NZ TRANSPORT AGENCY
WAKA KOTAHI

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

Vehicle registration *(optional)*:

VIN/chassis number: 7A9D10010K1023834

Make: DOMETT

Model *(optional)*:

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 HEAVY VEHICLE BRAKE RULE 32015/4.
NEW ZEALAND HEAVY VEHICLE BRAKE SPECIFICATION.
4A FULL TANKER

Code/standard/rule certified to: SCHEDULE 5

Component load rating(s): 26 TONNE GVM
30 TOTAL GROUP RATINGS
RSS ACTIVE

General drawing number(s): N/A

Supporting documents: BRAKE CERTIFICATION # LC190506
CALCULATION # 2019 ROR 4A WPC

Special conditions/limitations: WARNING LAMP MUST ILLUMINATE WHEN IGNITION IS SWITCHED ON & THEN EXTINGUISH IMMEDIATELY OR WHEN VEHICLE SPEED EXCEEDS 7 KPH

NONE UNTIL MODIFIED

Certification expiry date *(if applicable)*:

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)*:

Inspector's signature:

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

ID number: CJC

Date: 14-Jun-19

Number: 706348

CoF vehicle inspector ID *(if applicable)*:

CoF vehicle inspector signature *(if applicable)*:

Date:

All fields are mandatory unless otherwise stated.

WABCO START-UP LOG

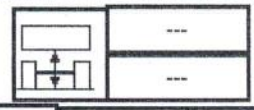
System	Trailer EBS-E	**WABCO part number**	480 102 064 0
Production date	2018-08-30	**Serial number**	436051454600J
Serial number (modulator)	000000687562		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2019-06-14 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

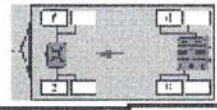
WABCO TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00
361-005-16

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT				
TYP TYPE TYPE	4A TANKER, D1001				
VEHICLE IDENT. NUMBER CHASSIS NUMBER NUMERO DE CHASSIS	7A9D10010K1023834				
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP2019ROR				
POLRADZAHNEZAHL c-d | e-f POLE WHEEL TEETH c-d | e-f DENTS ROUE DENTÉE c-d | e-f	90	90	ABS-System ABS-System Système ABS	4S/3M	
RSS RSS RSS Einfachbereifung Single Tire Monte simple		Lenkachse Steering axle Essieu vireur			
RSS RSS RSS Zwillingsbereifung Twin Tire Monte jumelée	X	Kippkritisches Fahrzeug Critical Trailer Véhicule critique			
Subsystems	SB		I/O	24N	

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





	pm (bar)		6.5	pm (bar)		0.8	2.0	---	6.5		TYP TYPE	(mm)	(mm)	(bar) 1.0	Pz
ACHSE AXLE ESSIEU									pz					TR (daN)	
1	1400	0.4	1.5	7500	4.4	0.4	1.3	---	5.5	-	20	65	76	539	4277
2	1400	0.4	1.5	7500	4.4	0.4	1.3	---	5.5	-	20	65	76	539	4277
3	1200	0.3	1.2	7500	4.4	0.4	1.5	---	4.6	-	16 / 24	64	76	479	3078
4	1200	0.3	1.2	7500	4.4	0.4	1.5	---	4.6	-	16 / 24	64	76	479	3078
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---

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	**Vehicle ident. no**	7A9D10010K1023834
Vehicle type	4A TANKER, D1001	**Odometer reading**	0.0 km
next Service	0 km	**Trip reading**	0.0 km
Tester	Chris Clarke		
Date	2019-06-14 7:50:08 AM	**Signature**	

trailer (full, semi-, centre-axle) with air brake system acc. to UN/ECE-R.13.11

distribution: DOMETT
2019 ROR 4A WPC

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 (V6.14.04.20).
-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 V6.14.04.20 db 03.11.2017

vehicle manufacturer: DOMETT
trailer model : 4A TANKER, D1001
trailer type : 4-axle-full-trailer
remarks : air / hydraulic / VA suspension
WABCO TRAILER - EBS
TRISTOP 3+4: T.16/24
265/70 R 19,5

