WAKA KOTAHI
NZ TRANSPORT AGENCY

Heavy vehicle specialist certificate

Must be presented to a CoF (heavy) inspecting organisation if not entered into LANDATA

Heavy vehicle specialist inspector's or manufacturing inspecting organisation's name *(PRINT IN CAPS)*: CHRIS CLARKE

ID: CJC

Plate number *(optional)*:

VIN/chassis number: 7A9E4501XM2023104

Make: DOMETT

Model *(optional)*: E4501

Certification category: HVEK

Component being certified:

- [ ] Chassis
- [ ] Load anchorage
- [ ] Log bolsters
- [ ] Towing connection
- [X] Brakes
- [ ] SRT
- [ ] PSV stability
- [ ] PSV rollover
- [ ] Swept path
- [ ] PBS

Description of work

CERTIFY TO SCHEDULE 5 OF LTR 32015/5: NZ HEAVY VEHICLE BRAKE SPECIFICATION.
CARRY OUT BRAKE CALCULATIONS, INSPECTION AND ECU END OF LINE PROTOCOL.
5AFT CURTAINSIDE **RSS ON TYRE:** 215 75 R17.5
FOR SYSTEM ARCHITECTURE, PLEASE REFER TO PDS WORKSHEET & SCHEMATIC.
REASON FOR CERTIFICATION: NEW TRAILER BUILD

Code/standard/rule certified to: LTR 32015/5

General drawing number(s): N/A

Component load rating(s):
32 Tonnes GVM
16 Tonne (Front brake mass)
19 Tonne (Rear brake mass)

Supporting documents:
BRAKE RULE CERTIFICATE JH211011
BRAKE CALCULATION # TP52375

Special conditions *(optional)*:
WARNING LAMP MUST ILLUMINATE WHEN IGNITION IS SWITCHED ON & THEN EXTINGUISH IMMEDIATELY OR WHEN VEHICLE SPEED EXCEEDS 7 KM/H

Certification expiry date *(if applicable)*: N/A [UNLESS MODIFIED]

or

Hubodometer reading *(whichever comes first)*:

Declaration

I the undersigned, declare that I am the heavy vehicle specialist inspector identified 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 appointment. To the best of my knowledge the information contained in the certificate is true and correct.

Designer's ID *(if different from inspector below)*: JOHN HIRST JEH

Inspector's signature:

Inspector's name *(PRINT IN CAPS)*: CHRIS CLARKE ID number: CJK

Date: 15.12.2021

Number: 809726

CoF vehicle inspector ID *(if applicable)*:

CoF vehicle inspector signature *(if applicable)*:

Date:

All fields are mandatory unless otherwise stated.

WABCO START-UP LOG

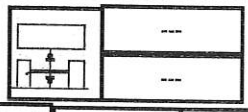
System	Trailer EBS-E	WABCO part number	480 102 084 0
Production date	2021-05-14	Serial number	437010465600E
Serial number (modulator)	000000505744		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2021-12-16 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

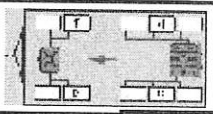
WABCO TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00
40.175.090

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT TRAILERS
TYP TYPE TYPE	5AFT LOW LOAD
VEHICLE IDENT. NUMBER CHASSIS NUMBER NUMERO DE CHASSIS	7A9E4501XM2023104
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP52375A
POLRADZAHNEZAHL c-d | e-f POLE WHEEL TEETH c-d | e-f DENTS ROUE DENTÉE c-d | e-f	80 / 80
ABS-System ABS-System Système ABS	4S/3M
RSS Einfachbereifung Single Tire Monte simple	
RSS Zwillingsbereifung Twin Tire Monte jumelée	X
Lenkachse Steering axle Essieu vireur	
Kippkritisches Fahrzeug Critical Trailer Véhicule critique	
Subsystems	SB / I/O / 24N

