



Heavy Vehicle Specialist Certificate

Heavy Vehicle Specialist Inspector and Inspecting Organisation

Heavy Vehicle Specialist Inspector's Name (PRINT IN CAPS)

RONALD STUART PRATT

ID

TRSP

Vehicle Registration*

VIN / Chassis Number

7A9D35018B0023951

Component being certified:

Chassis Modification

Load Anchorage

Log Bolsters

Certification Category

HUEK

Towing Connection

Brakes

SRT

Description of Work

certify to Brake Rule 32015/2

Code/Standard Certified to

NZHVSR Rule Schedule 5

Component Load Rating(s)

General Drawing Number(s)

NA

Supporting Documents

Brake Cert No RP110513

PREU Value Exemption No HVB11/061

*Special Conditions

ABS Control - warning lamp must illuminate when ignition switched on and extinguish immediately OK when vehicle reaches 7kph

Certification Expiry Date (if applicable)

NA

or

Hubodometer Reading (whichever comes first)

Grid for hubodometer reading

Declaration

I the undersigned, declare that I am the Heavy Vehicle Specialist Inspector identified above and I hold a current valid appointment. I certify that the above mentioned vehicle component's design, manufacture and installation, and this certification complies in all respects with the Land Transport Rule Vehicle Standards Compliance 2002 and my Deed of Appointment. To the best of my knowledge the information contained in this Certificate is true and correct.

Designer's ID (if certified by a manufacturer)

Empty field for Designer's ID

Inspector's / Delegate's Signature

R. Pratt

*Delegate's Name (PRINT IN CAPS)

Empty field for Delegate's Name

Date

12/05/2011

Number

371539

COF Vehicle Inspector ID:

Empty field for COF Vehicle Inspector ID

COF Vehicle Inspector Signature:

Empty field for COF Vehicle Inspector Signature

Date

Empty field for Date

All fields excluding those marked with * must be completed before this certificate can be accepted.

NOTICE TO VEHICLE OPERATOR

This trailer is equipped with an Electronic Brake System.

To comply with the New Zealand Heavy Vehicle Brake RULE, it must be used only in conjunction with a truck/tractor equipped with a 5 or 7 pin ABS/EBS power supply socket.

Failure to connect to such supply invalidates Brake Rule compliance.


The trailer ABS/EBS warning light on the towing vehicle dashboard must illuminate when the ignition is switched on and extinguish when the vehicle is in motion.

If the light does not illuminate when ignition is switched on, the system must be checked. If the light remains illuminated when the vehicle is in motion, Brake Rule compliance is compromised. Repairs must be made as soon as possible.

NB:

If this vehicle is fitted with mechanical (spring) suspension, the load sense valving has been adjusted to suit exactly the performance of the original springs. In event of replacement being required, original equipment springs **must** be fitted to ensure correct ongoing operation. Fitment of non genuine springs can affect operation and therefore, compliance.

If you are unsure of your responsibilities and/or obligations, please contact either the vehicle manufacturer or myself.



R S Pratt
(TRSP HVEK 09 980 7300)

NOTICE TO VEHICLE OPERATOR

THIS VEHICLE HAS A BRAKE SYSTEM WHICH HAS BEEN DESIGNED AND FITTED IN ACCORDANCE WITH THE NEW ZEALAND HEAVY VEHICLE BRAKE RULE 32015: SCHEDULE 5.

IF THIS VEHICLE IS OPERATED IN CONJUNCTION WITH NON-CODED VEHICLES, THERE MAY BE OPERATIONAL FACTORS WHICH NEED TO BE TAKEN INTO CONSIDERATION.

PLEASE REFER TO THE CERTIFIER FOR FURTHER INFORMATION.

EXCERPT FROM NZ HEAVY VEHICLE BRAKE RULE 32015

10.1 Responsibilities of operators

A person who operates a vehicle must ensure that the vehicle complies with this Rule

10.2 Responsibilities of repairers

A person who repairs or adjusts a brake must ensure that the repair or adjustment:

- (a) does not prevent the vehicle from complying with the rule : and*
- (b) complies with Land Transport Rule: Vehicle Repair 1998.*

10.3 Responsibilities of modifiers

A person who modifies a vehicle so as to affect the braking performance of the vehicle must:

- (a) ensure that the modification does not prevent the vehicle from complying with this rule: and*
- (b) notify the operator that the vehicle must be inspected and, if necessary, certified by a person or organisation appointed to carry out specialist inspection and certification of heavy vehicle brakes.*

10.5 Responsibilities of manufactures and retailers

A person may manufacture, stock, or offer for sale a brake or its components. Intended for fitting to a vehicle to be used on New Zealand roads, only if that brake or component:

- (a) complies with this Rule: and*
- (b) does not prevent a repair to a vehicle, its structure, systems, components and equipment from complying with this Rule.*

IF YOU ARE UNSURE ABOUT YOUR RESPONSIBILITIES, PLEASE CONTACT THE VEHICLE MANUFACTURER, OR MYSELF.