axle 1 + 2 + 3 + 4 : Assali Stefen, R, 361-005-16 ECE,

		unladen	laden
total mass	P in kg	5200	30000
axle 1	P1 in kg	1400	7500
axle 2	P2 in kg	1400	7500
axle 3	P3 in kg	1200	7500
axle 4	P4 in kg	1200	7500
wheel base	E in mm	5070 - 5070	
centre of gravity height	h in mm	800	1544

		axle 1	axle 2	axle 3	axle 4
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		BZ 122.1	BZ 122.1	BZ 119.6	BZ 119.6
brake chamber manufacturer		Meritor	Meritor	Meritor	Meritor
chamber size		20.	20.	T.16/24	T.16/24
lever length	lBh in mm	76	76	76	76
brake factor	[-]	22.37	22.37	22.37	22.37
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	6.0	6.0	6.0	6.0
calculation:					
chamber pressure(rdyn min)pH at z=22,5%bar		2.1	2.1	2.1	2.1
chamber pressure(rdyn max)pH at z=22,5%bar		2.1	2.1	2.1	2.1
chamber press.(servo)pcha at pm6,5bar	bar	5.5	5.5	4.6	4.6
piston force ThA at pm6,5bar	N	6332	6332	4555	4555
brake force(rdyn min)T lad. at pm6,5bar	N	51239	51239	36884	36884
brake force(rdyn max)T lad. at pm6,5bar	N	51239	51239	36884	36884
brake force within 1 % rolling friction proportion	%	26.7	26.7	23.3	23.3

braking rate z laden	0.599	for rdyn min
z = sum (TR)/PRmax	0.599	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: 480 207 0.. 0 WABCO or 480 207 2.. 0
EBS relay valve