GIO	Pin1	Pin3	Pin4
1	24 V-O1	---	---
2	---	---	---
3	ALS2	ALS2	---
4	---	---	---
5	DIAG	DIAG	DIAG
6	---	---	---
7	---	---	---





	pm (bar)			pm (bar)										(bar) 1.0	Pz
ACHSE AXLE ESSIEU									pz		TYP TYPE	(mm)	(mm)	TR (daN)	
1	1500	0.6	2.3	7500	4.7	0.4	1.4	---	6.5	-	20	65	69	460	4153
2	1500	0.6	2.3	7500	4.7	0.4	1.4	---	6.5	-	20	65	69	460	4153
3	1550	0.6	2.2	6350	4.0	0.3	1.5	---	5.3	-	14 / 16	64	69	444	2793
4	1550	0.6	2.2	6350	4.0	0.3	1.5	---	5.3	-	14 / 16	64	69	444	2793
5	1550	0.6	2.2	6350	4.0	0.3	1.5	---	5.3	-	14	64	69	444	2793

TEBS-E

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light supply	OK
EBS pressure test	OK	Lifting axle test	Not tested
Redundancy test	OK	ECAS height sensor calibration	Not tested
ABS sensor assignment	OK	Height sensor axle load	Not tested
RTR test	Not tested	Leak test	Not tested
Immobilizer test	Not tested	Signal outputs	Not tested
Signal inputs	Not tested	Tag axle test	Not tested

Electronic Extension Module

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

Manufacturer	DOMETT TRAILERS	Vehicle ident. no.	7A9E4501XM2023104
Vehicle type	5AFT LOW LOAD	Odometer reading	0.0 km
Next service	0 km	Trip reading	0.0 km
Tester	Chris Clarke		
Date	2021-12-16 3:41:06 pm	Signature	

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

distribution: DOMETT TRAILERS
7A9E4501XM2023104
SODC: JH211011
LT400: CJC 809726

please note!

This brake calculation is made under consideration of
-the legal precriptions mentioned above in the version valid at the time of making the program (V6.18.07.12).
-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!
WABCOBrake V6.18.07.12 db 31.08.2018

vehicle manufacturer: DOMETT TRAILERS
trailer model : 5AFT LOW LOAD
trailer type : 5-axle-full-trailer
remarks : air / hydraulic / VA suspension
EC w.o.annexVII
WABCO TRAILER - EBS E
TRISTOP 3+4: T.14/24 [TSE1416HTLD64 ACTUALLY FITTED - SEE PAGE 6 FOR PERFORMANCE DATA]
215/75 R 17,5 - 235/75 R 17,5

axle 1 + 2 + 3 + 4 + 5 : IMT, WABCO PAN-17, 361-037-08 ECE [40.195.090],

		unladen	laden
total mass	P in kg	7650	34050
axle 1	P1 in kg	1500	7500
axle 2	P2 in kg	1500	7500
axle 3	P3 in kg	1550	6350
axle 4	P4 in kg	1550	6350
axle 5	P5 in kg	1550	6350
wheel base	E in mm	6600 - 6700	
centre of gravity height	h in mm	970	2000

		axle 1	axle 2	axle 3	axle 4	axle 5
no. of combined axles		manually	manually	manually	manually	manually
no. of brake chambers per axle line	KDZ	1	1	1	1	1
The power output corresponds to		2	2	2	2	2
brake chamber manufacturer		BZ 122.1	BZ 122.1	BZ 119.6	BZ 119.6	BZ 122.1
chamber size		Meritor	Meritor	Meritor	Meritor	Meritor
lever length	lBh in mm	20.	20.	T.14/24	T.14/24	14.
brake factor	[-]	69	69	69	69	69
dyn. rolling radius	rdyn min in mm	17.60	17.60	17.60	17.60	17.60
dyn. rolling radius	rdyn max in mm	373	373	373	373	373
threshold torque	Co Nm	387	387	387	387	387
		4.2	4.2	4.2	4.2	4.2

calculation:

chamber pressure(rdyn min)pH at z=22,5%bar		2.4	2.4	2.3	2.3	2.3
chamber pressure(rdyn max)pH at z=22,5%bar		2.5	2.5	2.3	2.3	2.3
chamber press.(servo)pcha at pm6,5bar	bar	6.5	6.5	5.3	5.3	5.3
piston force ThA at pm6,5bar	N	7564	7564	5087	5087	5087
brake force(rdyn min)T lad. at pm6,5bar	N	49878	49878	33540	33540	33540
brake force(rdyn max)T lad. at pm6,5bar	N	48100	48100	32349	32349	32349
Brake force incl. 1 % rolling resistance proportion	%	22.3	22.3	18.5	18.5	18.5

braking rate z laden
z = sum (TR)/PRmax

0.600 for rdyn min
0.579 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 or 480 207 2.. 0
EBS relay valve

brake cylinder: Meritor 20HSCLD65

axle 2:
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

brake cylinder: Meritor 20HSCLD65

axle 3:
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

brake cylinder: Meritor 1424HTLD64

axle 4:
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

brake cylinder: Meritor 1424HTLD64

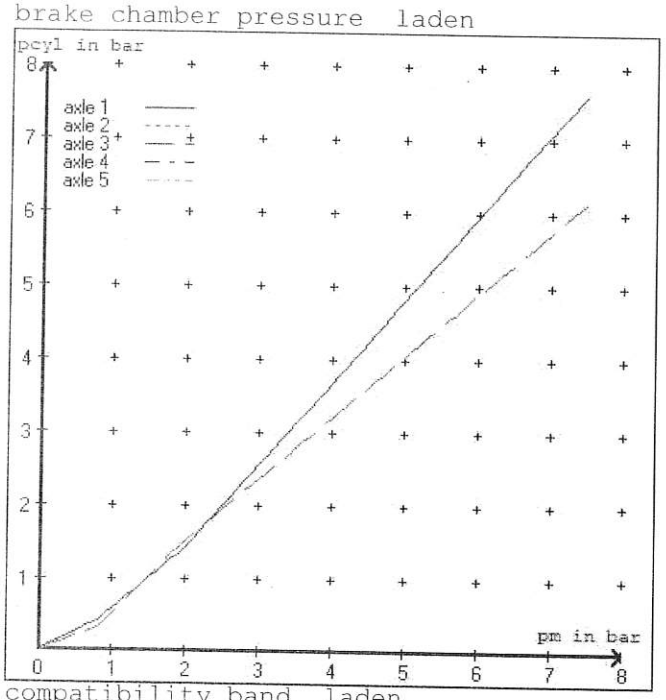
axle 5:
valve 1: 971 002 ... 0 WABCO
EBS emergency valve

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

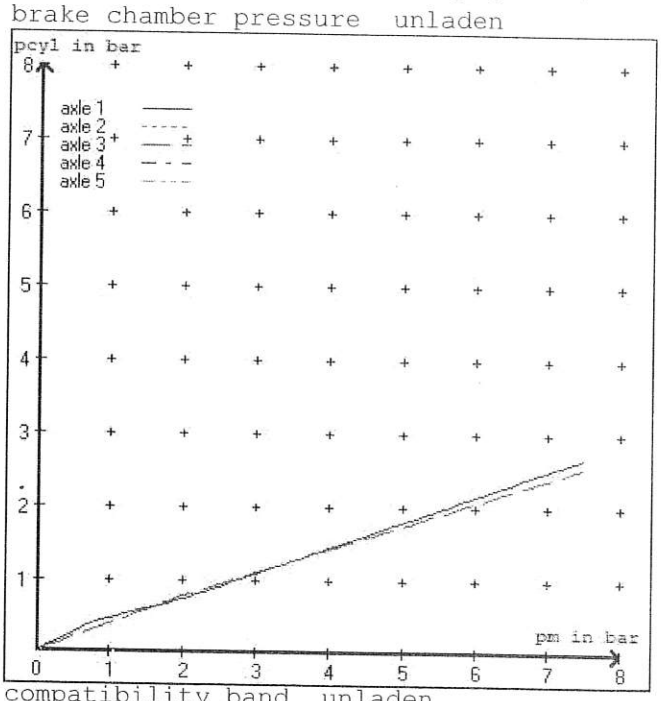
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 3.6 bar =>	pcha in bar :	3.2	3.2	2.9	2.9	2.9	
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 1.3 bar =>	pcha in bar :	0.8	0.8	0.8	0.8	0.8	

