

Test Report

No. TDB 0364 dated 27.04.2000

for application of Annex VII Directive 71/320/EEC

1 IDENTIFICATION

1.1 Axle

Manufacturer: BPW Bergische Achsen
Kommanditgesellschaft
D-51674 Wiehl

Make: BPW

Type: PS 50

Model: -

Technically permissible axle load P_e ¹⁾: 6000 daN

1.2 Brake

Manufacturer: See 1.1

Make: BPW

Type: N 3108-3

Model: -

Technically permissible camshaft
input torque $C_{max,e}$: 1350 Nm
(for calculation: 1000 Nm at 6,5 bar)

Brake drum - Internal diameter: 310 mm

- Mass: 14 kg

- Material: Cast iron (grey cast iron)

Brake lining - Manufacturer: Federal-Mogul Friction Products GmbH
D-51709 Marienheide

- Make,- Type: FERODO BERAL, 1517

- Identification: Type indication at front

- Width: 80 mm

- Thickness: 8 mm

- Surface area: 443 cm²

- Method of attachment: Rivited

Brake geometry: See appendix 1 dated 30.10.1998
See appendix 2 dated 07.06.1996

1.3 Wheel (Single)

Rim diameter D_e : See appendix 1 dated 30.10.1998

Dimensions: See appendix 1 dated 30.10.1998

¹⁾ See sheet 3/3



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RWTÜV

Manufacturer : BPW
Type of axle : PS 50

1.4 Tyres

Dynamic rolling radius R_e
at reference load P_e :

See appendix 1 dated 30.10.1998

1.5 Actuation

Brake actuator - Manufacturer: WABCO
- Type: Diaphragm brake actuator
- Model: 20 (423 105 900 0)
Lever length l_e : 150 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 O₂ and O₃

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	5,0	-	5,0
Braking time min	-	2,55	-
Brake force developed T_e daN	3699	421	2856
Brake efficiency T_e/P_e -	0,62	0,07	0,48
Actuator stroke s_e mm	36	-	55
Camshaft input torque C_e Nm	877	-	877
$C_{o,e}$ Nm	30	-	30

2.2 In the case of vehicles of category O₄: Not applicable

3 NAME OF TECHNICAL SERVICE CONDUCTING THE TEST

RWTÜV Fahrzeug GmbH
Technischer Dienst für Bremsanlagen
D-45307 Essen

4 DATE OF TEST: 07.04.1989

²⁾ See sheet 3/3



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RWTÜV

Manufacturer : BPW
Type of axle : PS 50

- 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, 27.04.2000



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, 03. MAI 2000

i. A.



- 7 **TEST DOCUMENTS**

- / Appendix 1: Dimensions brake drum/wheel/tyre (sheet 1 and 5)
- / Appendix 2: Brake geometry

