

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

CHRIS CLARKE

ID

CJC

Vehicle registration (optional)

VIN/chassis number

7 A 9 D 1 0 0 1 7 K 1 0 2 3 8 2 9

Make

DOMETT

Model (optional)

Certification category

HVEK

Component being certified:

- Log bolsters
 SRT
 Swept path

 Chassis

- Towing connection
 PSV stability
 PBS

 Load anchorage

 Brakes

 PSV rollover

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

General drawing number(s)

N/A
30 TOTAL GROUP RATINGS
RSS ACTIVE

Supporting documents

BRAKE CERTIFICATION #
LC190404
CALCULATION #
2019 ROR 4A WPC

Special conditions (optional)

**WARNING LAMP MUST ILLUMINATE WHEN IGNITION IS SWITCHED ON & THEN
 EXTINGUISH IMMEDIATELY OR WHEN VEHICLE SPEED EXCEEDS 7 KPH**

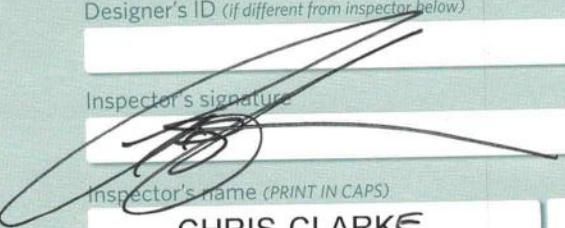
Certification expiry date (if applicable)

NONE UNTIL MODIFIED
or

Hubodometer reading (whichever comes first)

<input type="checkbox"/>						
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Designer's ID (if different from inspector below)


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Inspector's signature


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Inspector's name (PRINT IN CAPS)

CHRIS CLARKE

ID number

CJC

Date

17-May-19

Number

700087

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	436051455300J
Serial number (modulator)	000000687566		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2019-05-17 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO
TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00

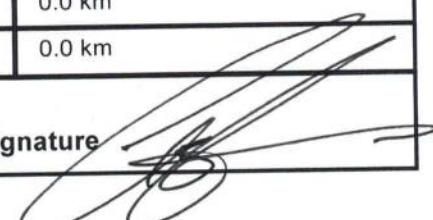
361-005-16

DOMETT		4A TANKER, D1001		Pin1							Pin3		Pin4	
HERSTELLER MANUFACTURER CONSTRUCTEUR		1	24V-O1								---		---	
TYP TYPE		2	---								---		---	
VEHICLE IDENT. NUMBER CHASSIS NUMBER NUMERO DE CHASSIS	7A9D10017K1023829	3	ALS2								ALS2		---	
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP2019ROR	4	---								---		---	
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	5	DIAG					DIAG		DIAG	
RSS RSS RSS	Einfachbereifung Single Tire Monte simple	X	Lenkachse Steering axle Essieu virant		6	---					---		---	
	Zwillingsbereifung Twin Tire Monte jumelée		Kippkrritisches Fahrzeug Critical Trailer Véhicule critique		7	---					---		---	
Subsystems	SB	I/O	24N											
	pm (bar)	6.5	pm (bar)	0.8	2.0	---	6.5							
ACHSE AXLE ESSIEU								pz						
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	7A9D10017K1023829
Vehicle type	4A TANKER, D1001	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tester	Chris Clarke		
Date	2019-05-17 2:15:56 p.m.	Signature	

distribution: DOMETT
 2019 ROR 4A WPC

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 (V6.14.04.20).
 -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,

			<u>unladen</u>	<u>laden</u>
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	1544
centre of gravity height	h in mm		800	