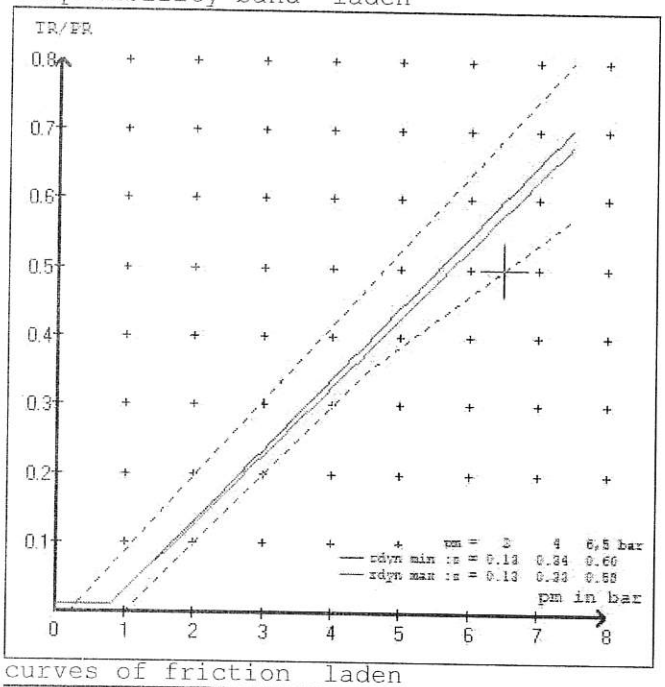
brake chamber pressure laden



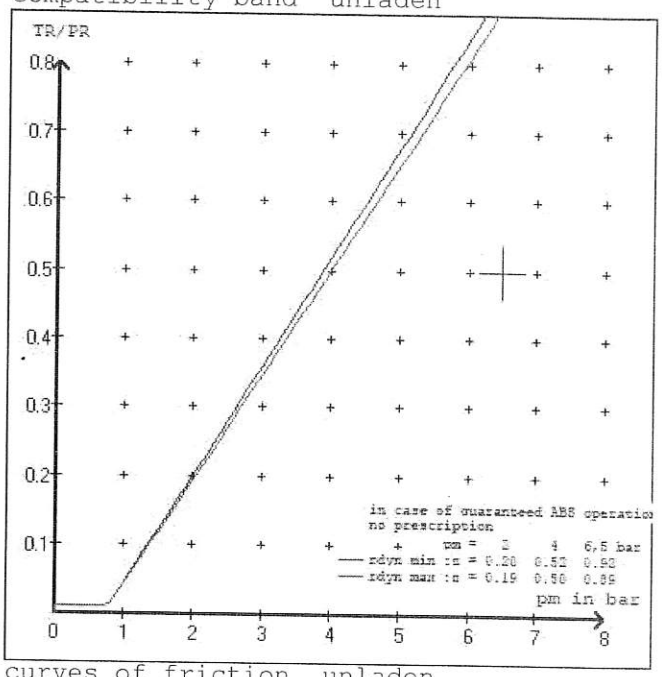
brake chamber pressure unladen



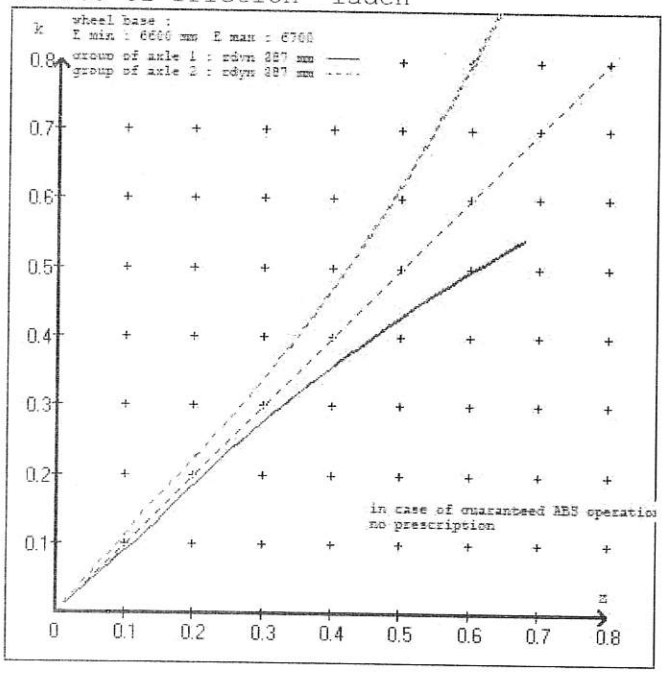
compatibility band laden



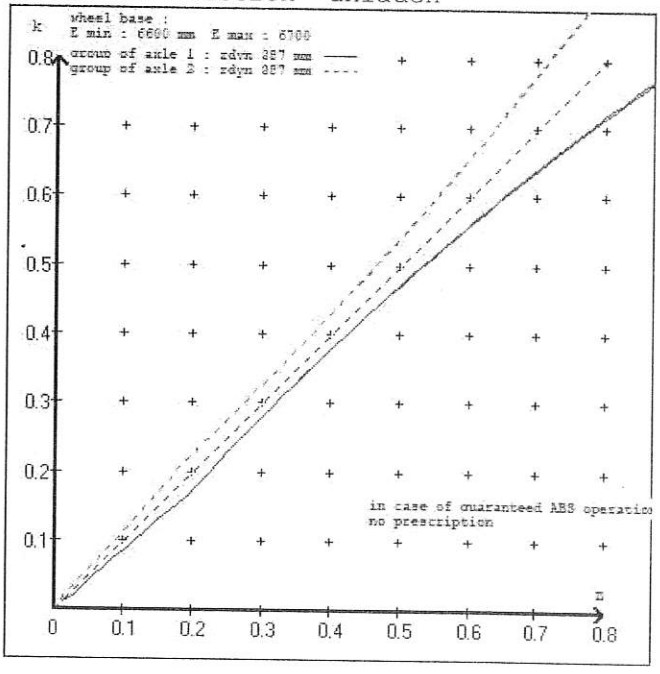
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT TRAILERS
trailer model : 5AFT LOW LOAD
trailer type : 5-axle-full-trailer

brake chamber and lever length :

axle 1 :	2 x type/diameter	20.	(Meritor)	lever length 69 mm
axle 2 :	2 x type/diameter	20.	(Meritor)	lever length 69 mm
axle 3 :	2 x type/diameter	T.14/24	(Meritor)	lever length 69 mm
axle 4 :	2 x type/diameter	T.14/24	(Meritor)	lever length 69 mm
axle 5 :	2 x type/diameter	14.	(Meritor)	lever length 69 mm

brake diagram :

valve :

971 002 ... 0	WABCO EBS emergency valve	
480 207 0.. 0	WABCO EBS relay valve	or 480 207 2.. 0
480 102 ... 0	WABCO EBS trailer modulator	