¹⁾ Calculation with $g = 10 \text{ m/s}^2$

²⁾ Rolling road dynamometer test; $R_e = 471 \text{ mm}$



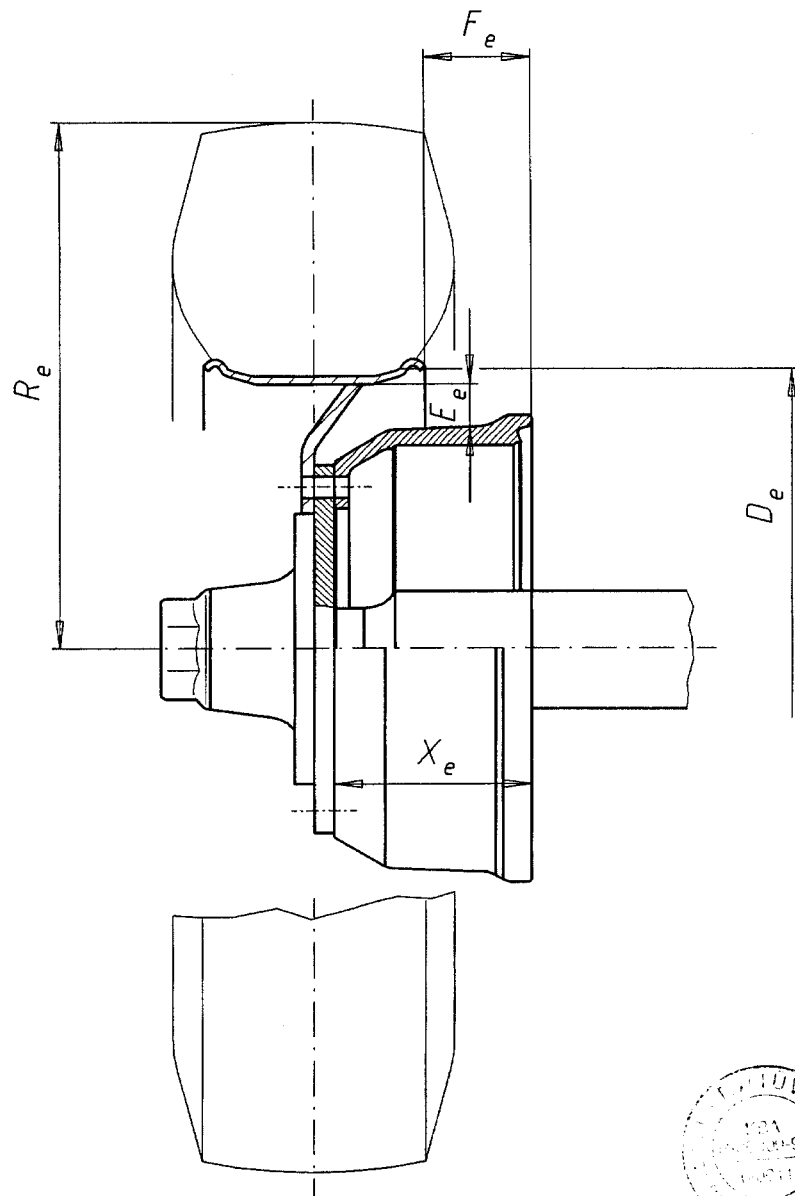
BPW-Brake N 3108-3 appendix 1
to TEST REPORT NO. TDB 0364