		<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		BZ 122.1	BZ 122.1	BZ 119.6	BZ 119.6
brake chamber manufacturer		Meritor	Meritor	Meritor	Meritor
chamber size	1Bh in mm	20.	20.	T.16/24	T.16/24
lever length		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
chamber pressure(rdyn max)pH at z=22,5%bar		2.1	2.1	2.1
chamber press.(servo)pcha at pm6,5bar bar		5.5	5.5	4.6
piston force ThA at pm6,5bar N		6332	6332	4555
brake force(rdyn min)T lad. at pm6,5bar N		51239	51239	36884
brake force(rdyn max)T lad. at pm6,5bar N		51239	51239	36884
brake force within 1 % rolling friction	%	26.7	26.7	23.3
proportion				

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

0.599 for rdyn min
 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

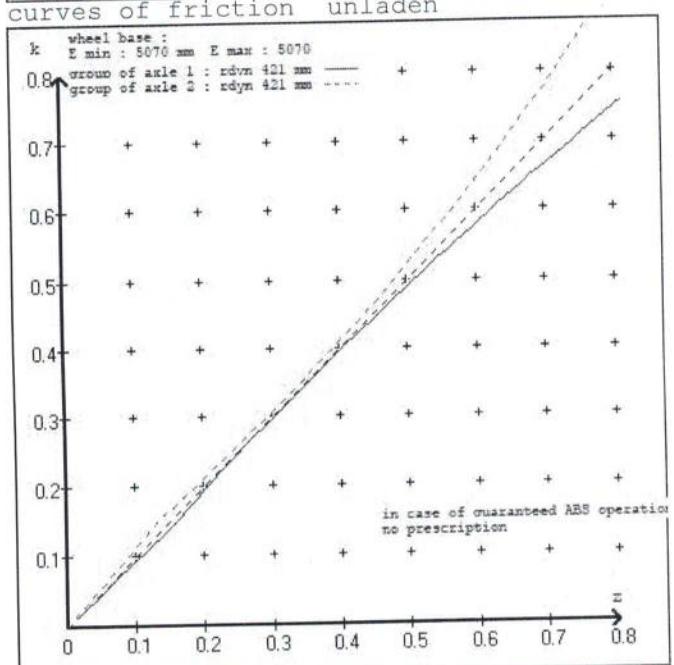
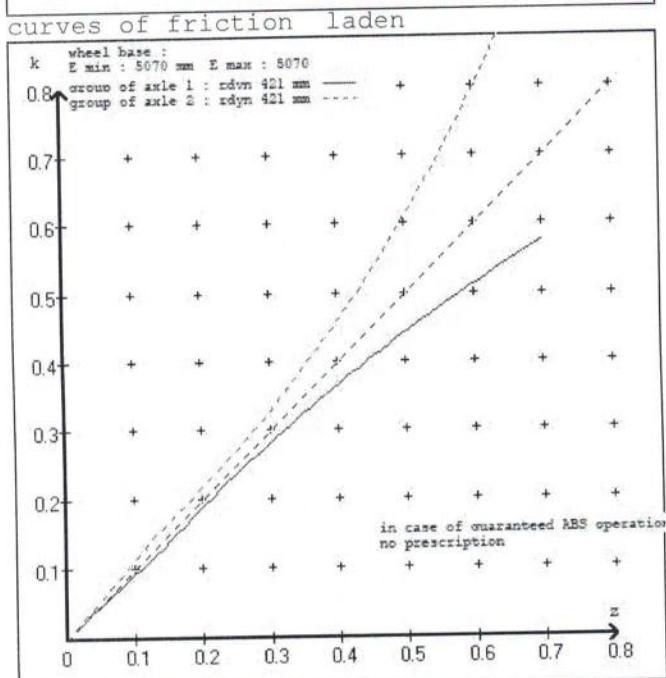
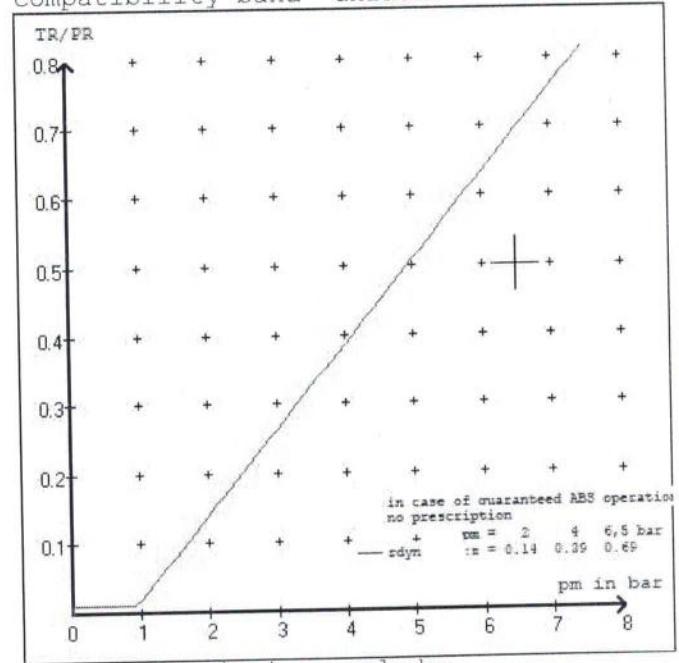
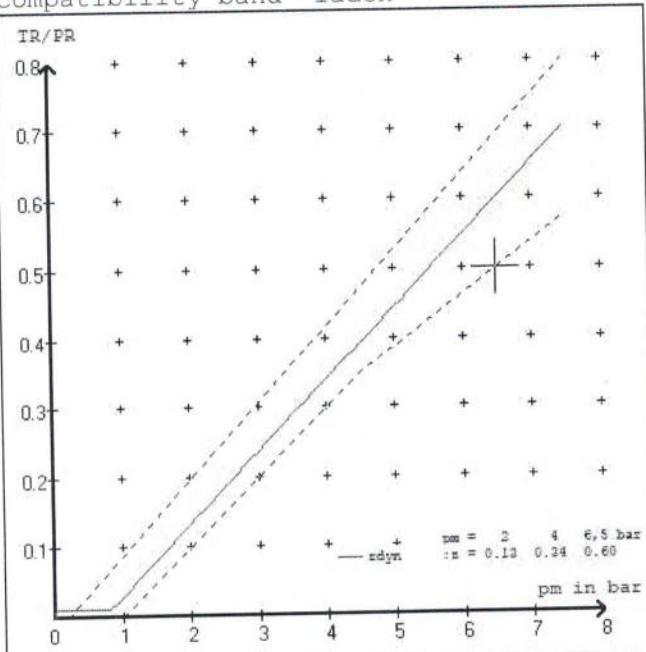
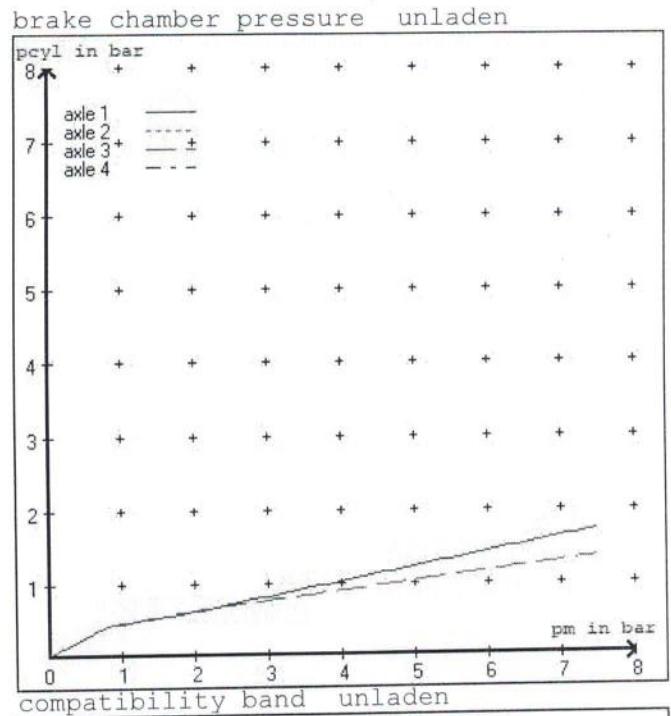
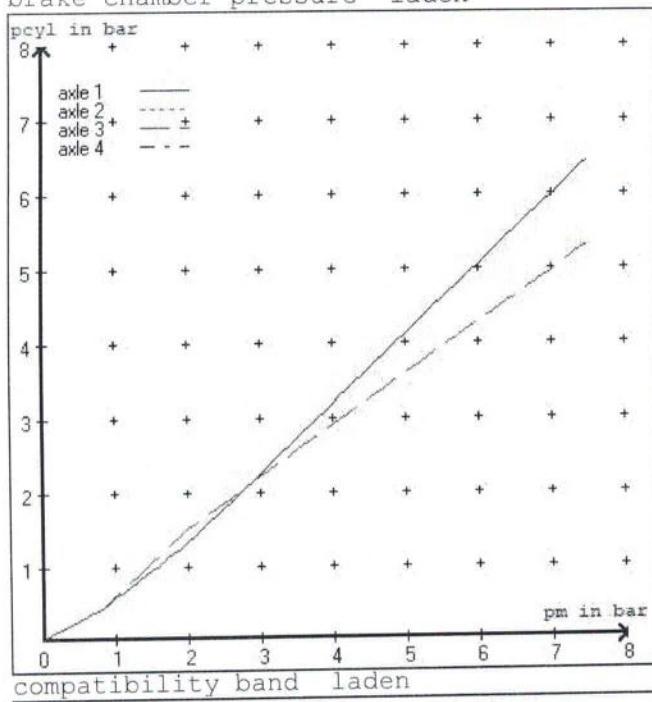
brake cylinder: Meritor 1624HTLD64