brake cylinder: Meritor 20HSCLD65

axle 2:
valve 1: 480 207 0.. 0 WABCO or 480 207 2.. 0
EBS relay valve

brake cylinder: Meritor 20HSCLD65

axle 3:
valve 1: 480 102 ... 0 WABCO
EBS trailer modulator

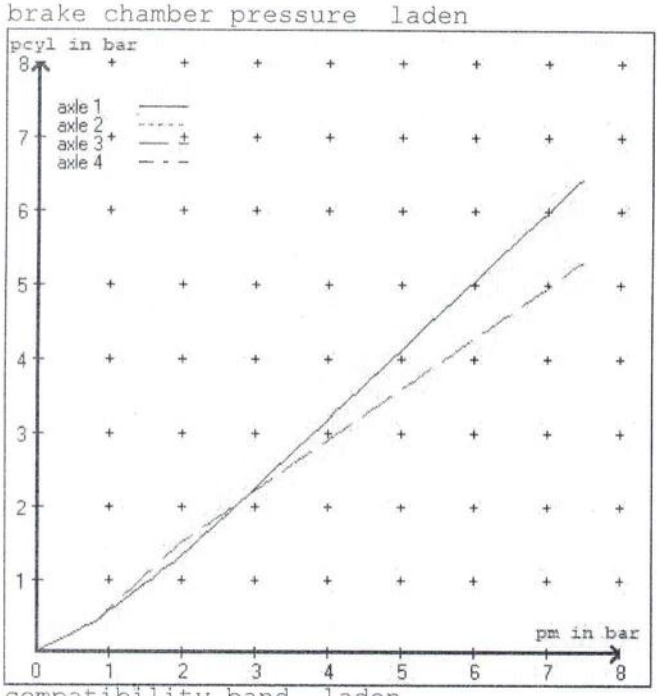
brake cylinder: Meritor 1624HTLD64

axle 4:
valve 1: 480 102 ... 0 WABCO
EBS trailer modulator

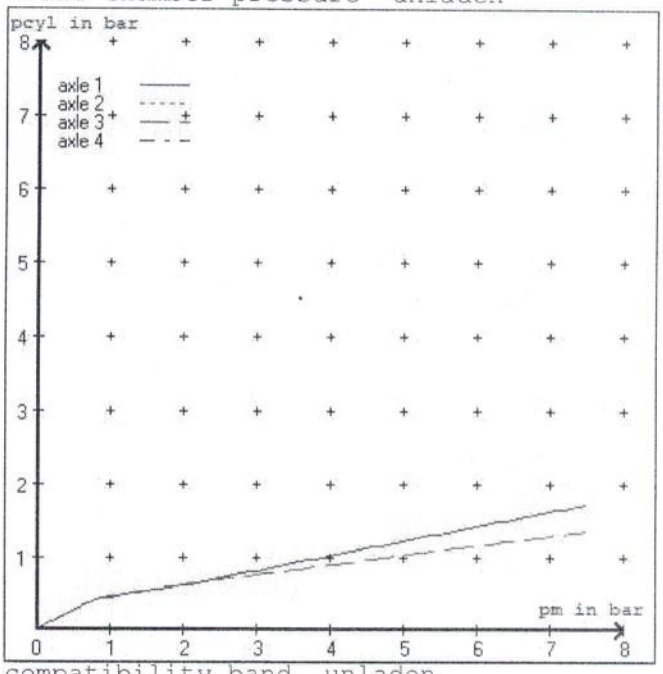
brake cylinder: Meritor 1624HTLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 3.6 bar =>	pcha in bar :	2.8	2.8	2.6	2.6	
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm 1.3 bar =>	pcha in bar :	0.8	0.8	0.9	0.9	

