




INFRASTRUCTURE MAINTENANCE

PROCUREMENT SPECIFICATION

SPECIFICATION FOR A BRAKE EFFICIENCY TESTER

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1. SCOPE

- 1.1. This specification stipulates Transnet Freight Rail's requirements for the supply and delivery of a portable brake efficiency tester.

2. APPLICABLE STANDARDS

- 2.1. SANS 1051-1:2006 – Motor Vehicle Safety inspection (Braking)

3. OPERATING CONDITIONS

The Brake Efficiency Tester shall be required to function under the following operating conditions:

3.1. ATMOSPHERIC CONDITIONS

Altitude	From sea level to 2000 m above sea level
Relative Humidity	10 to 90 %
Temperature Ranges	-10 to 50 °C
Atmospheric Conditions	From heavily saline to dry and dusty

3.2. MECHANICAL SERVICE CONDITION

- 3.2.1. The supplier of the portable brake efficiency tester shall be used in various terrain for different types of vehicles, i.e. on and off-road vehicle, as well as on-track vehicles.

3.3. ELECTRICAL SERVICE CONDITION

- 3.3.1. The unit shall be battery powered with rechargeable batteries.

4. TECHNICAL REQUIREMENTS

- 4.1. It is essential that the equipment is designed and manufactured for very high reliability and long life with a minimum of maintenance requirements. All equipment shall be user friendly and robust.
- 4.2. The machine shall be able to test both Service brakes and Hand brakes.
- 4.3. It shall have a built in GPS.
- 4.4. The device shall be equipped with an LED screen that will indicate if it is positioned level enough to perform the test.
- 4.5. It shall also indicate if the vehicle pulls to the right/left during braking.
- 4.6. It shall measure peak Deceleration Front/Rear.
- 4.7. It shall measure average Deceleration Front/Rear.
- 4.8. It shall measure peak Acceleration Left/Right.
- 4.9. Vehicle pulls Left/Right indication and value.
- 4.10. It shall be able to calculate Brake Efficiency.
- 4.11. It shall calculate Stopping Distance (displayed in metres).
- 4.12. It shall calculate Test Speed (displayed in km/h or, by special request, mph).
- 4.13. It shall be equipped with audio Signal.
- 4.14. It shall measure Ambient Temperature in °C.
- 4.15. It shall operate for approximately 5 hours on a single full charge.

5. GENERAL REQUIREMENTS

- 5.1. The device shall be a portable handheld device
- 5.2. The tenderer shall supply the calibration certificate on the day of delivery of the equipment.
- 5.3. The tenderer shall supply the certificate regarding the type of tests conducted.
- 5.4. The carrying case shall be supplied.
- 5.5. Sufficient training must be provided to all operators of the equipment.
- 5.6. The manuals and all other essential documents shall be provided on the day of the delivery of the equipment.

END OF SPECIFICATION