

# Test Report

No. TDB 0624 dated 27.11.98

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: GS 100  
Model: -  
Technically permissible axle load  $P_e$ <sup>1)</sup>: 11000 daN

### 1.2 Brake

Manufacturer: See 1.1  
Make: BPW  
Type: FL 4118  
Model: -  
Technically permissible camshaft  
input torque  $C_{max,e}$ : 3700 Nm  
(for calculation: 2800 Nm at 6,5 bar)

Brake drum - Internal diameter: 410 mm  
- Mass: 47,5 kg  
- Material: Cast iron (grey cast iron)

Brake lining - Manufacturer: BBA Friction GmbH  
D-51375 Leverkusen  
- Make: Textar  
- Type: T 090  
- Identification: Type indication at front  
- Width: 180 mm  
- Thickness: 8,5...12 mm (sickle-shaped)  
- Surface area: 1331 cm<sup>2</sup>  
- Method of attachment: Rivited

Brake geometry: See appendix 1 dated 30.10.98  
See appendix 2 dated 24.07.98

### 1.3 Wheel (Single)

Rim diameter  $D_e$ : See appendix 1 dated 30.10.98  
Dimensions: See appendix 1 dated 30.10.98

<sup>1)</sup> See sheet 3/3



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Manufacturer : BPW  
 Type of axle : GS 100

**1.4 Tyres**

Dynamic rolling radius  $R_e$   
 at reference load  $P_e$ : 520...650 mm

**1.5 Actuation**

Brake actuator -Manufacturer: GRAU  
 - Type: Diaphragm brake actuator  
 - Model: 30 (120 361 101)  
 Lever length  $l_e$ : 180 mm

**2 RECORD OF TEST RESULTS <sup>2)</sup>**

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

**2.1 In the case of vehicles of categories O<sub>2</sub> and O<sub>3</sub>**

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	6,2	-	6,2
Braking time	min	-	2,55	-
Brake force developed $T_e$	daN	8081	833	7400
Brake efficiency $T_e/P_e$	-	0,73	0,08	0,67
Actuator stroke $s_e$	mm	46	-	54
Camshaft input torque $C_e$	Nm	2117	-	2117
$C_{o,e}$	Nm	30	-	30

**2.2 In the case of vehicles of category O<sub>4</sub>**

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	6,3	-	6,3
Number of brake applications	-	-	20	-
Duration of braking cycle	s	-	60	-
Brake force developed $T_e$	daN	8129	3601	5107
Brake efficiency $T_e/P_e$	-	0,74	0,33	0,46
Actuator stroke $s_e$	mm	47	-	55
Camshaft input torque $C_e$	Nm	2152	-	2152
$C_{o,e}$	Nm	30	-	30

<sup>2)</sup> See sheet 3/3



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Date : 27.11.98

Manufacturer : BPW  
Type of axle : GS 100

**3 NAME OF TECHNICAL SERVICE CONDUCTING THE TEST**

RWTÜV Fahrzeug GmbH  
Technischer Dienst für Bremsanlagen  
D-45307 Essen

**4 DATE OF TEST: 23.07.98**

**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, 27.11.98

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, 27. JAN. 1999

i. A. *Peter Klaus Jensen*



**7 TEST DOCUMENTS**

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

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

<sup>2)</sup> Inertia dynamometer test;  $R_e = 594 \text{ mm}$