COMPLAINTS. *Complaints and Warranty issues which relate to Brake Certification will be acknowledged within 7 working days and a resolution proposed within 25 working days: Resolution of complaints and Warranty issues is subject to Transpecs Warranty policy. Customers have the right to appeal to the Land Transport Safety Authority if dissatisfied with a Compliance issue. (refer LTNZ Deed Of Appointment Para 47.4) Land Transport NZ Helpdesk 0800 699 000*

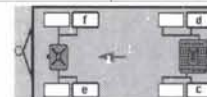

.....
R S PRATT
(TRSP HVEK)

System	Trailer EBS-E	WABCO part number	480 102 064 0
Production date	2011-01-04	Serial number	896000191800M
Fingerprint Customer EOL / Customer Development / Flash Program	W 041609 / 2011-05-12 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO	TRAILER EBS-E	GGVS/ADR TUEH TB 2007 - 019.00
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HERSTELLER MANUFACTURER CONSTRUCTEUR	Domett Trailers		
TYP TYPE TYPE	4 A Full Tipping		
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9D35018B0023951		
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	00173RP		
POLRADZÄHNEZÄHL c-d e-f POLE WHEEL TEETH c-d e-f DENTS ROUE DENTÉE c-d e-f	100	100	ABS-System ABS-System Système ABS
RSS RSS RSS	Einfachbereifung Single Tire Monte simple	Lenkachse Steering axle Essieu vireur	4S/3M
	Zwillingsbereifung Twin Tire Monte jumelée	X	Kippkritisches Fahrzeug Critical Trailer Véhicule critique
Subsystems	---	I/O	


GIO	Pin1	Pin3	Pin4
1	---	---	---
2	---	---	---
3	ALS2	ALS2	---
4	---	---	---
5	DIAG	DIAG	DIAG
6	---	---	---
7	---	---	---



ACHSE AXLE ESSIEU	pm (bar)		6.5		pm (bar)		0.7		2.0		6.5		TYP TYPE	(mm)	(mm)	(bar)	
	(kg)															1.0	Pz
1	1500	0.6	1.9	7000	4.4	0.5	1.3	---	6.0	-	---	---	---	---	---	---	---
2	1500	0.6	1.9	7000	4.4	0.5	1.3	---	6.0	-	---	---	---	---	---	---	---
3	1200	0.4	1.2	7000	4.4	0.5	1.3	---	4.2	-	---	---	---	---	---	---	---
4	1200	0.4	1.2	7000	4.4	0.5	1.3	---	4.2	-	---	---	---	---	---	---	---
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---	---	---

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light power supply	Not tested
EBS pressure test	OK	Lifting axle test	Not tested
Redundancy test	OK	ECAS distance sensor calibration	Not tested
ABS sensor assignment	OK	Distance sensor Axle load calibr.	Not tested
RTR check	Not tested	Leak test	Not tested
Immobilizer test	Not tested	Signal outputs TEBS	Not tested

Diagnostic memory ELEX	Not tested	Signal outputs ELEX	Not tested
TailGUARDlight	Not tested	TailGUARD	Not tested

Manufacturer	Domett Trailers	Vehicle ident. no	7A9D35018B0023951
Vehicle type	4 A Full Tipping	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tested by	Ron Pratt	 Signature	
Date	2011-05-12 8:56:29 AM		



NZ TRANSPORT AGENCY
WAKA KOTAHI

Domett

Level 9, PSIS House
20 Ballance Street
PO Box 5084
Lambton Quay
Wellington 6145
New Zealand
T 64 4 894 5200
F 64 4 894 3305
www.nzta.govt.nz

Document: B1142275
Exemption: HVB11/061

**EXEMPTION FROM SPECIFIED REQUIREMENTS OF LAND TRANSPORT RULE:
Heavy-vehicle Brakes 2006, Rule 32015**

Pursuant to Section 166(1) of the Land Transport Act 1998, and pursuant to the powers delegated to me, I Eugene Girardin, Vehicles Unit Engineer, hereby exempt the motor vehicle specified in Schedule 1 hereto from the section of Land Transport Rule: Heavy-vehicle Brakes 2006 (the Rule) listed in Schedule 2, subject to the conditions specified in Schedule 3.

SCHEDULE 1:

Make/Model: **Domett Truck & Trailer Ltd, 4 Axle Full Trailer**
VIN/CHASSIS: **7A9D35018B0023951**

SCHEDULE 2: - Exempted Requirement

Section 2.3(9); The parking brake of a vehicle, whether or not it is being operated as a combination vehicle, must be able to be applied by the driver from the normal driving position using one control only.