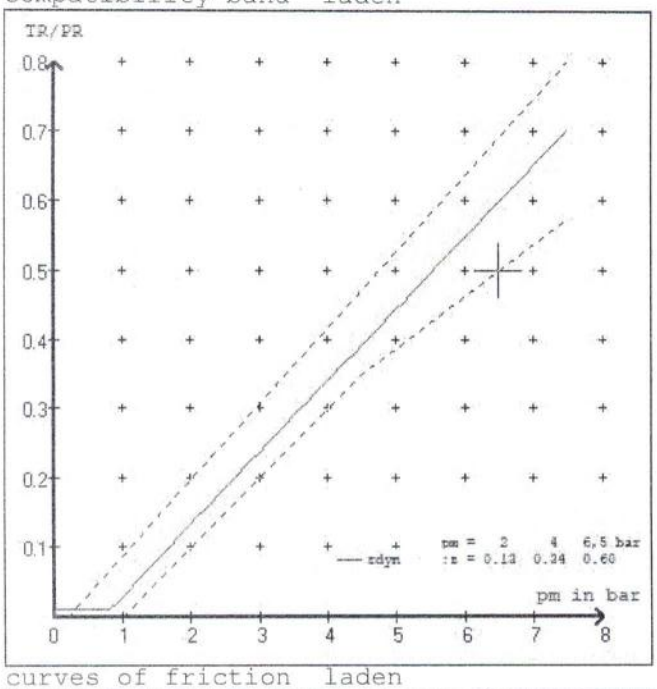
brake chamber pressure laden



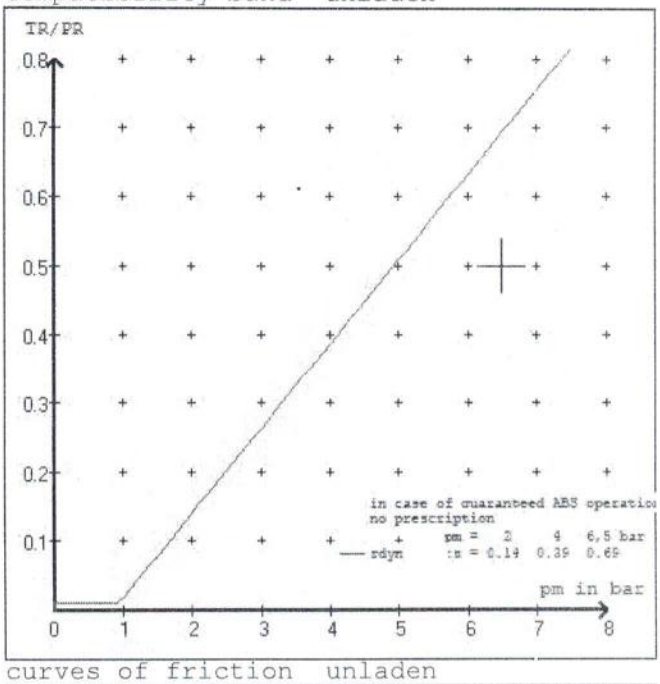
brake chamber pressure unladen



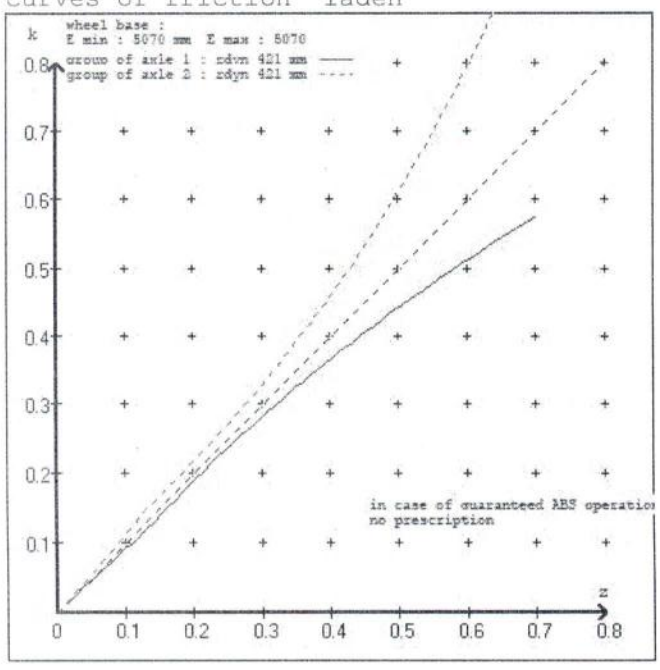
compatibility band laden



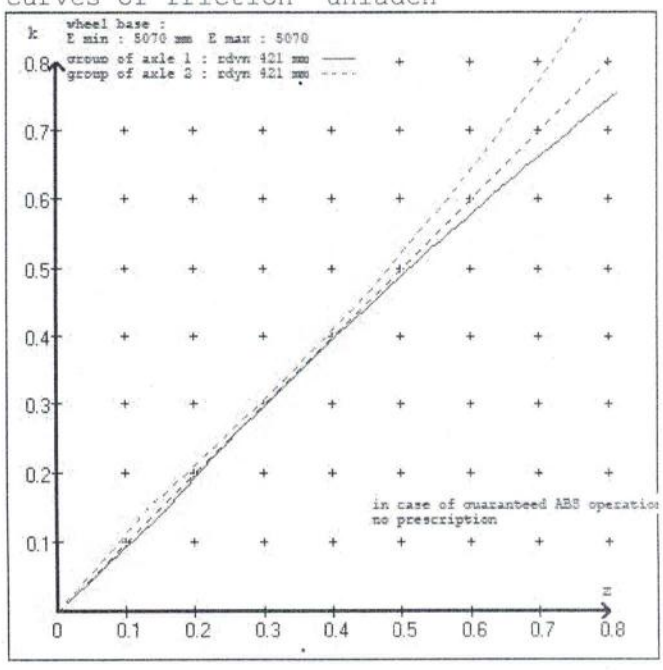
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT
trailer model : 4A TANKER, D1001
trailer type : 4-axle-full-trailer

brake chamber and lever length :

axle 1 :	2 x type/diameter	20.	(Meritor)	lever length 76 mm
axle 2 :	2 x type/diameter	20.	(Meritor)	lever length 76 mm
axle 3 :	2 x type/diameter	T.16/24	(Meritor)	lever length 76 mm
axle 4 :	2 x type/diameter	T.16/24	(Meritor)	lever length 76 mm

brake diagram :

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
trailer model : 4A TANKER, D1001
trailer type : 4-axle-full-trailer
brake calculation no. : TP 2019A

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

assignment pm / deceleration z: pm 0.8 bar z = 0.010
(laden condition) 2.0 bar z = 0.134
6.5 bar z = 0.600

