

SANS 1589

The requirements for braking systems of underground trackless mobile machines

Brake testing for TMM's

Virtual day of Learning Webinar

Mineral Council South Africa

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Gerotek Test Facilities

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The requirements for braking systems of
underground trackless mobile machines

Why a “new/updated” version?

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Why a “new/updated” version?

Challenges with 2012 Version.

- “Compliance -” vs “In service -” testing.
- Interpretations.
- Unclear aspects.

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Why a “new/updated” version?

Alignment with International standards

- ISO 19296:2018, Mining - Mobile machines working underground - machine safety.
- ISO 3450:2011, Earth moving machinery - Wheeled or high speed rubber tracked machines – Performance requirements and test procedures for brake systems.
- MDG 39:2006, Handbook for approval assessment of transport braking systems on free-steered vehicles in underground coal mines.

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What is “new”?

Part 1: Design, performance and testing requirements.

Part 2: Brake systems for tractors, trailers.

Part 3: In-service brake testing.

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What is “new” in Part I?

Introduction

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The requirements for braking systems of underground trackless mobile machines

This standard has been compiled to be used by industry in the specification, design and testing of braking systems as fitted to underground trackless mobile machines.

This standard includes the minimum brake performance criteria for underground trackless mobile machines when specified, designed and built to comply with this standard.

Note that the minimum brake performance criteria as specified in this document are more stringent than criteria set for machines designated for use in surface applications, this is due to reduced visibility and confined conditions that are typically found in underground mining conditions.

It is not advised to use this document as a standard to evaluate the in-service performance of braking systems as fitted to underground trackless mobile machines. The braking performance requirements for in-service machines and the conditions under which this performance is evaluated can differ from the requirements as specified in this document.

“For the in-service testing of underground trackless mobile machines refer to part 3 of this standard.

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What is “new” in Part 1?

Scope

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The requirements for braking systems of underground trackless mobile machines

This standard specifies minimum performance requirements and test procedures for the braking systems of underground trackless mobile machines that are designed for or modified for use in underground mining operations.

This standard is not applicable to:

- a) Machines on skids
- b) Rail bound equipment
- c) Machines on tracks (rubber and/or steel)
- d) Machines on mechanical shoes

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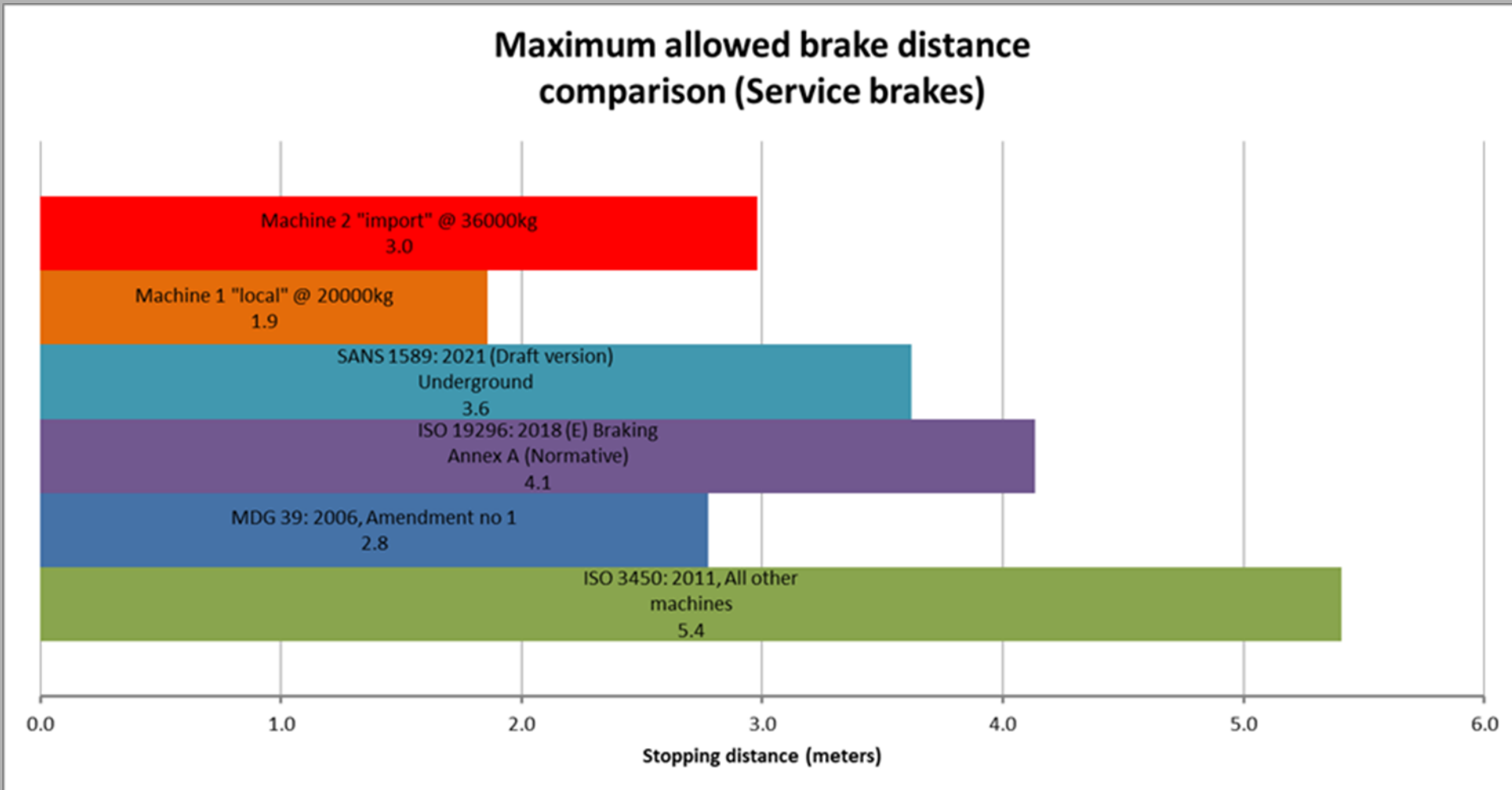
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Performance comparison at (15 km/h).

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