SCHEDULE 3: - Conditions of this exemption:

- 1) The vehicle must be fitted with a Wabco park-release emergency valve (PREV), Part Number: 971 002 900 0.
- 2) The vehicle must be fitted with the Wabco PREV name plate, Part Number 971 002 103 4, adjacent to the PREV.
- 3) The vehicle must still be fitted with a parking brake that complies with all parking brake requirements in the Rule other than the requirement in Clause 2.3(9) of the Rule.
- 4) The installation of the PREV must be approved in writing by Transport Specialties Limited (Transpecs) or an NZ Transport Agency appointed HVEK certifier acting on behalf of, and under instruction from, Transpecs; Transpecs must keep a written record of all approvals.
- 5) An HVEK certifier in 4) must be fully trained in end of line procedures for Wabco electronically controlled braking systems
- 6) Transpecs must provide full operator training in the use of the PREV and furnish the operator with full written operating instructions for the PREV.
- 7) The vehicle must not be modified in any way while operating under this exemption.
- 8) This original exemption must be kept by Transport Specialties Ltd.
- 9) A copy of this exemption (printed on a silver WABCO Sticker) must be affixed to the exempted vehicle as close to the WABCO PREV as possible.
- 10) The sticker in 8) must be legible and include all printed areas of this original exemption letter.
- 11) This exemption can be revoked at any time in writing by the NZ Transport Agency.

Signed at Wellington this 5th day of April 2011.

Eugene Girardin
Engineer
Vehicles Unit



P.O.Box 98-971

South Auckland Mail Centre

Ronald Stuart Pratt (TRSP)

DATE	12-May-11	TYPE APPROVED	SAF4AEBS-E
CERTIFICATE No	RP110513	PREV EXEMPTION NO	
VIN No	7A9D35018B0023951		
BRAKE CHAMBERS FRONT	24TSE65mm	MAN GVM	28000Kg
BRAKE CHAMBERS REAR	24/30TSE65mm	LOAD SENSED	YES EBS CONTROL
SLACK LENGTH FRONT	140mm	TYRE SIZE FRONT	265/70R19.5
SLACK LENGTH REAR	140mm	TYRE SIZE REAR	265/70R19.5
THIS VEHICLE COMPLIES WITH N.Z			
HVBR 32015/2 SCHEDULE 5		LINING MATERIAL FRONT	ABEX3030-
		LINING MATERIAL REAR	ABEX3030-

trailer (full, semi-, centre-axle) with air brake system acc. to 71/320/EEC, last amended by 98/12/EC and 2006/96/EC or UN/ECE-R.13.11

distribution: Domett
3542 951
4A Hend EBS
00173RP

please note!

This brake calculation is made under consideration of
-the legal prescriptions mentioned above in the version valid at the time of making the program (V6.10.05.21).
-the functional characteristics of our products as well as the data of the brake out of the test approvals of the axle manufacturers, and
-the other vehicle data included in the brake calculation.
Please check whether these data correspond to the actual vehicle data. Our conditions of delivery apply (particularly section 9.0). In any case we commend to do a braking harmonisation!
WABCO Brake V6.10.05.21 db 26.05.2010

vehicle manufacturer: Domett
trailer model : 4A Full Trailer Tipper
trailer type : 4-axle-full-trailer
remarks : air / hydraulic / VA suspension
WABCO TRAILER - EBS
TRISTOP 3+4: 24/30
265/70 R 19,5

axle 1 + 2 + 3 + 4 : Hendrickson, PW 335x210, RDW 1914 0699, RDW 1901 1249

		<u>unladen</u>	<u>laden</u>
total mass	P in kg	5400	28000
axle 1	P1 in kg	1500	7000
axle 2	P2 in kg	1500	7000
axle 3	P3 in kg	1200	7000
axle 4	P4 in kg	1200	7000
wheel base	E in mm	4800 - 4800	
centre of gravity height	h in mm	980	1900

		<u>axle 1</u>	<u>axle 2</u>	<u>axle 3</u>	<u>axle 4</u>
no. of combined axles		1	1	1	1
no. of brake chambers per axle line	KDZ	2	2	2	2
The power output corresponds to		FE 747	FE 747BC	0051.0BC	0051.0
brake chamber manufacturer		WABCO	WABCO	WABCO	WABCO
chamber size		24	24	24/30	24/30
lever length	lBh in mm	140	140	140	140
brake factor	[-]	8.70	8.70	8.70	8.70
dyn. rolling radius	rdyn min in mm	421	421	421	421
dyn. rolling radius	rdyn max in mm	421	421	421	421
threshold torque	Co Nm	10.0	10.0	10.0	10.0

calculation:

chamber pressure(rdyn min)pH at z=22,5%bar	2.2	2.2	1.8	1.8
chamber pressure(rdyn max)pH at z=22,5%bar	2.2	2.2	1.8	1.8
chamber press.(servo)pcha at pm6,5bar bar	6.0	6.0	4.2	4.2
piston force ThA at pm6,5bar N	8271	8271	5915	5915
brake force(rdyn min)T lad. at pm6,5bar N	48131	48131	34497	34497
brake force(rdyn max)T lad. at pm6,5bar N	48131	48131	34497	34497
brake force within 1 % rolling friction proportion %	24.6	24.6	25.4	25.4

braking rate z laden 0.602 for rdyn min
z = sum (TR)/PRmax 0.602 for rdyn max

Trailer may only be operated in combination with trucks/tractors with ISO 7638 supply (5 or 7 polar).

