing machines/equipment is to be substantiated by physical examples.



INFRASTRUCTURE MAINTENANCE

SPECIFICATION

Specification For A Hydraulic Rail Drill

“PREVIEW COPY ONLY”

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Approved: Senior Engineer
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Colin Blandford

Authorised: Senior Engineer
Engineering

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Date: 27 May 2008

Circulation Restricted To:

Transnet Freight Rail - Infrastructure

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1. General Requirements

- 1.1 This specification outlines the requirements of a heavy-duty, hydraulically operated automatic feed rail drill.

2. Operating Conditions

- 2.1 Machines will be operated in all weather conditions at altitudes varying from sea level to 1850 m above sea level, relative humidity 10% to 90% and atmospheric conditions which vary from heavily saline to dry and dusty.
- 2.2 Ambient air temperatures ranging from -5° C to 45° C.

3. Qualifications

- 3.1 The design of the machine is to be that of the manufacturer, but must be of robust construction in order to meet the sustained heavy-duty demands of railway infrastructure maintenance.
- 3.2 A “no-tool” adjustment machine is preferred.
- 3.3 Machines will be acceptable in standard factory production finish and colour. Details to be furnished.
- 3.4 Only products proven in service will be considered. A list of users, both South African and international, is to be submitted.

4. Performance

- 4.1 A service life of not less than 7 years is expected from each machine. The actual design life of the machines is to be stated.
- 4.2 The machines are to be easily and economically maintained with standard workshop tools and equipment.
- 4.3 The rail drill must be compatible with hydraulic oil of viscosity grades 46 and 68 – details as per SANS 1218:2005 (Hydraulic Oil – Anti-wear Type).

6.5 Cutting Tip Cooling System

- 6.5.1 A well designed cooling system that operates through the tool holder is required.
- 6.5.2 The cooling-lubricant storage vessel should not be less than 6 litres in capacity.
- 6.5.3 Once pressurised to its maximum, the pressure in the cooling-lubricant storage vessel must be more than sufficient to provide cooling for at least one complete hole.

6.6 Spindle Speed

- 6.6.1 The speed of the rail drill must be optimised for the rail material and cutting bits recommended by the supplier.
- 6.6.2 The speed of the rail drill must be variable from 0 to maximum.

6.7 Rail Clamps

- 6.7.1 Notwithstanding the requirements of 6.8, the rail clamps of the rail drill are to be provided with an absolutely positive type(s) of clamping device(s) in order to ensure that no movement will be possible during operation of the rail drills.
- 6.7.2 The clamping must be rigid and square to the rail.

6.8 Rail Drill Templates

- 6.8.1 It is required that the templates for the following rail sizes be configured as below:

- 30 kg/metre and 40 kg/metre templates combined in one set
- 48 kg/metre and 57 kg/metre templates combined in one set
- 60 kg/metre and 60E1 templates combined in one set
- S60 in one set of templates

- 6.8.2 The hardness of the templates must be such as to resist deformation and damage while in service.
- 6.8.3 The templates must be clearly marked.
- 6.8.4 The templates must be such that the drilled hole will be as called for on the rail profile drawings.

6.9 Index Bar

- 6.9.1 An index bar will be used to position the rail drill in a number of positions relative to a rail joint to drill a number of holes in the rail, accurately located relative to each other.
- 6.9.2 A single index bar must be provided to position the rail drill for the drilling of holes for the various rail profiles as per 6.3.
- 6.9.3 The index bar must be clearly marked with the necessary dimensions required to position the rail drill.

7. Quality Control

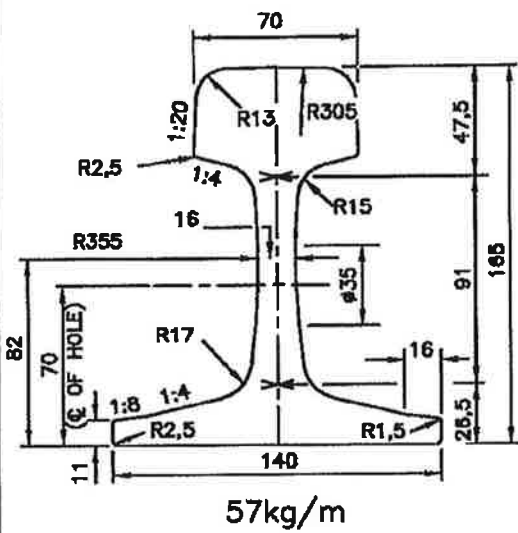
- 7.1 All machines must be manufactured in an environment that complies to the latest ISO 9000 to ISO 9004 or similar quality control standards. Details must be furnished.
- 7.2 Machines will be subject to a technical evaluation and the final decision will, amongst others, be based on these findings.

