

Test Report

No. TDB 0102 dated 21.11.2000**for application of Annex VII Directive 71/320/EEC**

1 IDENTIFICATION

1.1 Axle

Manufacturer: OTTO SAUER Achsenfabrik Keilberg
D-63854 Bessenbach

Make: SAF

Type: SN 3015-9Z

Model: -

Technically permissible axle load P_e ¹⁾: 9000 daN

1.2 Brake

Manufacturer: See 1.1

Make: SAF

Type: SN 300x150

Model: -

Technically permissible camshaft
input torque $C_{max,e}$: 2500 Nm
(for calculation: 2000 Nm at 6,5 bar)

Brake drum - Internal diameter: 300 mm

- Mass: 38 kg

- Material: Cast iron (grey cast iron)

Brake lining - Manufacturer: BREMSKERL-Reibbelagwerke
Emmerling GmbH & Co. KG
D-31629 Estorf

- Type: BREMSKERL 6386

- Identification: Type indication at front

- Width: 150 mm

- Thickness: 8,5...16 mm (sickle-shaped)

- Surface area: 760 cm²

- Method of attachment: Rivited

Brake geometry: See appendix 1 dated 25.05.2000
See appendix 2 dated 17.06.1993

1.3 Wheel (Twin)

Rim diameter D_e : 381 mm (15")

Dimensions: See appendix 1 dated 25.05.2000

¹⁾ See sheet 3/3

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Manufacturer : SAF
 Type of axle : SN 3015-9Z

1.4 Tyres

Dynamic rolling radius R_e
 at reference load P_e : 407 mm

1.5 Actuation

Brake actuator - Manufacturer: WABCO ²⁾ GRAU ³⁾
 - Type: Diaphragm brake Diaphragm brake
 actuator actuator
 - Model: 20 (120 423 105 900 0) 20 (120 341 101)
 Lever length l_e : 152 mm 152 mm

2 RECORD OF TEST RESULTS

(corrected to take account of rolling resistance $\hat{=} 0,01P_e$)

2.1 In the case of vehicles of categories O₂ and O₃ ²⁾

Test type:	0	I	
Annex VII, Appendix 1, point:	3.5.1.2	3.5.2.2/3	3.5.2.4
Test speed km/h	40	40	40
Brake actuator pressure p_e bar	6,3	-	6,3
Braking time min	-	2,55	-
Brake force developed T_e daN	5514	664	4938
Brake efficiency T_e/P_e -	0,61	0,07	0,55
Actuator stroke s_e mm	34	-	60
Camshaft input torque C_e Nm	1129	-	1129
$C_{0,e}$ Nm	30	-	30

2.2 In the case of vehicles of category O₄ ³⁾

Test type:	0	III	
Annex VII, Appendix 1, point:	3.5.1.2	3.5.3.1.2	3.5.3.2
Test speed			
initial km/h	60	60	60
final km/h	0	30	0
Brake actuator pressure p_e bar	6,2	-	6,2
Number of brake applications -	-	20	-
Duration of braking cycle s	-	60	-
Brake force developed T_e daN	5358	2700	3899
Brake efficiency T_e/P_e -	0,60	0,30	0,43
Actuator stroke s_e mm	35	-	52
Camshaft input torque C_e Nm	1131	-	1131
$C_{0,e}$ Nm	30	-	30

^{2) 3)} See sheet 3/3

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RWTÜV

Manufacturer : SAF
Type of axle : SN 3015-9Z

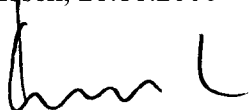
3 NAME OF TECHNICAL SERVICE CONDUCTING THE TEST

RWTÜV Fahrzeug GmbH
Technischer Dienst für Bremsanlagen
D-45307 Essen

4 DATE OF TEST: 22.10.1991 and 25.05.2000

5 This test has been carried out and the result reported in accordance with Directive 71/320/EEC as last amended by Directive 98/12/EC and Annex VII, Appendix 1.

Essen, 21.11.2000



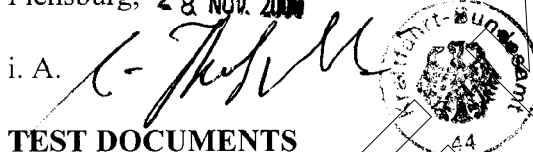
Dipl.-Ing. Kaesler

LABORATORY FOR VEHICLE TECHNOLOGY
Testing Laboratory for Braking Systems
according to Directive 71/320/EEC in the
version of Directive 98/12/EC

6 APPROVAL AUTHORITY, if different from the technical service

Flensburg, 28 NOV. 2000

i. A.



7 TEST DOCUMENTS

- / Appendix 1: Dimensions brake drum/wheel/tyre
- / Appendix 2: Brake geometry

- 1) Calculation with $g = 10 \text{ m/s}^2$
- 2) Rolling road dynamometer test
- 3) Inertia dynamometer test

RWTÜV Fahrzeug GmbH - Institute for Vehicle Technology, Adlerstr. 7, D - 45307 Essen
The Testing Laboratory is accredited by the Accreditation Body of the German Federal Motor Transport Authority (KBA) to conduct inspections according to ECE, EG-TypV (EEC), StVZO and FzTV (KBA-P 00009-95).

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Annex 2 to brake test record
Annexe 2 au procès verbal
Allegato 2 al verbale di Omologazione Nr.

Blatt:

Name:

* F_e : wirksame Bremsfläche pro Bremse (cm^2)
Efficient braking area (cm^2)
Zone de freinage active (cm^2)
Zona di frenatura attiva (cm^2)