TE-2074.0 E

8 Blatt Bl.-Nr. 1

Abt. EZ
Tag 30.10.98
Bearb. Schöler

BPW BERGISCHE AXSEN Kommanditgesellschaft D-51674 Wiehl



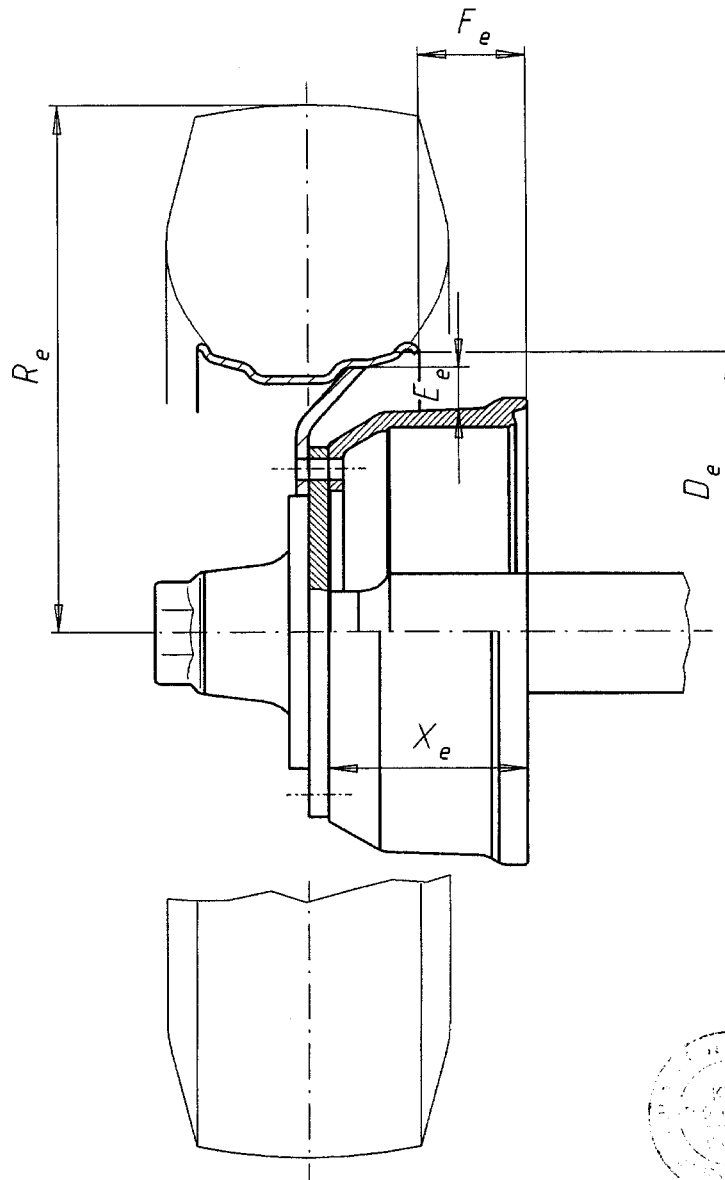
Drum- width		Axle load P_e (da N)	Tyre	Rim	R_e (mm)	D_e (mm)	E_e (mm)	F_e (mm)
X_e (mm)	mass (kg)							
≥ 112	14	6000	8,25 R 20	6,5 - 20	471	508	78	20

Ersatz für
Ersetzt durch



Abt. EZ
Tag 30.10.98
Bearb. Schöler

BPW BERGISCHE ACHSEN Kommanditgesellschaft D-51674 Wiehl



Drum- width X_e (mm)	mass (kg)	Axle load P_e (da N)	Tyre	Rim	R_e (mm)	D_e (mm)	E_e (mm)	F_e (mm)
≥ 112	14	6000	19,0/45 - 17	16,00×17	386	432	28	-86
≥ 112	14	6000	555/45 - 17	16,00×17	464	432	28	-86
≥ 112	14	6000	325/65 R 18	W 11×18	422	462	42	-17
≥ 112	14	6000	7,50 R 16	5,50 F - 16	389	406	25	+46
≥ 112	14	6000	285/70 R 19,5	19,5×8,25	431	495	43	-5
≥ 112	14	6000	275/70 R 22,5	22,5×7,50	470	571	95	+4
≥ 112	14	6000	235/75 R 17,5	17,5×7,50	387	444	22	+4