brake diagram :

maximum pressure: 8.5 bar

axle 1:

valve 1: 971 002 ... 0 WABCO
EBS emergency valve

valve 2: 480 207 0.. 0 WABCO
EBS relay valve

brake cylinder: WABCO 423 106 9.. 0

axle 2:

valve 1: 971 002 ... 0 WABCO
EBS emergency valve

valve 2: 480 207 0.. 0 WABCO
EBS relay valve

brake cylinder: WABCO 423 106 9.. 0

axle 3:

valve 1: 971 002 ... 0 WABCO
EBS emergency valve

valve 2: 480 102 0.. 0 WABCO
EBS trailer modulator .

brake cylinder: WABCO 925 376 005 0 / 925 376 2.. 0

axle 4:

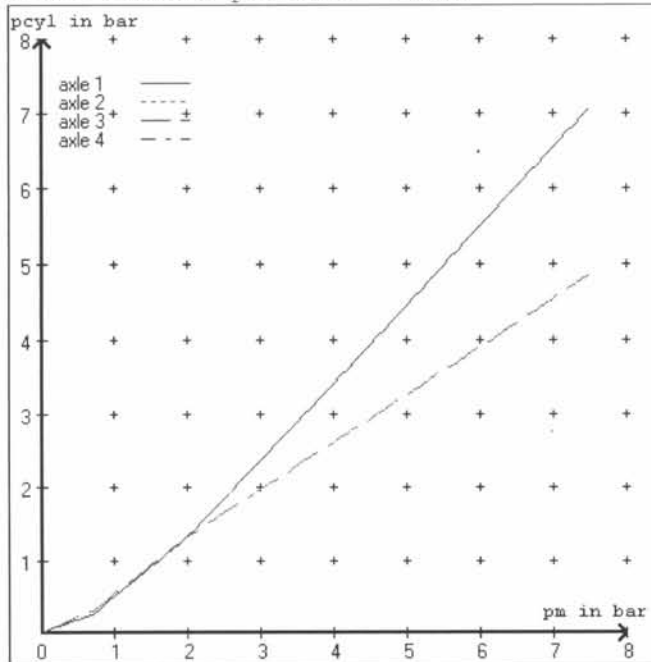
valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

valve 2: 480 102 0.. 0 WABCO
 EBS trailer modulator

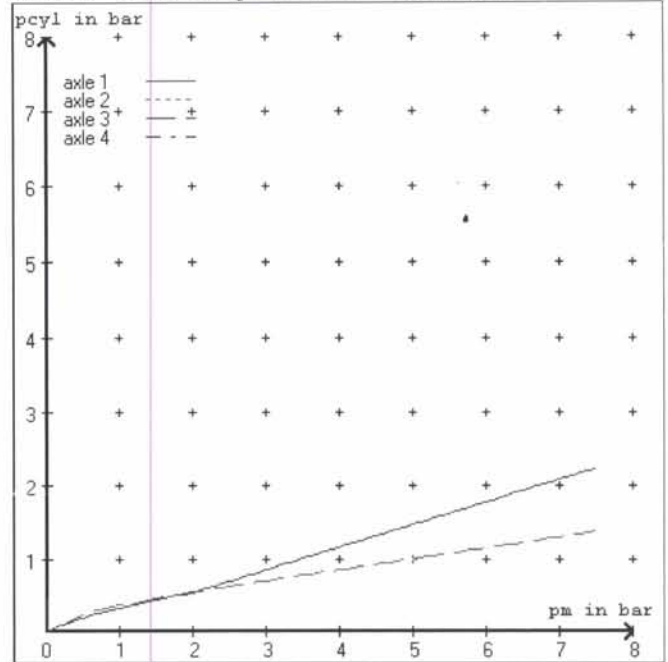
brake cylinder: WABCO 925 376 005 0 / 925 376 2.. 0

test type III	(zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm	3.6 bar =>	pcha in bar :	2.9	2.9	2.3	2.3	
test type III	(zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm	1.2 bar =>	pcha in bar :	0.6	0.6	0.7	0.7	