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	1400	to be entered by the vehicle manufact.	1.5	7500	to be entered by the vehicle manufact.	0.4	1.3	5.5
2	1400		1.5	7500		0.4	1.3	5.5
3	1200		1.2	7500		0.4	1.5	4.6
4	1200		1.2	7500		0.4	1.5	4.6
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
1400	1.5	1400	1.5	1200	1.2	1200	1.2
1900	1.8	1900	1.8	1700	1.5	1700	1.5
2400	2.2	2400	2.2	2200	1.7	2200	1.7
2900	2.5	2900	2.5	2700	2.0	2700	2.0
3400	2.8	3400	2.8	3200	2.3	3200	2.3
3900	3.1	3900	3.1	3700	2.5	3700	2.5
4400	3.5	4400	3.5	4200	2.8	4200	2.8
4900	3.8	4900	3.8	4700	3.1	4700	3.1
7500	5.5	7500	5.5	7500	4.6	7500	4.6

data sheet to ECE vehicle type-approval certificate concerning braking equipment: according to ECE R13 annex 11

axle 1 : reference axle: Assali StefLM or LC or TMen		brake lining: MAT 5200-215
test report :	361-005-16 ECE	date : HL090216 09.02.2016
axle 2 : reference axle: Assali StefLM or LC or TMen		brake lining: MAT 5200-215
test report :	361-005-16 ECE	date : HL090216 09.02.2016
axle 3 : reference axle: Assali StefLM or LC or TMen		brake lining: MAT 5200-215
test report :	361-005-16 ECE	date : HL090216 09.02.2016
axle 4 : reference axle: Assali StefLM or LC or TMen		brake lining: MAT 5200-215
test report :	361-005-16 ECE	date : HL090216 09.02.2016

calc. verif. of residual (hot) braking force type III
(item 4.2.1 of appendix 2 to annex 11)

axle 1	(rdyn 421 mm)	T = 24.4 % Fe
axle 2	(rdyn 421 mm)	T = 24.4 % Fe
axle 3	(rdyn 421 mm)	T = 19.7 % Fe
axle 4	(rdyn 421 mm)	T = 19.7 % Fe

calculated actuator stroke in mm
(item 4.3.1.1 of appendix 2 to annex 11)

axle 1	(sp = 58 mm)	s = 42 mm
axle 2	(sp = 58 mm)	s = 42 mm
axle 3	(sp = 57 mm)	s = 42 mm
axle 4	(sp = 57 mm)	s = 42 mm

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

axle1	ThA = 6332 N
axle2	ThA = 6332 N
axle3	ThA = 4555 N
axle4	ThA = 4555 N

calc. residual (hot) braking force in N
(item 4.3.1.4 of appendix 2 to annex 11)

axle 1	(rdyn 421 mm)	T = 37175 N
axle 2	(rdyn 421 mm)	T = 37175 N
axle 3	(rdyn 421 mm)	T = 26822 N
axle 4	(rdyn 421 mm)	T = 26822 N

	basic test of subject trailer (E)	type III (calculated) residual (hot)braking
braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	0.60	0.43
required braking rate (items 1.5.3 and 1.7.2 to annex 11)		>= 0,4 and >= 0,6*E (0.36)

axle 1	(rdyn 421 mm)	T = 37175 N
axle 2	(rdyn 421 mm)	T = 37175 N
axle 3	(rdyn 421 mm)	T = 26822 N
axle 4	(rdyn 421 mm)	T = 26822 N

	basic test of subject trailer (E)	type III (calculated) residual (hot)braking
braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	0.60	0.43
required braking rate (items 1.5.3 and 1.7.2 to annex 11)		>= 0,4 and >= 0,6*E (0.36)

spring parking brake

		axle 3	axle 4
no of TRISTOP-actuators per axle line	KDZ	2	2
TRISTOP-actuator type		T.16/24	T.16/24
lever length	lBh in mm	76	76
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	7605	7605
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)		4.2397	4.2397
	for rstat in mm	401	401
brake force of spring br. Tf Tf = (TFZ*KDZ-2*Co/lBh)*iFb	in N	63816	63816
braking rate zf = sum (Tf)/P + 0,01	zf laden	0.444	

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 = 3630 mm for E = 5070 mm
==========
min Ef = 3630 mm for E = 5070 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	=	1544 mm	height of center of gravity - laden
PR	=	15000 kg	maximum bogie mass - laden
P	=	30000 kg	maximum total mass - laden
nf	=	2	no. of axle(s) with TRISTOP spring brake actuators
ng	=	2	no. of bogie axle(s)

