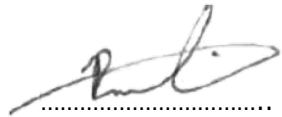




INFRASTRUCTURE MAINTENANCE

PROCUREMENT SPECIFICATION

Specification For A Cordless Hand Drill

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Transnet Freight Rail - Infrastructure

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1. Scope

- 1.1 This specification outlines the requirements of a heavy duty, battery operated Cordless Hand Drill required by Transnet Freight Rail.
- 1.2 Each cordless hand drill shall be supplied with three sets of drill bits as detailed in the this specification.
- 1.3 Transnet Freight rail requires that the supplier should ensure that the complete set of heavy duty cordless hand drills to be supplied must be of high quality, robust material.

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 cordless hand drill is to be that of the manufacturer, but must be of robust construction in order to meet sustained heavy-duty demands of railway infrastructure environment.
- 3.2 A “no-tool” adjustment machine is preferred.

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 cordless hand drill are to be easily and economically maintained with standard workshop tools and equipment.

5. General Requirements

- 5.1 The cordless hand drill is to be designed for professional use, it must be able to perform in rugged conditions and in a wide variety of applications.
- 5.2 The cordless hand drill must be easy to start, safe for handling and operation.
- 5.3 The cordless hand drill and its drill bits must be of high quality to handle any job.
- 5.4 The cordless drill must be supplied complete in a carry case with two (2) batteries.
- 5.5 The cordless drill must be supplied with three (3) sets of drill bits as per details under 6.2.

6. Detailed Requirements

6.1 Cordless Hand Drill Requirements

Below table outline the technical requirements for the cordless hand drill:

Cordless Hand Drill	
Battery voltage	18 V - 20V
Torque (soft/hard/max.)	21/54/- Nm
No-load speed (1st gear / 2nd gear)	0 – 500 / 0 – 1,900 rpm
Battery type	Lithium-ion
Chuck capacity, min./max.	1.5 / 13 mm
Torque settings	20+1
Drilling diameter	
Max. drilling diameter in wood	35 mm
Max. drilling diameter in steel	10 mm
Screw diameter	
Max. screw diameter	10 mm
Noise/vibration information	
Sound pressure level	85 - 90 dB(A)
Sound power level	95 - 100dB(A)

6.2 Drill Bits Requirements

- 6.2.1 The drill bits must have self-centring capabilities.
- 6.2.2 The drill bit design must allow for impact drilling at low speed and high speed drilling.
- 6.2.3 The drill bit material must have high elasticity to reduce risk of breakage.
- 6.2.4 Drill bits sizes as per below are required:

Dimensions Ø mm	Working length (mm)	Total length (mm)
1.5	18	40
2	24	49
2.5	30	57
3	33	61
3.2	36	65
3.5	39	70
4	43	75
4.5	47	80
4.8	52	86
5	52	86
5.5	57	93
6	57	93
6.5	63	101

6.3 Weight

The weight of the machine excluding drill bits should range between 1.5 – 2.5kg

6.4 Operator Comfort

The drill must comply with SANS 8662-1:1998 (Hand-Held Portable Power Tools - Measurement of Vibrations at the Handle Part 1:General).

6.5 Noise Emission

The hand drill must comply to EN 62841-2-1(Declaration and verification of noise emission values of machinery and equipment).

6.6 Body

- 6.6.1 The body of the drill and its components must be robust.
- 6.6.2 The drill must be well protected against rust
- 6.6.3 The grip on the handles must have a non-slip surface.
- 6.6.4 Machines will be acceptable in standard factory production finish and colour.
- 6.6.5 Details to be furnished.
- 6.6.6 Due cognisance must be given to the life requirement of the machine.

6.7 Safety

- 6.7.1 A safety trigger that prevents accidental switch-on must be fitted to the cordless hand drill.
- 6.7.2 The maximum rated operating speed (rpm) of the hand drill must be clearly marked.
- 6.7.3 More safety features should be installed for operators safety and comfort.
- 6.7.4 The machine must have hand guards with quick stop feature installed for operators safety.

6.8 Ergonomics

The hand drill must be ergonomically designed for maximum operator productivity and safety.

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. Data Plate

- 8.1 The machine must come with a data plate.
- 8.2 The maximum no load speed in RPMs must be clearly marked.
- 8.3 The actual weight in kilograms (Kg) of the machine must be shown on the machine.

NB : The cutting disc rated speed must be advised.

9. Legal and Operational

- 9.1 All machines must comply with the requirements of the Machinery safety and Occupational Safety Act, (Act 85 of 1993 – General and Driven Machinery Regulations).
- 9.2 The machine must be completely assembled and filled with lubricants and ready for service in all respects.
- 9.3 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.
- 9.4 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.
- 9.5 Consumable items must be available locally and must be of standardised format in order to be used on equipment of more than one supplier.

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- 9.6 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.
- 9.7 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.
- 9.8 Sufficient training must be given to all operators of these machines.
- 9.9 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.

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