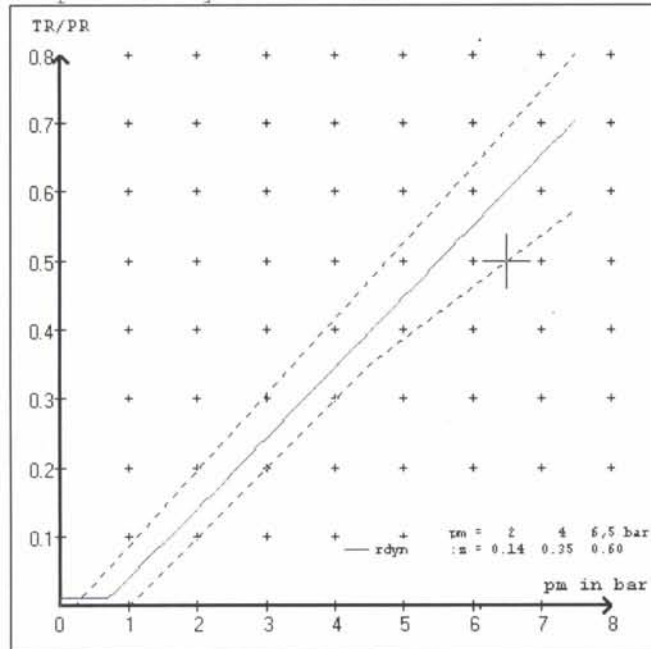
brake chamber pressure laden



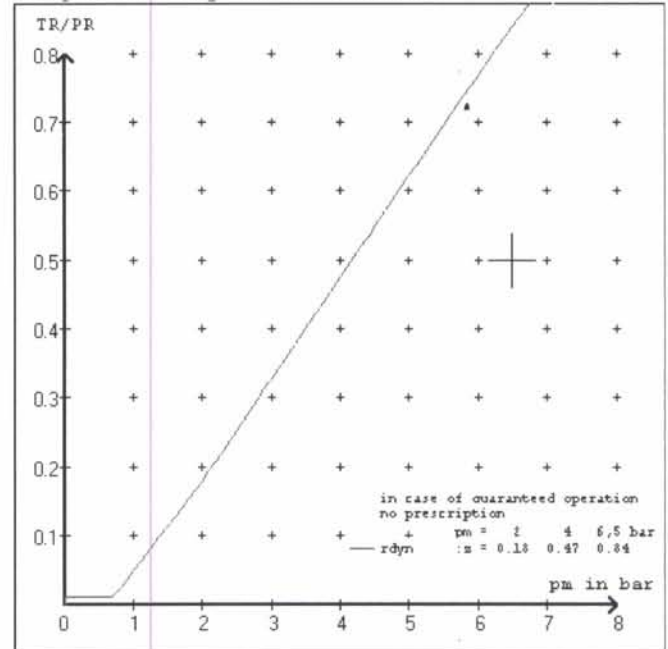
brake chamber pressure unladen



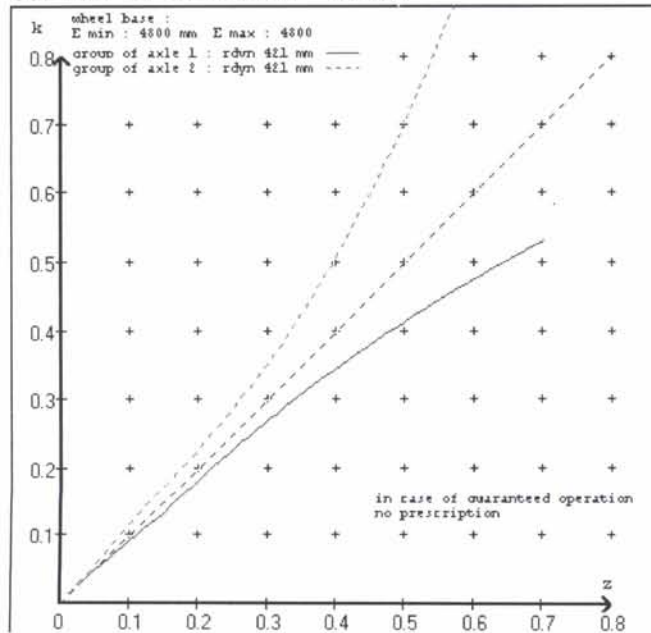
compatibility band laden



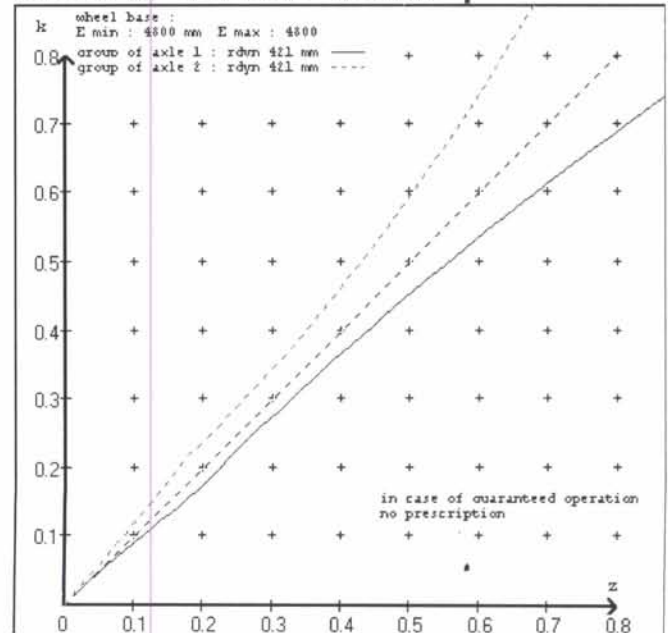
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: Domett
 trailer model : 4A Full Trailer Tipper
 trailer type : 4-axle-full-trailer

brake chamber and lever length :

axle 1 : 2 x type/diameter 24 (WABCO) lever length 140 mm
 axle 2 : 2 x type/diameter 24 (WABCO) lever length 140 mm
 axle 3 : 2 x type/diameter 24/30 (WABCO) lever length 140 mm
 axle 4 : 2 x type/diameter 24/30 (WABCO) lever length 140 mm

brake diagram :

valve :

