RWTÜV

Ein Unternehmen der
TÜV Mitte Gruppe

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Test Report

No. TDB 0074 dated 22.11.2000

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 3015-8S
Model:	-
Technically permissible axle load P_e [1]:	8000 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:	27 kg
	- Material:	Cast iron (grey cast iron)
Brake lining	- Manufacturer:	Federal-Mogul Friction Products GmbH D-51709 Marienheide
	- Type:	1561
	- 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 (Single)

Rim diameter D_e:	381 mm (15")
Dimensions:	See appendix 1 dated 25.05.2000

[1] See sheet 3/3

1.4 Tyres

Dynamic rolling radius R_e
at reference load P_e: 484 mm

1.5 Actuation

Brake actuator - Manufacturer: GRAU
- Type: Diaphragm brake actuator
- Model: 20 (120 341 101)

Lever length l_e: 152 mm

2 RECORD OF TEST RESULTS [2)]

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

2.1 In the case of vehicles of categories O_2 and O_3: Not applicable

2.2 In the case of vehicles of category O_4

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	5,9	-	5,9
Number of brake applications	-	-	20	-
Duration of braking cycle	s	-	60	-
Brake force developed T_e	daN	5347	2400	4006
Brake efficiency T_e/P_e	-	0,67	0,30	0,50
Actuator stroke s_e	mm	36	-	49
Camshaft input torque C_e	Nm	1074	-	1074
$C_{o,e}$	Nm	30	-	30

3 NAME OF TECHNICAL SERVICE CONDUCTING THE TEST

RWTÜV Fahrzeug GmbH
Technischer Dienst für Bremsanlagen
D-45307 Essen

4 DATE OF TEST: 22.08.2000

[2)] See sheet 3/3

RWTÜV

Manufacturer : SAF
Type of axle : SN 3015-8S

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, 22.11.2000

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.

Kraftfahrt-Bundesamt

7 TEST DOCUMENTS

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

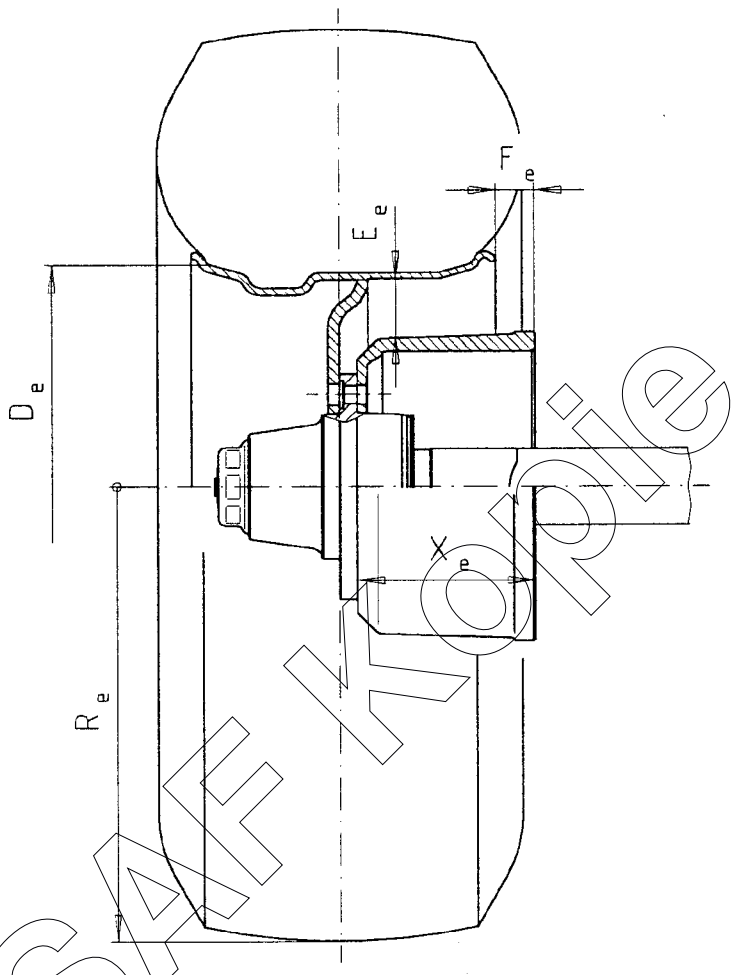
[1] Calculation with g = 10 m/s²
[2] Inertia dynamometer test

Anlage 1 zum Prüfprotokoll Nr.: TDB 0074

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

SAF OTTO SAUER ACHSENFABRIK KEILBERG D - 53854 BESSENBACH GERMANY

Bremse: brake: frein: Freno:	Grundtyp: basis type: modèle de base: Modello di base:	Zeichn. Nr.:	Blatt:
SN 300 × 150	SN 3015 - 8S	6 077 9035 00	1
		Datum: 25.05.2000	Name: Roth



Bremse Brake Tambour Freno: Breite width largeur Largh. X_e (mm)	Bremse: Masse weight masse Peso kg	Achslast Axle capacity Charge de l'essieu Portata assale P_e (daN)	Reifen Tyre Pneu Pneumatico	Felge Rim Jante Cerchio	B_e (mm)	R_e (mm)	D_e (mm)	E_e (mm)	F_e (mm)
198	27	8 000	385/65 R 19,5	19,5 × 11,75	–	484	495	64	+43