Ersatz für
Ersetzt durch



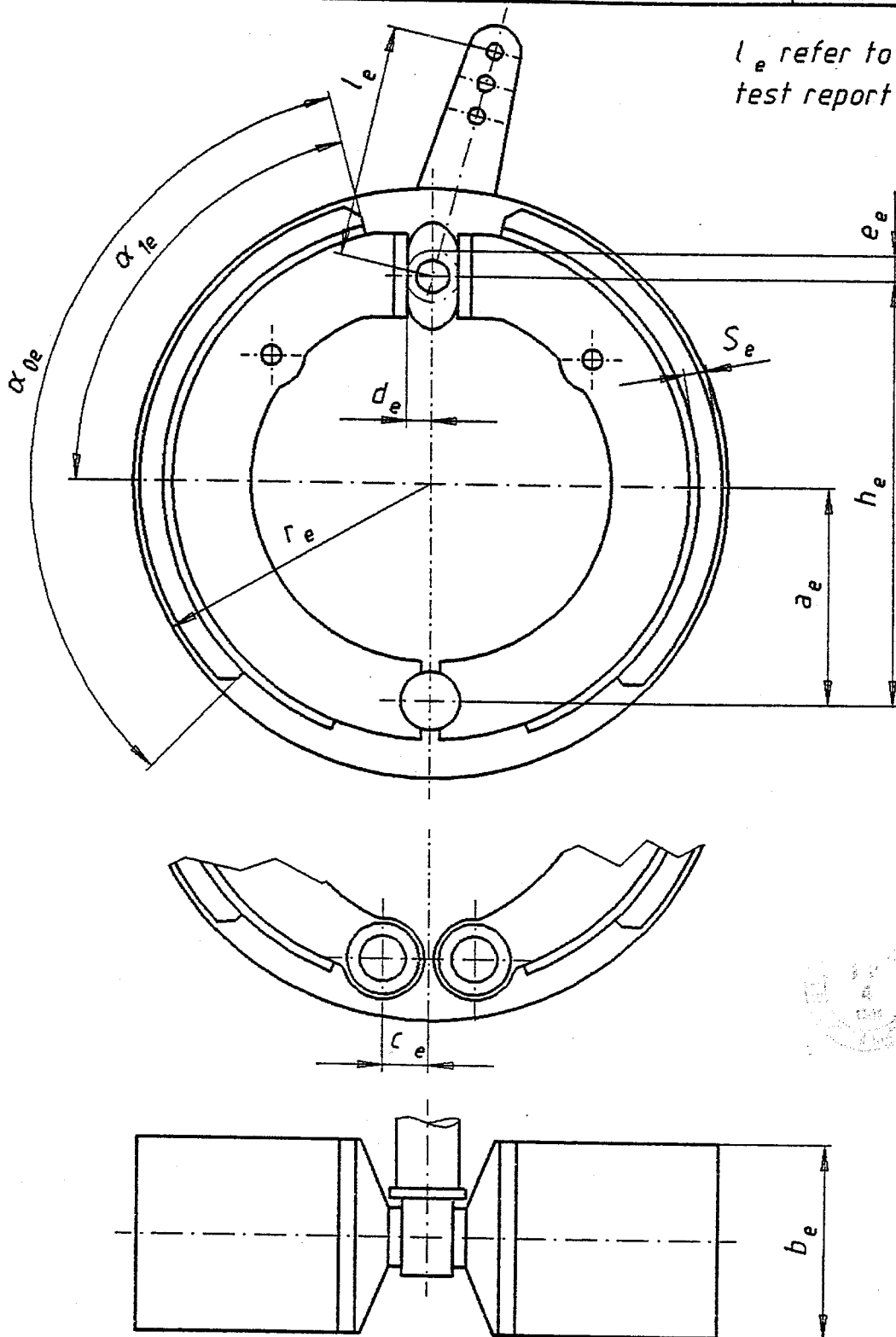
Appendix 2 to
TEST REPORT NO. TDB 0364

TE-2070.0

4 Blatt Bl.-Nr. 2

Abt. EE
Tag 07.06.96
Bearb. Schuster

BPW BERGISCHE ACHSEN Kommanditgesellschaft D-51674 WIEHL



All dimensions except α_{0e} , α_{1e} and F_e in mm. F_e = braking surface per brake (cm^2).

Type of brake	a_e	h_e	c_e	d_e	e_e	α_{0e}	α_{1e}	b_e	r_e	F_e		S_e
										rivited	adhesive	
N 2504-3	97,5	198	0	9	10	125°	60°	40	125	199	211	5
N 3006-3	122	242	0	11	10	115°	57°30'	60	150	320	345	5
N 3108-3	120	243	0	17	10,5	120°	57°	80	155	423	---	8
N 4008-3	160	325	30	17	13	115°	57°30'	80	200	548	---	8
N 4012-3	160	325	30	17	13	116°	58°	120	200	884	---	8

Ersatz für
Ersetzt durch