

TEST REPORT

SABS

Attention: Mr. F de Klerk

SANS 20013:2009

KMDB Manufacturers (Pty) Ltd

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UNIFORM PROVISIONS CONCERNING THE APPROVAL OF VEHICLE OF CATEGORIES M, N & O WITH REGARD TO BRAKING

Report Number:


Sample Tested:


2711/C8801

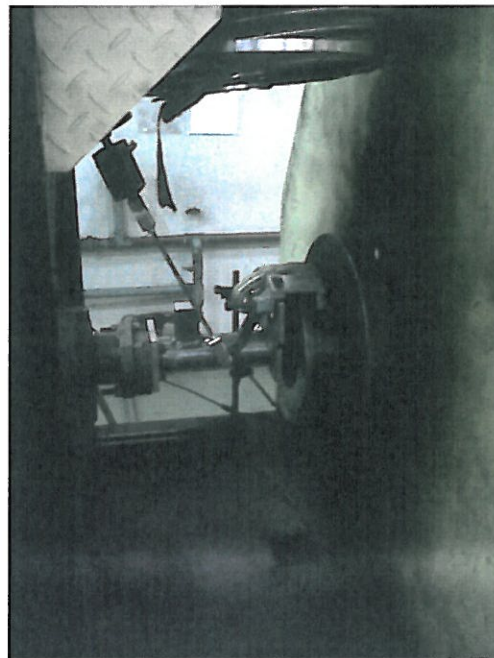
LID189

**KMDB O₂ TRAILER MECHANICAL DISC
BRAKE**

Date: 31 May 2012

Tested and checked by: 
B.H. Mthombeni
(Test Officer)

Approved by: 
G. Klerk
(GM: Engineering Laboratories)



Conclusion:

The sample brake **conform** to the requirements of paragraphs 3 and 6 of the testing conditions for vehicles fitted with inertia braking systems described in Annex12 to SANS 20013 'Uniform provisions concerning the approval of vehicles of categories M, N and O with regard to braking'

Number of pages 7

1 Dr Lategan Road Groenkloof, Private Bag X191 Pretoria 0001, Tel: +27 (012)
428-7911, Fax: +27 (012) 344-1568.

This test was performed by SABS Commercial SOC Ltd.

This report relates only to the specific sample(s) tested as identified herein. It does not imply SABS approval of the quality and/or performance of the item(s) in question and the test results do not apply to any similar item that has not been tested.

(Refer also to the complete conditions printed on the back of the official test reports.)

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PARTIAL TEST

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1. INTRODUCTION

1.1 Object

- To determine if the sample brake complies with the requirements of Annex 12 to SANS 20013:2009 'Uniform provisions concerning the approval of vehicles of categories M, N and O with regard to braking'.

1.2 General information

Manufacturer	KMDB Manufacturers (Pty) Ltd
Make	KMDB
Type	Mechanical Disc Brake
Permissible "maximum mass" per wheel G_{Bo}	1000 kg
Braking torque M^*	2048 Nm
Dynamic tyre rolling radius	R = 0.315m
Brief description	The wheel brake is a spread lever brake with a brake disc. The brake is activated by a brake rod.
Disc brake pads description	KBC D968 (Modified)
Date sample received	20/03/2012
Date testing commenced	28/05/2012
Date testing completed	30/05/2012

1.3 Sample description



1.4 Sampling procedure

KMDB Manufacturers (Pty) Ltd submitted the test sample personally. The test house had no influence on the selection of the sample. The sample handed in was in a test worthy condition.

1.5 Conditioning

The brake pad assembly was conditioned by using an in-house bedding and conditioning procedure, available for viewing if requested. On completion of the conditioning schedule more than 80% contact area between lining assemblies and drum was obtained.

1.6 Test method

Tests were conducted in accordance with the requirements of Annex 12 to SANS 20013 'Uniform provisions concerning the approval of vehicles of categories M, N and O with regard to braking'.