EBS input data
==========
vehicle manufacturer: DOMETT TRAILERS
trailer model : 5AFT LOW LOAD
trailer type : 5-axle-full-trailer
brake calculation no. : TP 52375A

tire circumference main axle : 2425 for rdyn max
tire circumference auxiliary axle : 2425 for rdyn max

assignment pm / deceleration z: pm 0.8 bar z = 0.010
(laden condition) 2.0 bar z = 0.132
6.5 bar z = 0.590

control pressure pm			6,5	control pressure pm		0.8	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 entered by the vehicle manufact.	2.3	7500	to be entered by the vehicle manufact.	0.4	1.4	6.5
2	1500		2.3	7500		0.4	1.4	6.5
3	1550		2.2	6350		0.3	1.5	5.3
4	1550		2.2	6350		0.3	1.5	5.3
5	1550		2.2	6350		0.3	1.5	5.3

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 5	
axle load	pcyl	axle load	pcyl	axle load	pcyl	axle load	pcyl	axle load	pcyl
1500	2.3	1500	2.3	1550	2.2	1550	2.2	1550	2.2
2000	2.6	2000	2.6	2050	2.5	2050	2.5	2050	2.5
2500	3.0	2500	3.0	2550	2.8	2550	2.8	2550	2.8
3000	3.3	3000	3.3	3050	3.2	3050	3.2	3050	3.2
3500	3.7	3500	3.7	3550	3.5	3550	3.5	3550	3.5
4000	4.0	4000	4.0	4050	3.8	4050	3.8	4050	3.8
4500	4.4	4500	4.4	4550	4.1	4550	4.1	4550	4.1
5000	4.8	5000	4.8	5050	4.5	5050	4.5	5050	4.5
7500	6.5	7500	6.5	6350	5.3	6350	5.3	6350	5.3

spring parking brake

		axle 3	axle 4
no of TRISTOP-actuators per axle line	KDZ	2	2
TRISTOP-actuator type		T.14/16	T.14/16
lever length	lBh in mm	69	69
stat. tyre radius	rstat max in mm	376	376
at a stroke of	s in mm	30	30
min. force of spring brake	TFZ in N	6160	6160
sp.brake chamber no Meritor.....		4	4
release pressure	pLs in bar	4.8	4.8

calculation:

ratio until road iFb = lBh*Eta*C*rBt/(rBn*rstat)		3.2485	3.2485
	for rstat in mm	376	376
brake force of spring br. Tf Tf = (TFZ*KDZ-2*Co/lBh)*iFb	in N	41855	41855
braking rate zf = sum (Tf)/P + 0,01	zf laden	0.261	

Test of the frictional connection required by the parking brake

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

min Ef = E * (1 - PR/P + zferf * h/E) / (1 - zferf / (fzul * nf/ng))

min Ef = 4932 mm for E = 6600 mm
==========
min Ef = 4999 mm for E = 6700 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	=	2000 mm	height of center of gravity - laden
PR	=	19050 kg	maximum bogie mass - laden
P	=	34050 kg	maximum total mass - laden
nf	=	2	no. of axle(s) with TRISTOP spring brake actuators
ng	=	3	no. of bogie axle(s)