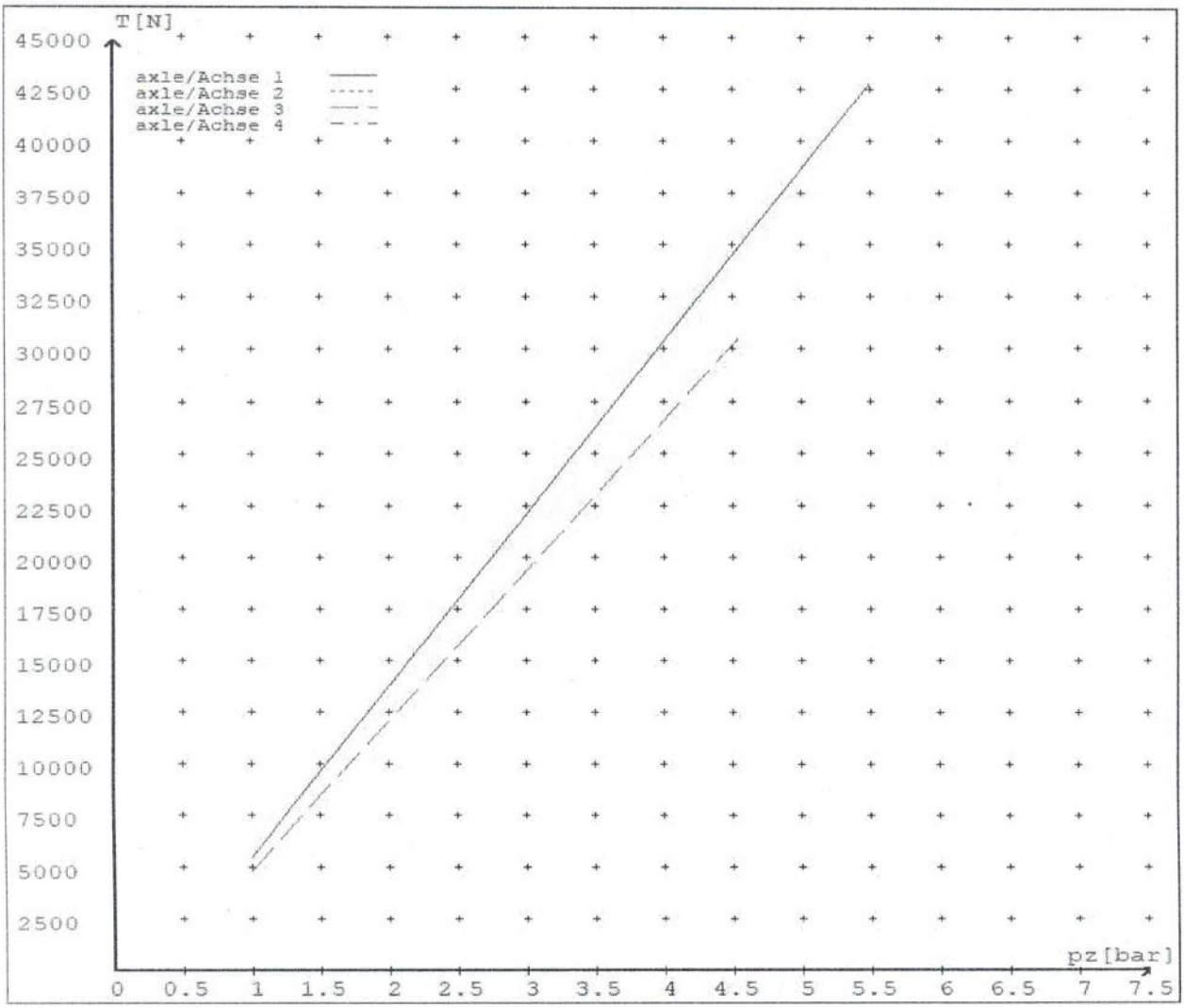
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0 5.5	5394 42770	
axle 2	1.0 5.5	5394 42770	
axle 3	1.0 4.6		4794 30788
axle 4	1.0 4.6		4794 30788

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	20./	20./	T.16/24	T.16/24	/
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	65	65	64	64	
Lever length = ...mm Hebellänge = ...mm	76	76	76	76	

