

Test Report

No. TDB 0542 dated 27.10.99

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: SNK 3715-9,5S
Model: -
Technically permissible axle load P_e ¹⁾: 9500 daN

1.2 Brake

Manufacturer: See 1.1
Make: SAF
Type: SNK 367x150
Model: -
Technically permissible camshaft
input torque $C_{max,e}$: 2500 Nm
(for calculation: 2000 Nm at 6,5 bar)
Brake drum - Internal diameter: 367 mm
- Mass: 44,5 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: 12,2...20,2 mm (sickle-shaped)
- Surface area: 1007 cm²
- Method of attachment: Rivited
Brake geometry: See appendix 1 dated 11.11.98
See appendix 2 dated 11.11.98

1.3 Wheel (Single)

Rim diameter D_e : See appendix 1 dated 11.11.98
Dimensions: See appendix 1 dated 11.11.98

¹⁾ See sheet 3/3



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Manufacturer : SAF
 Type of axle : SNK 3715-9,5S

1.4 Tyres

Dynamic rolling radius R_e
 at reference load P_e :

See appendix 1 dated 11.11.98

1.5 Actuation

Brake actuator	-Manufacturer:	WABCO ²⁾	GRAU ³⁾
	- Type:	Diaphragm brake actuator	Diaphragm brake actuator
	- Model:	24 (423 106 900 0)	24 (120 351 101)
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	6,5	-	6,5
Braking time	min	-	2,55	-
Brake force developed T_e	daN	5861	680	5000
Brake efficiency T_e/P_e	-	0,62	0,07	0,53
Actuator stroke s_e	mm	31	-	52
Camshaft input torque C_e	Nm	1366	-	1366
	$C_{0,e}$ 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	5,6	-	5,6
Number of brake applications	-	-	20	-
Duration of braking cycle	s	-	60	-
Brake force developed T_e	daN	6176	2911	5348
Brake efficiency T_e/P_e	-	0,65	0,31	0,56
Actuator stroke s_e	mm	42	-	51
Camshaft input torque C_e	Nm	1174	-	1174
	$C_{0,e}$ Nm	30	-	30

²⁾³⁾ See sheet 3/3

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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Date : 27.10.99

RWTÜV

Manufacturer : SAF
Type of axle : SNK 3715-9,5S

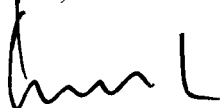
3 NAME OF TECHNICAL SERVICE CONDUCTING THE TEST

RWTÜV Fahrzeug GmbH
Technischer Dienst für Bremsanlagen
D-45307 Essen

4 DATE OF TEST: 15.11.95 and 29.05.98

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, 27.10.99



Dipl.-Ing. Kaesler

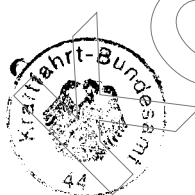
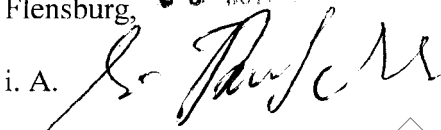


LABORATORY FOR VEHICLE TECHNOLOGY
Testing Laboratory for Braking Systems
according to Directive 71/320/EEC in the
version of Directive 98/12/EC

6 APPROVAL AUTHORITY, if different from the technical service

Flensburg, 08. NOV. 1999

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; $R_e = 465 \text{ mm}$
- 3) Inertia dynamometer test; $R_e = 518 \text{ mm}$

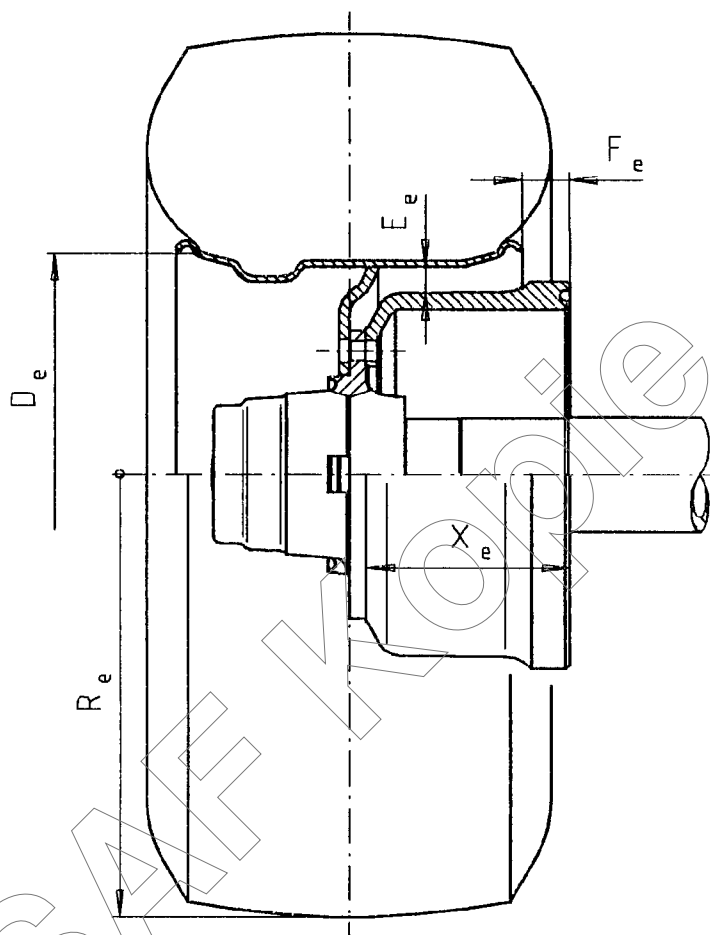
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Annex 1 to brake test record:
Annexe 1 au procès verbal:
Allegato 1 al verbale di Omologazione Nr.:

Zeichn. Nr.: 6 077 9130 00	Blatt: 1
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Grundtyp:
basis type: SNK 3715 - 9,5S
modèle de base:
Modello di base:

Datum:	11.11.1998	Name:	Roth
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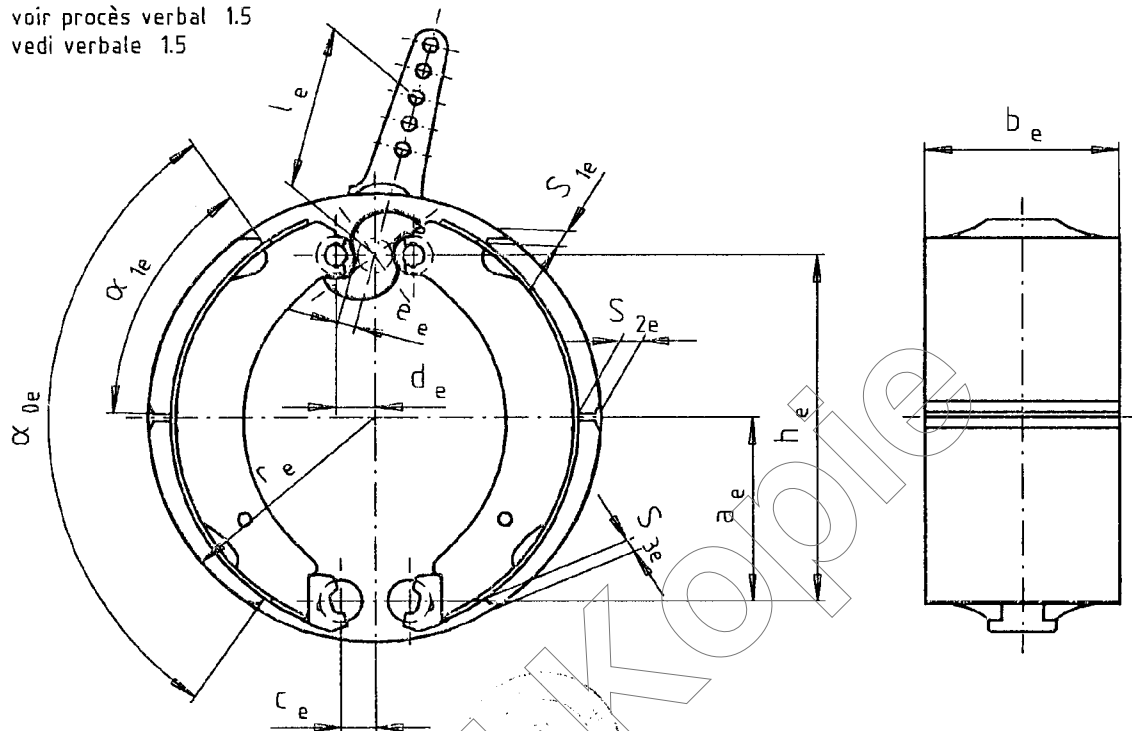
Annex 2 to brake test record
Annexe 2 au procès verbal
Allegato 2 al verbale di Omologazione Nr.

SAF D T T O S A U E R
ACHSENFABRIK KEILBERG
D - 63854 BESENDOBFACH
G E R M A N Y

Blatt: 1

Name: Roth

l e : siehe Prüfprotokoll 1.5
see brake test record 1.5
voir procès verbal 1.5
vedi verbale 1.5



* 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)

[illegible]