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



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	
			1.5	7500		0.4	1.3	5.5	
			1.2	7500		0.4	1.5	4.6	
			1.2	7500		0.4	1.5	4.6	
			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	1200	1.2
1900	1.8	1700	1.5
2400	2.2	2200	1.7
2900	2.5	2700	2.0
3400	2.8	3200	2.3
3900	3.1	3700	2.5
4400	3.5	4200	2.8
4900	3.8	4700	3.1
7500	5.5	7500	4.6
	7500	5.5	7500

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 test report : 361-005-16 ECE	brake lining: MAT 5200-215 date : HL090216 09.02.2016
axle 2 : reference axle: Assali StefLM or LC or TMen test report : 361-005-16 ECE	brake lining: MAT 5200-215 date : HL090216 09.02.2016
axle 3 : reference axle: Assali StefLM or LC or TMen test report : 361-005-16 ECE	brake lining: MAT 5200-215 date : HL090216 09.02.2016
axle 4 : reference axle: Assali StefLM or LC or TMen test report : 361-005-16 ECE	brake lining: MAT 5200-215 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		4.2397	4.2397
iFb = lBh*Eta*C*rBt/(rBn*rstat)		401	401
for rstat in mm		63816	63816
brake force of spring br. Tf in N			
Tf = (TFZ*KDZ-2*Co/lBh)*iFb			
braking rate	zf laden	0.444	
zf = 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

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

$$\begin{aligned} \text{min Ef} &= 3630 \text{ mm} \quad \text{for } E = 5070 \text{ mm} \\ \hline \text{min Ef} &= 3630 \text{ mm} \quad \text{for } E = 5070 \text{ mm} \end{aligned}$$

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)