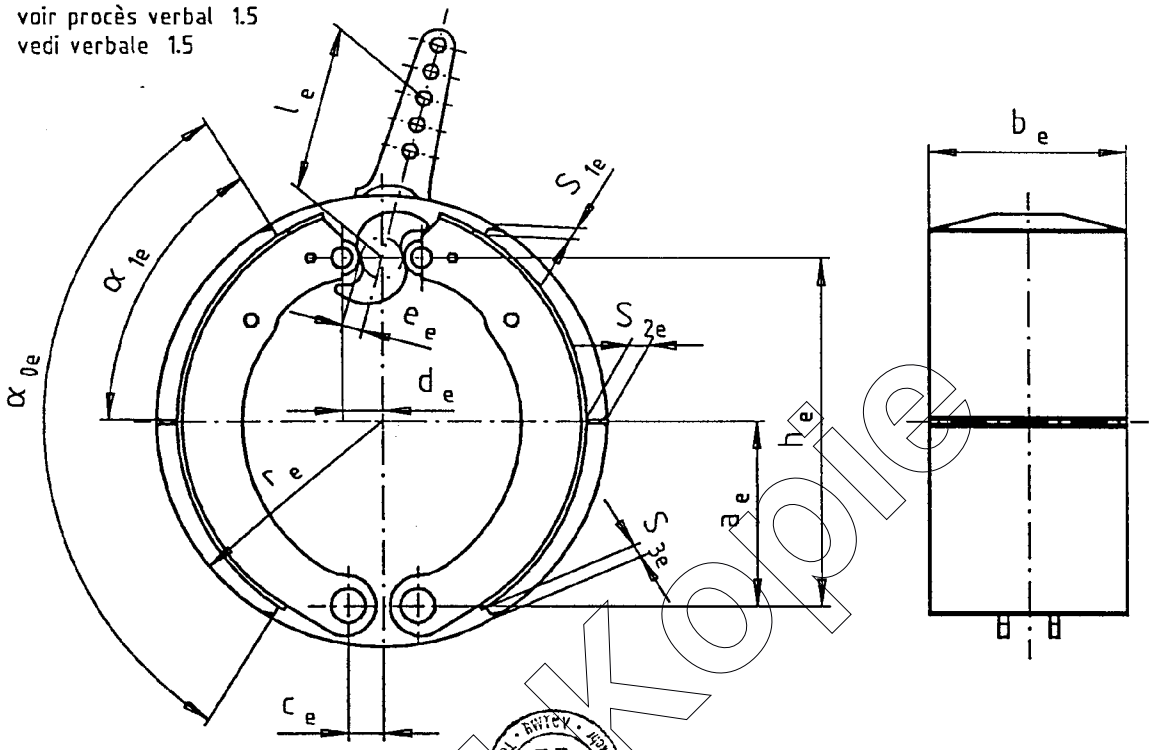
Anlage 2 zum Prüfprotokoll Nr. TDB 0074

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

SAF OTTO SAUER ACHSENFABRIK KEILBERG D - 63854 BESSENBACH GERMANY

Zeichn. Nr.: 6 077 9001 01	Blatt:
Datum: 17.06.93	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)

Bremsen-Typ Brake-type Type de frein Type de freno	a_e (mm)	h_e (mm)	c_e (mm)	d_e (mm)	e_e (mm)	α_{0e}	α_{1e}	b_e (mm)	r_e (mm)	* F_e	S_{1e} (mm)	S_{2e} (mm)	S_{3e} (mm)
SN 300 × 150	117	227	25	29,4	12	103°	52°	150	150	760	13	16	8,5
SN 300 × 200	117	227	25	29,4	12	103°	52°	200	150	1025	13	16	8,5
SN 355 × 150	135,6	256,1	40	34,9	13,2	111°	57°	150	177,5	890	15	19	10
SN 355 × 178	135,6	256,1	40	34,9	13,2	111°	57°	178	177,5	1060	15	19	10
SN 355 × 200	135,6	256,1	40	34,9	13,2	111°	57°	200	177,5	1170	15	19	10
SN 419 × 152	171,5	323,9	31,75	34,9	13,2	109°30'	54°	152	209,5	1070	15,7	19	11
SN 419 × 178	171,5	323,9	31,75	34,9	13,2	109°30'	54°	178	209,5	1250	15,7	19	11
SN 419 × 203	171,5	323,9	31,75	34,9	13,2	109°30'	54°	203	209,5	1430	15,7	19	11
SN 400 × 80	155	305	0	33,5	12	117°	61°	80	200	600	10	12,4	10
SN 420 × 120	165	320	32,5	42,3	14,4	115°	70°30'	120	210	914	11,5	18	11,5
SN 420 × 180	165	320	32,5	42,3	14,4	115°	70°30'	180	210	1389	11,5	18	11,5
SN 420 × 200	165	320	32,5	42,3	14,4	115°	70°30'	200	210	1554	11,5	18	11,5
SNF 420 × 120	171,5	323,9	31,75	34,9	13,2	115°	57°30'	120	210	914	11,5	18	11,5
SNF 420 × 180	171,5	323,9	31,75	34,9	13,2	115°	57°30'	180	210	1389	11,5	18	11,5
SNF 420 × 200	171,5	323,9	31,75	34,9	13,2	115°	57°30'	200	210	1554	11,5	18	11,5