8. Legal and Operational

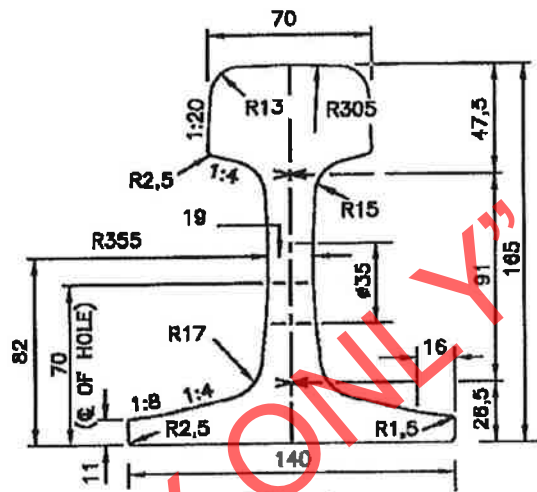
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- 8.2 The rail drill must be completely assembled and filled with lubricants and ready for service in all respects.
- 8.3 Where grease nipples are fitted these are to be to DIN 71412 in easily accessible positions. Full details of lubrication applicable to machines on offer to be submitted.
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- 8.11 Sufficient training must be given to all operators of these machines.

Annexure A

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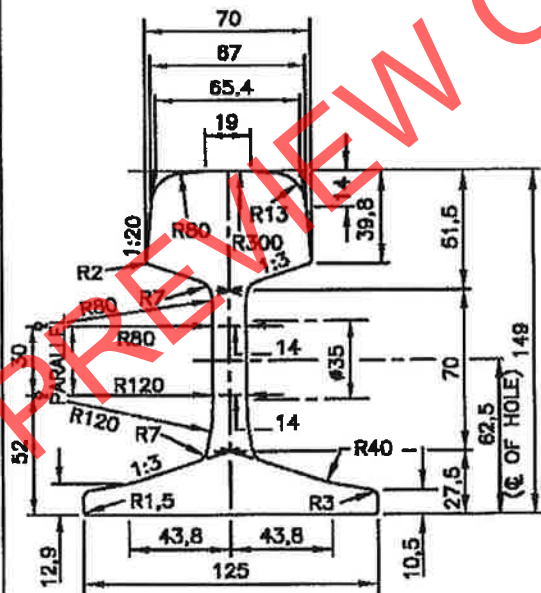


57kg/m

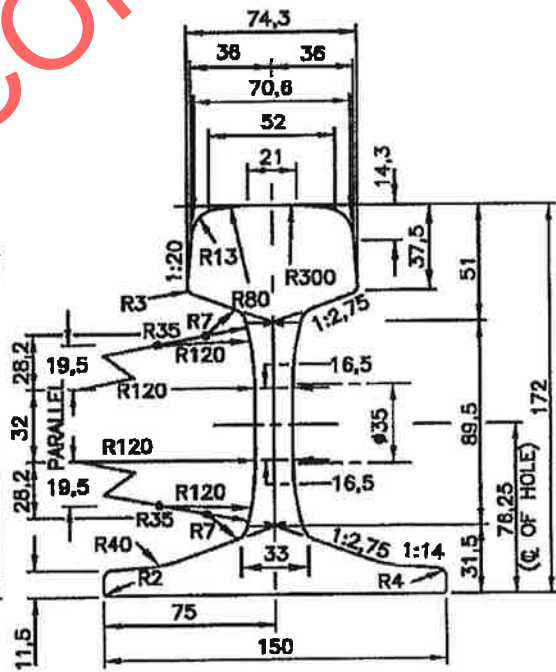


60kg/m

(FLEXIBLE POINTS BLADE
AND UNDERCUT STOCK RAIL)



