

Test Report

No. TDB 0459 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 3718-11S
Model: -
Technically permissible axle load P_e ¹⁾: See appendix 1 dated 11.11.98

1.2 Brake

Manufacturer: See 1.1
Make: SAF
Type: SNK 367x180
Model: -
Technically permissible camshaft
input torque $C_{max,e}$: 2800 Nm
(for calculation: 2250 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: 180 mm
- Thickness: 12,2...20,2 mm (sickle-shaped)
- Surface area: 1226 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



Test Report No. : TDB 0459
Sheet : 2 / 3
Date : 27.10.99



Manufacturer : SAF
Type of axle : SNK 3718-11S

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: GRAU
- Type: Diaphragm brake actuator
- Model: 30 (120 361 101)
Lever length l_e : 155 mm²⁾ 152 mm³⁾

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 O₃²⁾

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	6,0	-	6,0
Braking time	min	-	2,55	-
Brake force developed T_e	daN	6462	818	5759
Brake efficiency T_e/P_e	-	0,59	0,07	0,52
Actuator stroke s_e	mm	32	-	52
Camshaft input torque C_e	Nm	1762	-	1762
$C_{0,e}$	Nm	30	-	30

2.2 In the case of vehicles of category O₄³⁾

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	6,4	-	6,4
Number of brake applications	-	-	20	-
Duration of braking cycle	s	-	60	-
Brake force developed T_e	daN	6726	3528	5931
Brake efficiency T_e/P_e	-	0,61	0,32	0,54
Actuator stroke s_e	mm	39	-	50
Camshaft input torque C_e	Nm	1847	-	1847
$C_{0,e}$	Nm	30	-	30

2)3) See sheet 3/3



Test Report No. : TDB 0459
Sheet : 3 / 3
Date : 27.10.99

RWTÜV

Manufacturer : SAF
Type of axle : SNK 3718-11S

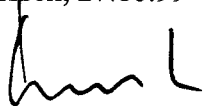
3 NAME OF TECHNICAL SERVICE CONDUCTING THE TEST

RWTÜV Fahrzeug GmbH
Technischer Dienst für Bremsanlagen
D-45307 Essen

4 DATE OF TEST: 11.02.93 and 02.06.98

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 (2 sheet)
- / Appendix 2: Brake geometry

- 1) Calculation with $g = 10 \text{ m/s}^2$
2) Rolling road dynamometer test; $P_e = 11000 \text{ daN}$, $R_e = 518 \text{ mm}$
3) Inertia dynamometer test; $P_e = 11000 \text{ daN}$, $R_e = 518 \text{ mm}$

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

SAF OTTO SAUER
ACHSENFABRIK KEILBERG
D - 63854 BESENBACH
GERMANY

Bremse:
brake: SNK 367 x 180
frein:
Freno:

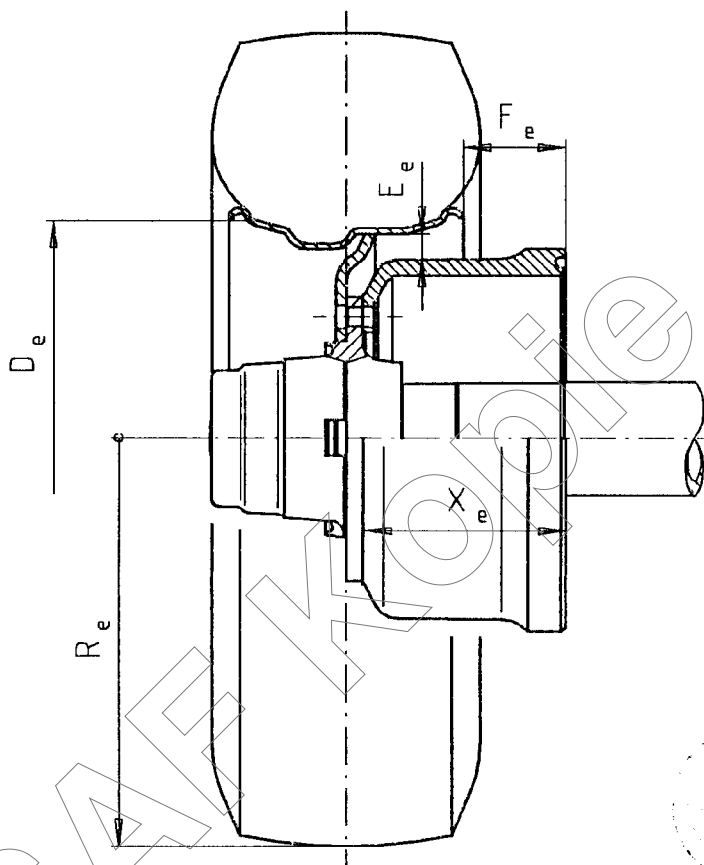
Grundtyp:
basis type: SNK 3718 - 11S
modèle de base:
Modello di base:

Zeichn. Nr.: 6 077 9114 00

Blatt:	1
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Datum: 11.11.1998

Name:	Roth
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[illegible]

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Allegato 1 al verbale di Omologazione Nr.:

Blatt:	2
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Frein:
Freno:

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.

Datum:	11.11.1998	Name:	Roth
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* 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]