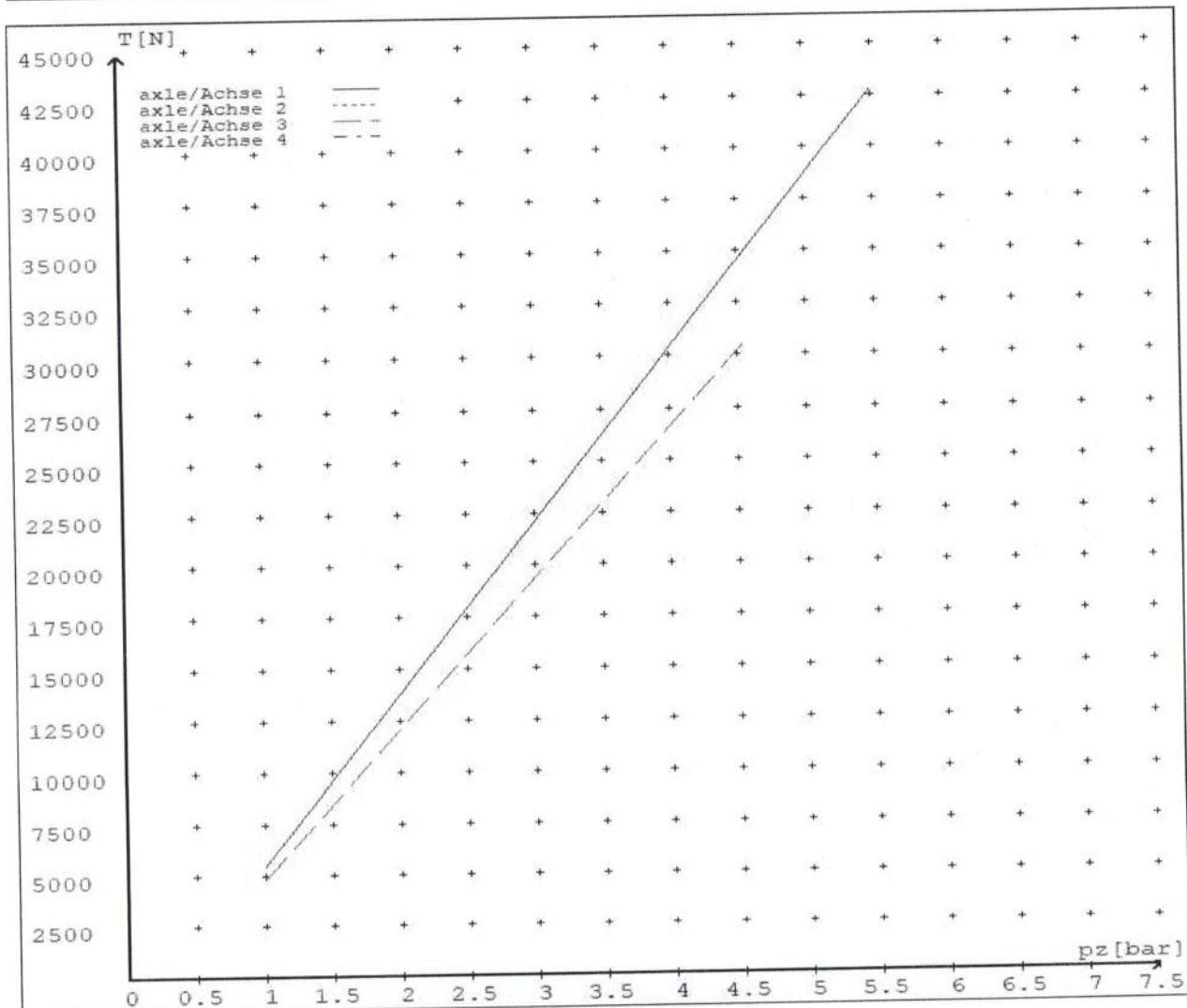
reference values

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

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

VIN - no.:

	Axe(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	



reference values for z = 0.5

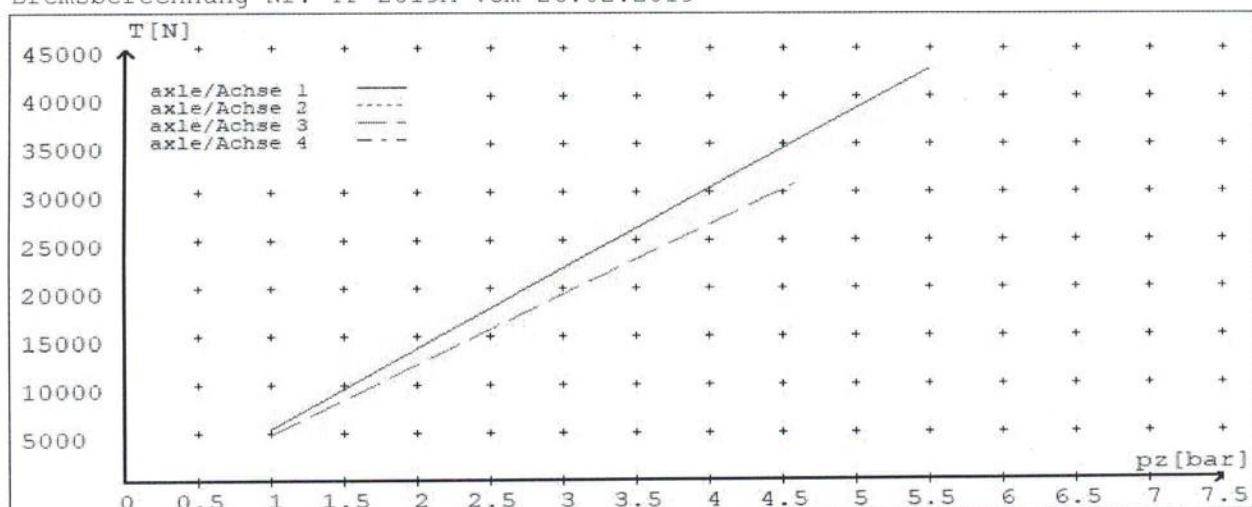
Angabe der Referenzwerte für z = 0.5

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



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

**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:

FONTERA

VEHICLE DETAILS**VEHICLE TYPE:**

4A FULL TANKER

CERT #:

LC190404

YEAR:

2019

CALCULATION #:

2019 ROR 4A WPC

MAKE:

DOMETT

REGO:**MODEL:**

D1001

LT400 #:**CHASSIS #:**

1829

ORDER NUMBER:

6343

VIN #:

7A9D10017K1023829

GVM: TONNES

26

PRIME MOVER:

EBS / EUROPEAN

LOAD CONFIGURATION:

UNIFORM DENSITY

GROUP RATINGS: TONNES**FRONT****REAR**

15

15

WHEEL BASE: METRES

5.07

COG: METRES**UNLADEN COG****MAX HEIGHT****HEIGHT DECK**

0.8

2.484

0.975

TARE: TONNES

1.544

FRONT**REAR****TOTAL**

2.8

2.4

5.2

TYRE SIZE:**FRONT****REAR**

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:
ECU PART #:	WABCO	480/102/064/0 (24V)
3RD MODULATOR #:	WABCO	480/207/001/0 (24V)
ANTI-COMPOUNDING:	YES	
SPRING BRAKE RELAY:	SEALCO_SBR	110701
YARD RELEASE VALVE:	SEALCO_YR	17600B
INLINE RELAY FITTED:	N/A	N/A
ECU DIRECTION:	<input checked="" type="checkbox"/> FRONT <input type="checkbox"/> SMARTBOARD	<input type="checkbox"/> REAR <input type="checkbox"/> OPTI-LINK
SMARTBOARD:		

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 VEHICLE BRAKE RULE 32015 /4, SCHEDULE 5.

DATE:

17/05/2019

SIGNED:



CERTIFIER NAME & ID:

LANCE CAWTE

LPC

SODC BY:

CHRIS CLARKE

CJC

PHONE (BUS):

09-980-7300

FAX:

POSTAL ADDRESS:

P.O. Box 98-971, Manukau 2241

New Zealand