971 002 ... 0 WABCO EBS emergency valve
 480 207 0.. 0 WABCO EBS relay valve
 480 102 0.. 0 WABCO EBS trailer modulator

EBS input data

vehicle manufacturer: Domett
 trailer model : 4A Full Trailer Tipper
 trailer type : 4-axle-full-trailer
 brake calculation no. : TP 173A

tire circumference main axle : 2650 for rdyn max
 tire circumference auxiliary axle : 2650 for rdyn max

assignment pm / deceleration z: pm 0.7 bar z = 0.000
 (laden condition) 2.0 bar z = 0.134
 6.5 bar z = 0.600

control pressure pm		6,5		control pressure pm		0.7	2.0	6.5
axle	axle load unladen	bellow pr. unladen	brake pr. unladen	axle load laden	bellow pr. laden	brake pr. laden		
1	1500	to be	1.9	7000	to be	0.2	1.3	6.0
2	1500	entered by	1.9	7000	entered by	0.2	1.3	6.0
3	1200	the vehicle	1.2	7000	the vehicle	0.3	1.3	4.2
4	1200	manufact.	1.2	7000	manufact.	0.3	1.3	4.2
5	0		0,0	0		0,0	0,0	0,0

The unladen values indicated in the above table are values for the basic parameter set. Higher unladen axle loads and liftaxles are automatically recognized and do not require separate adjustment. The above unladen axle loads must not be fallen below.

axle 1		axle 2		axle 3		axle 4	
axle load	pcyl	axle load	pcyl	axle load	pcyl	axle load	pcyl
1500	1.9	1500	1.9	1200	1.2	1200	1.2
2000	2.3	2000	2.3	1700	1.5	1700	1.5
2500	2.6	2500	2.6	2200	1.7	2200	1.7
3000	3.0	3000	3.0	2700	2.0	2700	2.0
3500	3.4	3500	3.4	3200	2.2	3200	2.2
4000	3.8	4000	3.8	3700	2.5	3700	2.5
4500	4.1	4500	4.1	4200	2.8	4200	2.8
5000	4.5	5000	4.5	4700	3.0	4700	3.0
7000	6.0	7000	6.0	7000	4.2	7000	4.2

data sheet to EC/ECE vehicle type-approval certificate concerning braking equipment: according to 98/12/EC annex IX 2.7.4 / ECE R13 annex 11

axle 1 : reference axle: Hendrickson2000 Series brake lining: Fer3658F / DurP2008
 test report : RDW 1914 0699 date : 10.02.2000
 axle 2 : reference axle: Hendrickson2000 Series brake lining: Fer3658F / DurP2008
 test report : RDW 1914 0699 date : 10.02.2000
 axle 3 : reference axle: Hendrickson2000 Series brake lining: Fer3658F / DurP2008
 test report : RDW 1914 0699 date : 10.02.2000
 axle 4 : reference axle: Hendrickson2000 Series brake lining: Fer3658F / DurP2008
 test report : RDW 1914 0699 date : 10.02.2000

calc. verif. of residual (hot) braking force type III
 (item 4.2 of appendix I to annex VII)

axle 1 (rdyn 421 mm) T = 21.1 % Fe
 axle 2 (rdyn 421 mm) T = 21.1 % Fe
 axle 3 (rdyn 421 mm) T = 17.1 % Fe
 axle 4 (rdyn 421 mm) T = 17.1 % Fe

calculated actuator stroke in mm
 (item 4.3.1.1 of appendix I to annex VII)

axle 1 (sp = 73 mm) s = 53 mm
 axle 2 (sp = 73 mm) s = 53 mm
 axle 3 (sp = 63 mm) s = 53 mm
 axle 4 (sp = 63 mm) s = 53 mm

average thrust output in N at pm = 6,5 bar (however max. pcha = 7,0 bar)

axle1 ThA = 8271 N
 axle2 ThA = 8271 N
 axle3 ThA = 5915 N
 axle4 ThA = 5915 N

calc. residual (hot) braking force in N
 (item 4.3.1.4 of appendix I to annex VII)

axle 1 (rdyn 421 mm) T = 42078 N
 axle 2 (rdyn 421 mm) T = 42078 N
 axle 3 (rdyn 421 mm) T = 30187 N
 axle 4 (rdyn 421 mm) T = 30187 N

	basic test of subject trailer (z)	type III (calculated) residual (hot)braking
braking rate of the vehicle (item 4.3.2 to appendix I to annex VII)	0.60	0.53

required braking rate >= 0,4 and
 (items 1.3.3 and 1.6.2 to annex II) >= 0,6*z (0.36)

calc. residual (hot) braking force in N
 (item 4.3.1.4 of appendix I to annex VII)

axle 1 (rdyn 421 mm) T = 42078 N
 axle 2 (rdyn 421 mm) T = 42078 N
 axle 3 (rdyn 421 mm) T = 30187 N
 axle 4 (rdyn 421 mm) T = 30187 N