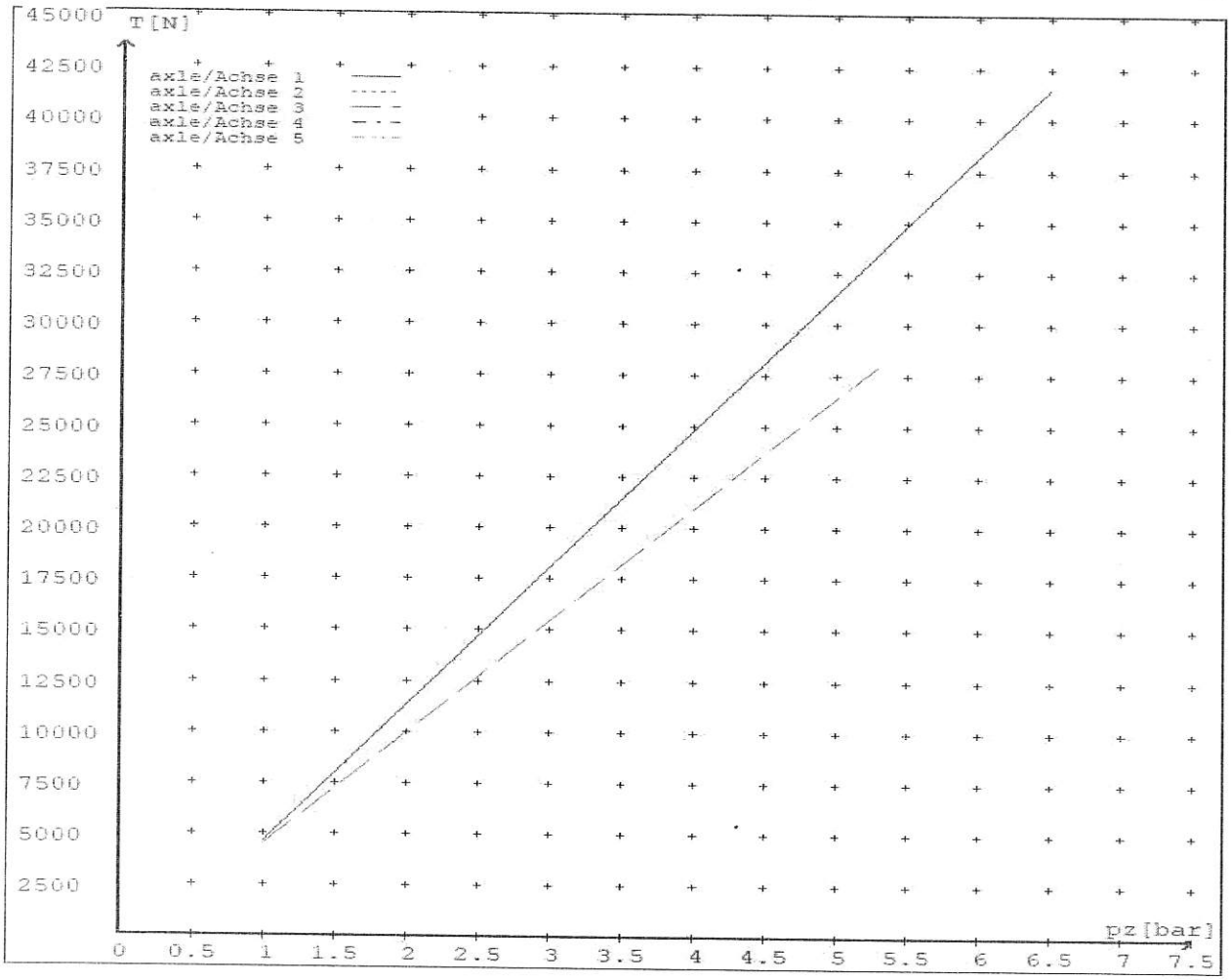
reference values

reference values for z = 50% for max rdyn: 387 mm

	pz [bar]	T [N]	T [N]
axle 1	1.0 6.5	4601 41537	
axle 2	1.0 6.5	4601 41537	
axle 3	1.0 5.3		4449 27936
axle 4	1.0 5.3		4449 27936
axle 5	1.0 5.3		4449 27936

VIN - no.:

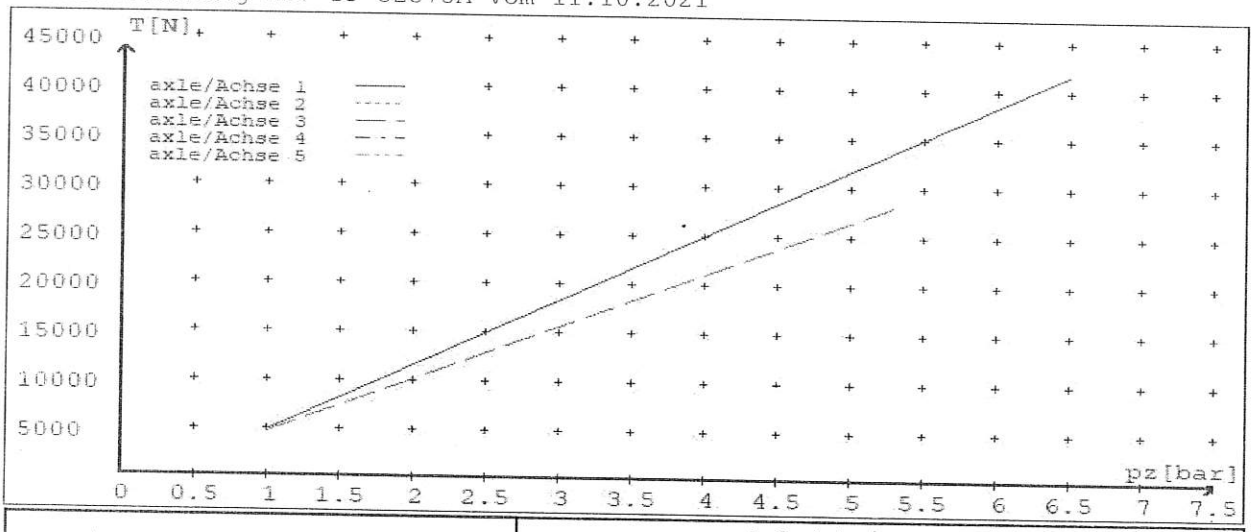
	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	20./	20./	T.14/24	T.14/24	14./
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	65	65	64	64	64
Lever length = ...mm Hebellänge = ...mm	69.4	69.4	69.4	69.4	69.4



Print on WABCO no. 899 200 922 4 (only possible with laser printers!)

reference values for z = 0.5
Angabe der Referenzwerte für z = 0.5
brake calculation no: TP 52375A date 11.10.2021
Bremsberechnung Nr: TP 52375A vom 11.10.2021

for max rdyn: 387 mm
für max rdyn: 387 mm



	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	20./	20./	T.14/24	T.14/24	14./
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	65	65	64	64	64
Lever length = ...mm Hebellänge = ...mm	69.4	69.4	69.4	69.4	69.4

NOTICE TO VEHICLE OPERATOR

THIS VEHICLE HAS A BRAKE SYSTEM WHICH HAS BEEN DESIGNED AND FITTED IN ACCORDANCE WITH THE LAND TRANSPORT HEAVY VEHICLE BRAKE RULE 32015/5.

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

PLEASE REFER TO THE CERTIFIER FOR FURTHER INFORMATION.

EXCERPT FROM LAND TRANSPORT RULE; HEAVY-VEHICLE BRAKES RULE 32015/5. SECTION 10,

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 this rule;**

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 person or organisation appointed to carry out specialist inspection and certification of heavy vehicle brakes.**

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 New Zealand Transport Authority if dissatisfied with a Compliance issue. (Refer NZTA Deed Of Appointment Para 47.4) **NZTA Helpdesk 0800 699 000**

(J.Hirst (JEH) HVEK)

NOTICE TO VEHICLE OPERATOR

This trailer is equipped with an **E**lectronic **B**rake **S**ystem.

To comply with the New Zealand Heavy Vehicle Brake Rule 32015/5, 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.

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

J E Hirst
(JEH HVEK)
(09 980 7300)

NOTICE TO VEHICLE OPERATOR

WABCO Park Release Emergency Valve (PREV)

This trailer is equipped with a WABCO PREV
Part # 971 002 900 0

Application of the park brake via the cab control valve will actuate and apply all service brakes on the trailer. In the event of a leak in the service brake system the Spring Brakes will automatically override and hold the vehicle in compliance to Land Transport Rule: Heavy-vehicle Brakes Rule 32015/5.

When the vehicle is presented for COF the trailer park brake system is tested by pulling the red actuation knob on the PREV, situated mid way down the chassis rail. The cab control in the prime mover does not have to be applied for this test procedure.

If you are unsure of any aspect relating to this instruction please contact either the vehicle manufacturer or myself.

J E Hirst
(JEH HVEK)
(09 980 7300)