S-49



UIC-60

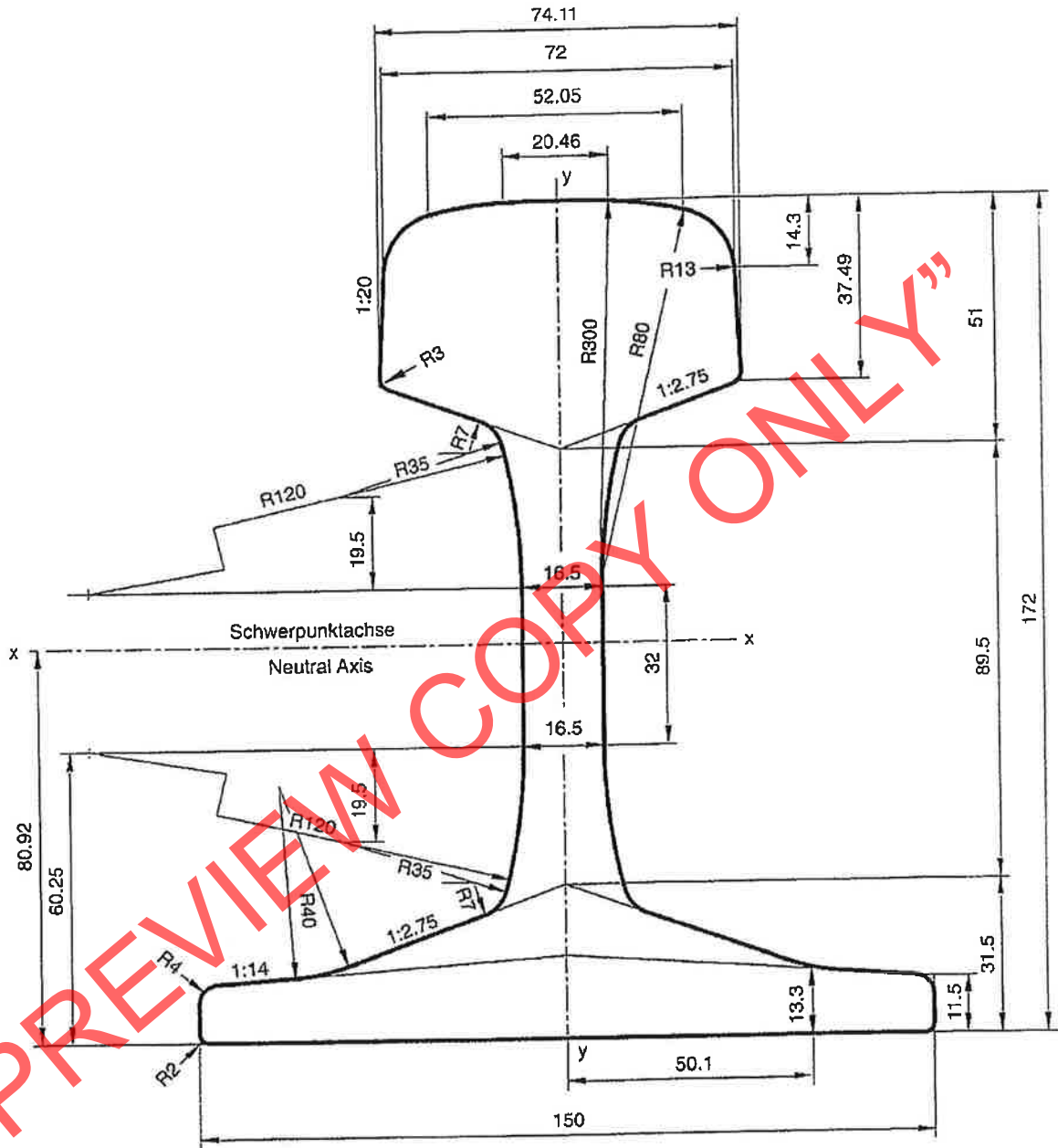
REMARKS :

1. FOR PROPERTIES AND ROLL MARKS SEE ANNEXURE 14 SHEETS 4 TO 6



60E1

VIGNOLSCHIENE, FLAT BOTTOM RAIL, RAIL VIGNOLE



A = 76.7 cm²
 G = 60.21 kg/m
 I_x = 3038.3 cm⁴
 W_x = 333.6 cm³

Scale: 1 : 1.25
 Edition: 8/97