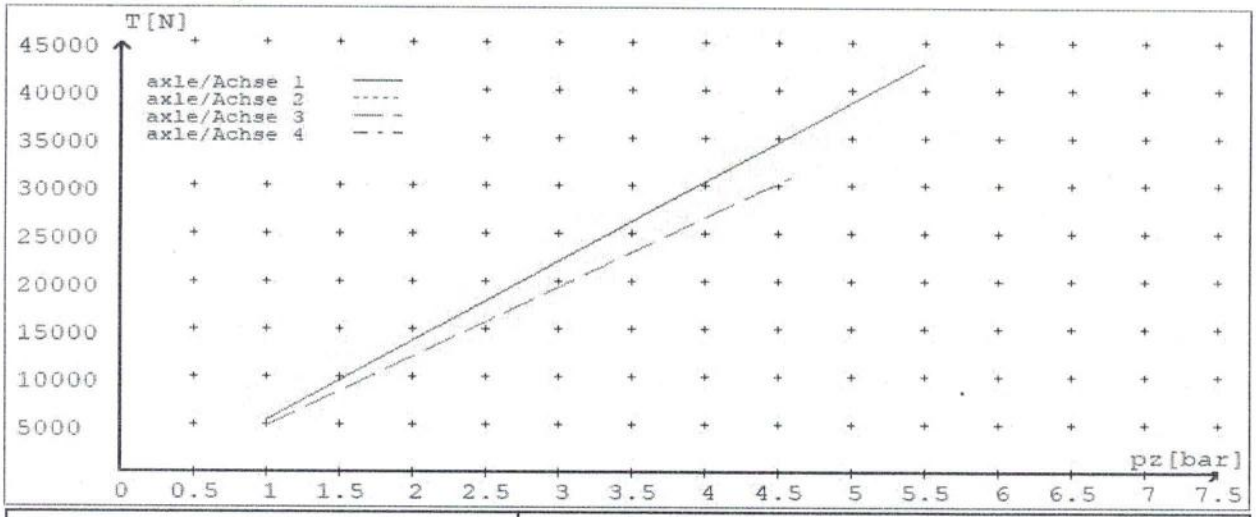


Print on WABCO no. 899 200 922 4 (only possible with laser printers!)

reference values for z = 0.5
Angabe der Referenzwerte für z = 0.5

for max rdyn: 421 mm
für max rdyn: 421 mm

brake calculation no: TP 2019A date 26.02.2019
Bremsberechnung Nr: TP 2019A vom 26.02.2019



	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	20./	20./	T.16/24	T.16/24	/
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	65	65	64	64	
Lever length = ...mm Hebellänge = ...mm	76	76	76	76	

GOUGH | TWL TRANSPORT WHOLESALE

GOUGH | Transpecs

NEW ZEALAND HEAVY VEHICLE BRAKE RULE 32015-4
WORKSHEET, PROCEDURE DOCUMENTATION SHEET
& CONFIRMATION OF COMPLIANCE

CLIENT

MANUFACTURER:	DOMETT TRUCK and TRAILERS
ADDRESS:	Taurikura Drive, Tauranga 3110
FLEET:	FONTERRA

VEHICLE DETAILS

VEHICLE TYPE:	4A FULL TANKER	**CERT #:**	LC190506
YEAR:	2019	**CALCULATION #:**	2019 ROR 4A WPC
MAKE:	DOMETT	**REGO:**	
MODEL:	D1001	**LT400 #:**	706348
CHASSIS #:	1834	**ORDER NUMBER:**	6348
VIN #:	7A9D10010K1023834		
GVM: *TONNES*	26	**PRIME MOVER:**	EBS / EUROPEAN
LOAD CONFIGURATION:	UNIFORM DENSITY		

	FRONT	REAR
GROUP RATINGS: *TONNES*	15	15
WHEEL BASE: *METRES*	5.07	

	UNLADEN COG	MAX HEIGHT	HEIGHT DECK
	0.8	2.484	0.975
COG: *METRES*	1.544		

	FRONT	REAR	TOTAL
TARE: *TONNES*	2.8	2.4	5.2

	FRONT	REAR
TYRE SIZE:	265/70 R19.5	265/70 R19.5
ROLLING CIRCUMFERENCE: *MM*	2645	2645
AXLE SPACING: *METRES*	1.3	1.3

BRAKE & AXLE DETAILS

	MAKE	MODEL	TEST REPORT
AXLE:	ROR_ASSALI_STEFEN	ROR-SL9 DISC	361-005-16
POLE WHEEL FRONT:	90	**POLE WHEEL REAR:**	90
LINING MATERIAL:	GGA16	**BRAKE FACTOR:**	22.37
SENSED AXLES:	2 + 4		
SERIAL NUMBERS:	1		
	2		
	3		
	4		
	5		