	basic test of subject trailer (z)	type III (calculated) residual (hot)braking
braking rate of the vehicle (item 4.3.2 to appendix I to annex VII)	0.60	0.53

required braking rate >= 0,4 and
 (items 1.3.3 and 1.6.2 to annex II) >= 0,6*z (0.36)

spring parking brake

	<u>axle 3</u>	<u>axle 4</u>
no of TRISTOP-actuators per axle line KDZ	2	2
TRISTOP-actuator type	24/30	24/30
lever length lBh in mm	140	140
stat. tyre radius rstat max in mm	401	401
at a stroke of .s in mm	30	30
min. force of spring brake TFZ in N	6360	6360
sp.brake chamber no 925	376 005 0	376 005 0
sp.brake chamber no 925	376 2.. 0	376 2.. 0
release pressure pLs in bar	4.9	4.9

calculation:

ratio until road	3.0374	3.0374
$iFb = lBh * \eta * C * rBt / (2 * rBn * rstat)$ for rstat in mm	401	401
brake force of spring br. Tf in N	38202	38202
$Tf = (TFZ * KDZ - 2 * Co / lBh) * iFb$		
braking rate zf laden	0.288	
$zf = \text{sum}(Tf) / P + 0,01$		

Test of the frictional connection required by the parking brake

minimum wheelbase/minimum supporting width min Ef necessary to fulfil the regulations

$$\text{min Ef} = E * (1 - PR/P + zferf * h/E) / (1 - zferf / (fzul * nf/ng))$$

min Ef = 3538 mm for E = 4800 mm

=====

min Ef = 3538 mm for E = 4800 mm

=====

min Ef = minimum distance between front axle(s) (trailer) or support (semitrailer) and the rear axle(s) (resultant of the bogie)

E = wheel base

fzul = 0.80 maximum permissible frictional connection required

zferf = 0.18 maximum required braking ratio of the parking brake

h = 1900 mm height of center of gravity - laden

PR = 14000 kg maximum bogie mass - laden

P = 28000 kg maximum total mass - laden

nf = 2 no. of axle(s) with TRISTOP spring brake actuators

ng = 2 no. of bogie axle(s)

axle manufacturer	axle 1 + 2 + 3 + 4	
type of brake	Hendrickson	
type of axle	PW 335x210	
test report no.	2000 Series	
test report of characteristic value	RDW 1914 0699	
	RDW 1901 1249	
adm. stat. axle load	Pstat	in kg 11000
tested axle load	Pe	in kg 11000
max. adm. tyre radius	Rezul	in mm 999
adm. cam. torque (6,5 bar)	Czul	in Nm 1740
lining area per brake	AB	in cm ² 1432
no. of brake cylinder	-	2
brakefactor Bf	-	8.70
threshold torque (Co,e)	Co,e	in Nm 10
date	10.02.2000	
brake lining	Fer3658F / DurP2008	
cam torque	Ce	in Nm 1502
brake force	TeIII	in daN 5488
stroke	seIII	in mm 57
tested tyre radius	Re	in mm 421
tested lever length	le	in mm 152

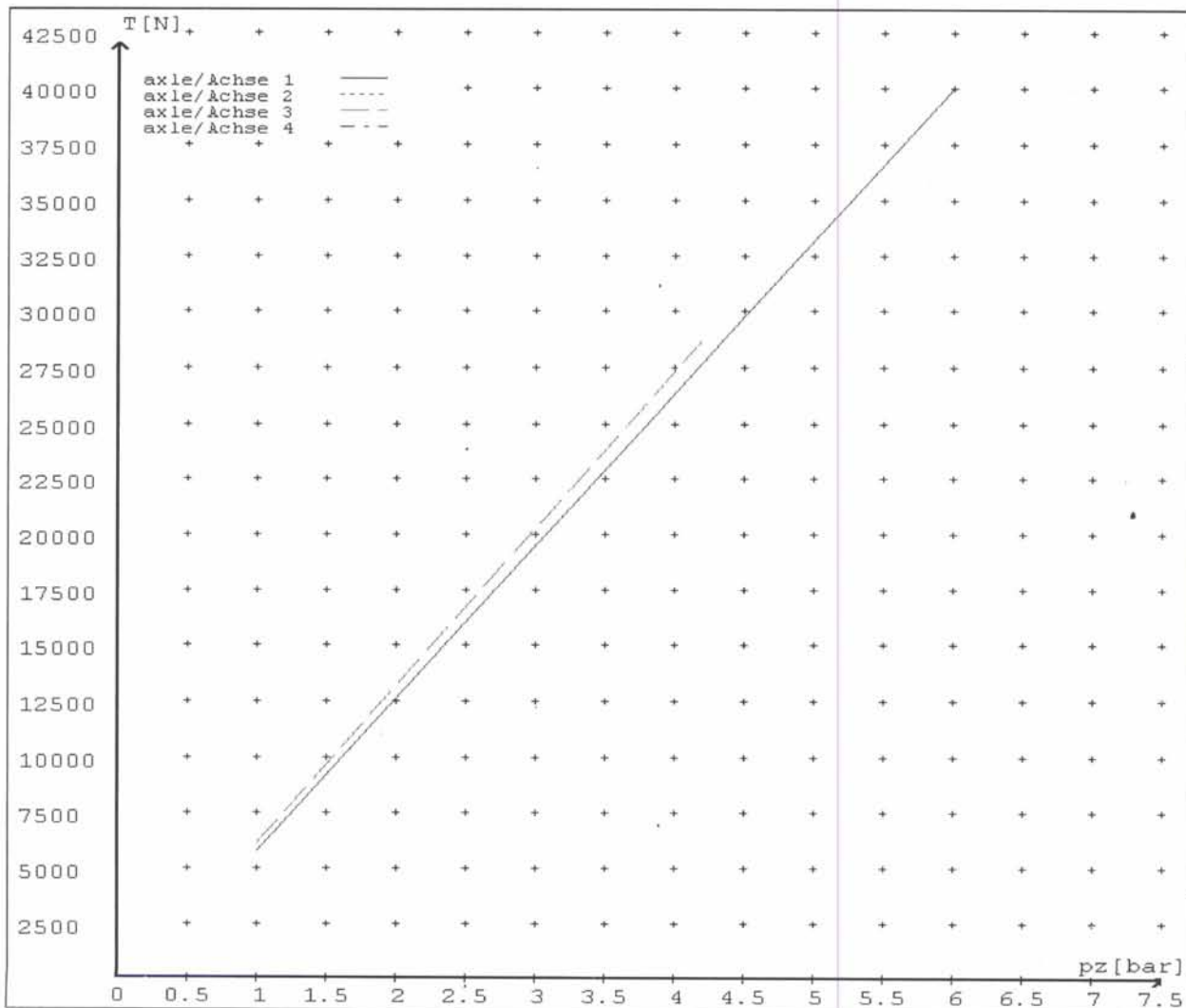
reference values

reference values for z = 50% for max rdyn: 421 mm

	pz [bar]	T [N]	T [N]
axle 1	1.0	5711	
	6.0	39976	
axle 2	1.0	5711	
	6.0	39976	
axle 3	1.0		6076
	4.2		28652
axle 4	1.0		6076
	4.2		28652

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	24/	24/	24/30	24/30	/
Maximum stroke smax = ...mm maximaler Hub smax =mm	75	75	64	64	
Lever length =mm Hebellänge =mm	140	140	140	140	



reference values for $z = 0.5$

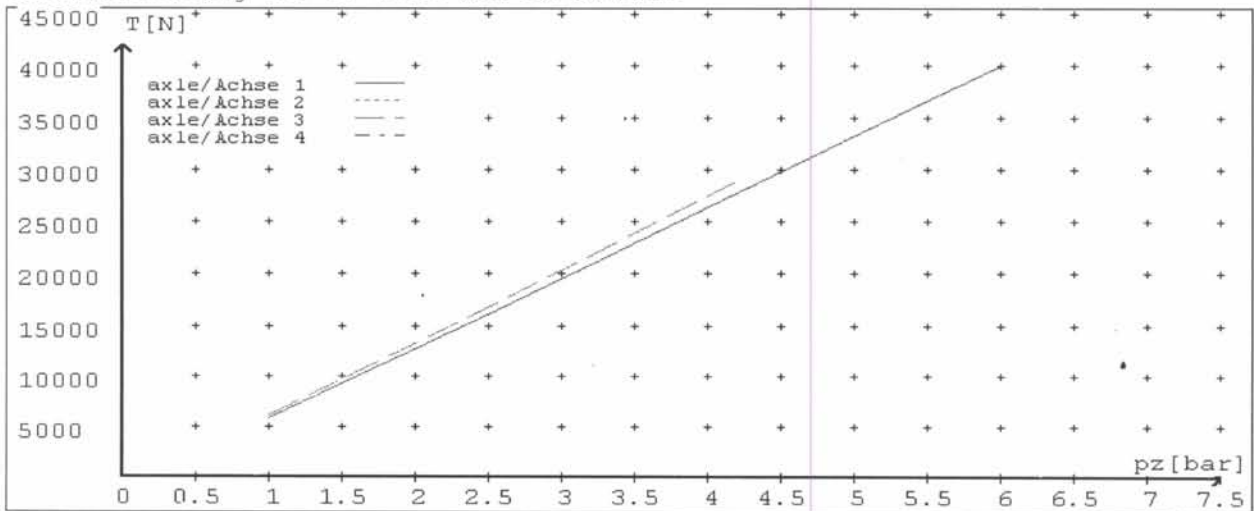
Angabe der Referenzwerte für $z = 0.5$

brake calculation no: TP 173A date 10.05.2011

Bremsberechnung Nr: TP 173A vom 10.05.2011

for max rdyn: 421 mm

für max rdyn: 421 mm



	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	24/	24/	24/30	24/30	/
Maximum stroke $s_{max} = \dots$ mm maximaler Hub $s_{max} = \dots$ mm	75	75	64	64	
Lever length = \dots mm Hebellänge = \dots mm	140	140	140	140	