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2. TEST RESULTS

2.1 Reduction ratio

$$i_g = \text{N/A}$$

2.2 Lift (application travel)

$$\begin{aligned} \text{Prescribed lift (prescribed application travel)} \quad s_B^* &= \text{N/A} \\ \text{Lift (application travel)} \quad s_B &= \text{N/A} \end{aligned}$$

2.3 Retraction force

$$P_o = 296.80 \text{ N}$$

2.4 Coefficient (characteristic)

$$\rho = 0.56 \text{ m}$$

2.5 Force for M^*

$$P^* = 3929 \text{ N}$$

2.6 Service brake performance when the trailer moves rearwards

$$\begin{aligned} \text{Maximum braking torque } M_r & \quad \text{N/R}^* \\ \text{Maximum permissible travel } s_r & \quad \text{N/R}^* \end{aligned}$$

2.7 Brake-retraction force

$$P_{or} = \text{N/R}^*$$

2.8 Brake characteristic

$$\rho_r = \text{N/R}^*$$

2.9 Tests according to paragraph 7.5. of this annex 12

Brake test Type-0

Test Speed	40 km/h	
Braking ratio	= 5 %	Pass
Control force	= 3240 N	

Brake test Type-I

Test Speed	40 km/h	
Sustained braking ratio	= 7 %	
Braking time	= 153 seconds	
Control force	= 40 N	
Hot performance (expressed as a % of the above Type-0 test result in item 9.12.1.)	= 63 %	Pass

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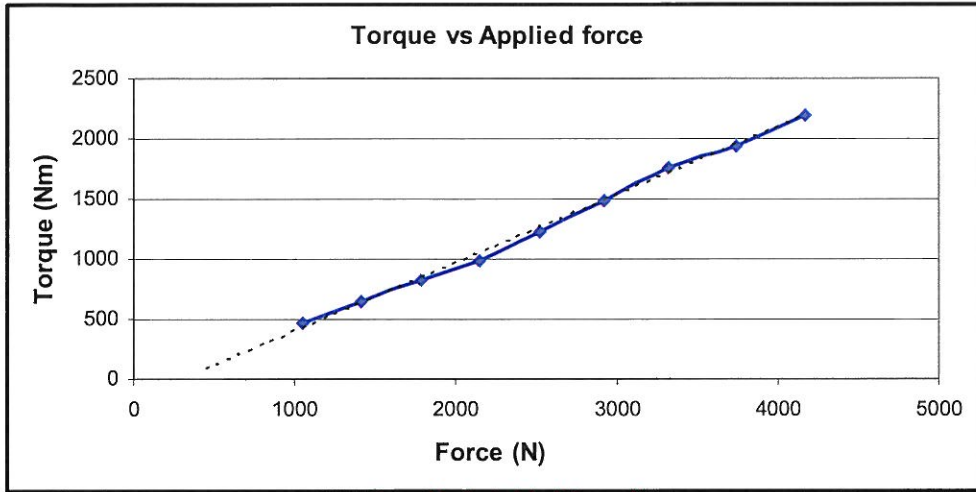
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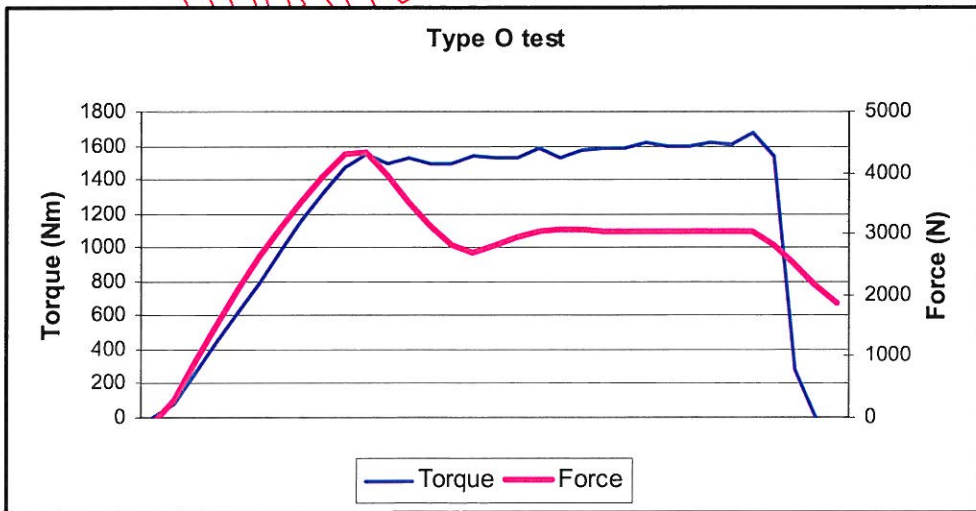
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3. DETAILED DATA

Brake characteristic



Type O test

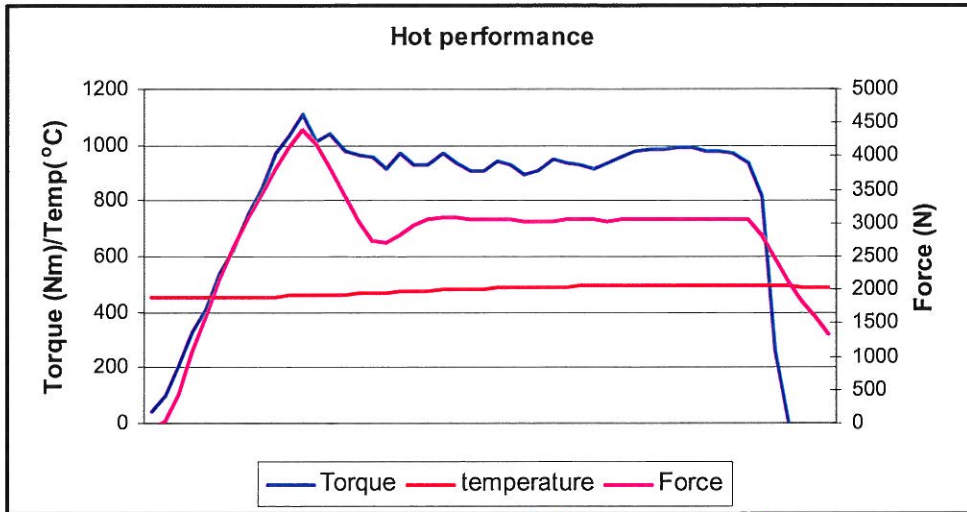


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Hot performance**4. REMARKS**

- The braking force required in order to achieve the specified minimum braking efficiency of 50% with a wheel load of 875 kg is $1000 \times 10 \times 0.5 = 5000$ N. With a maximum tyre rolling radius of 0.315 m the minimum braking torque is $5000 \times 0.315 = 1575$ Nm.
- The maximum achieved brake torque (2190 Nm) will limit the wheel load to $2190/0.315/10/0.5 = 1390$ kg.
- KMDB Manufacturers (Pty) Ltd requested us to test the brake for forward direction only.*

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6. CONDITIONS

The acceptance of an item for test and the issue of a test report are subject to the SABS's CONDITIONS OF TEST, from which the following have been extracted:*

1. If published or reproduced by the client, a test report shall be reproduced in full, i.e. the reproduction shall contain the printed as well as the typed parts of the report, nothing excepted. In special circumstances, an abridged form of the report or certain parts of the report may be published or reproduced, provided that the abridged form or partial version of the report is approved in writing by the CEO of the SABS before publication or issue.

2. A test report relates only to an item submitted for the actual test. It furnishes or implies no guarantee whatsoever in respect of a similar item that has not been tested.

3. The performance of a test and the issue of a test report do not imply approval by the SABS of the quality and/or performance of the item that has been tested. This does not authorize the use of a certification mark.

NOTE An unlawful statement implying that an item has been approved by the SABS constitutes a punishable offence in terms of Section 21(1) of the Standards Act.

4. While every endeavour will be made to ensure that a test is representative and accurately performed, and that a report is accurate in the quoted results and conclusions drawn from the test, the SABS or its officers shall in no way be liable for any error made in carrying out the test or for any erroneous statement, whether in fact or in opinion, contained in a report issued pursuant to a test.

**Obtainable upon request from the President and CEO, SABS, Private Bag X191 Pretoria, 0001.*

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