CHAMBER AND VALVING DETAILS

CHAMBERS:	**AXLE 1 & 2**	**AXLE 3 & 4**	
BRAND:	HALDEX_CHAMBERS	HALDEX_BERTOCCO	
SIZE:	20, (125 200)	1624 (C476 16 5)	
STROKE: *MILLIMETRES*	66	57	
TEST REPORT #:	BC0175.0	BZ130.0	
SPRINGBRAKE FORCE: *kN*	N/A	7.85	
HOLDOFF PRESSURE: *kPa*	N/A	5	
FOUNDATION BRAKE:	HALDEX	HALDEX	
LEVER LENGTH: *MILLIMETRES*	76	76	
BRAKE VALVES:	**MAKE:**	**PART NUMBER:**	**PM PRESS.** *kPa*
ECU PART #:	WABCO	480/102/064/0 (24V)	80 kPa
3RD MODULATOR #:	WABCO	480/207/001/0 (24V)	80 kPa
ANTI-COMPOUNDING:	YES		
SPRING BRAKE RELAY:	SEALCO_SBR	110701	
YARD RELEASE VALVE:	SEALCO_YR	17600B	
INLINE RELAY FITTED:	N/A	N/A	

ECU DIRECTION:	☑ FRONT	☐ REAR
SMARTBOARD:	☐ SMARTBOARD	☐ OPTI-LINK

SUSPENSION

	FRONT	REAR
SUSPENSION TYPE:	PNEUMATIC	PNEUMATIC
MAKE:	ROR_AIRSPRING	ROR_AIRSPRING
MODEL:	ROR_INTRA	ROR_INTRA
BELLOW SIZE:	SL9 LRC	SL9 LRC
HEIGHT CONTROL VALVE:	464/008/011/0	464/008/011/0
OTHER VALVES:	N/A	N/A
RIDE HEIGHT *MM*:	250	250
HANGER HEIGHT *MM*:	200	200
PEDESTAL HEIGHT *MM*:		
LIFTAXLE:	NO	
TIPPING DUMP SWITCH:	N/A	
LIFTAXLE VALVE:	N/A	

AIR TANKS

AIR TANKS STANDARD: SAE J10A / EN286-2

	FRONT	REAR
BRAKE TANK SIZE: *L*	46L	46L
AUXILLARY TANK SIZE: *L*		46L
PRESSURE PROTECTION:	WABCO PEM 461/513/002/A	

AIR LINES

TEST POINTS:

CONTROL LINE:	X 1 FILTER	**TANK:**	ECU
REAR CHAMBER:	ECU X 2	**FRONT CHAMBER:**	1st LEFT
DUOMATIC COLOUR CODED:	YES		

ELECTRONIC HEIGHT SENSOR CALIBRATION

	TIMER TICKS	MILLIMETRE
UPPER LEVEL:		
NORMAL LEVEL:		
LOWER LEVEL:		

CHECKS AT COMMISSION OF VEHICLE

CHAMBER BUNGS REMOVED: ☐ VALVE MOUNTING: ☐

ECU BLANKING PLUGS CHECKED: ☐

RESPONSE TIME:	MODULATOR 2.1	MODULATOR 2.2	RELAY VALVE
ms:			

NOTES AND SPECIAL CONDITIONS

I UNDERSTAND AND DECLARE THAT I AM THE CERTIFIER IDENTIFIED BELOW AND HOLD A CURRENT VALID APPOINTMENT. I CERTIFY THAT AT THE TIME OF INSPECTION THE ABOVE MENTIONED VEHICLE COMPONENT DESIGN 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.

NEW ZEALAND HEAVY VECHLE BRAKE RULE 32015 /4, SCHEDULE 5.

DATE: 14/06/2019

SIGNED:

CERTIFIER NAME & ID: LANCE CAWTE LPC

SODC BY: CHRIS CLARKE CJC

PHONE (BUS): 09-980-7300

FAX: