

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

Vehicle registration (optional) _____ VIN/chassis number **7A9D10013K1023830**

Make **DOMETT** Component being certified: Chassis Load anchorage

Model (optional) _____ Log bolsters Towing connection Brakes

Certification category **HVEK** 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**

General drawing number(s) **N/A** **30 TOTAL GROUP RATINGS**

RSS ACTIVE

Supporting documents **BRAKE CERTIFICATION # LC190405**

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

Certificate expiry date (if applicable) **NONE UNTIL MODIFIED** or Hubodometer reading (whichever comes first)

Designer's ID (if different from inspector below) _____

Inspector's signature 

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

Date **24-May-19** Number **706309**

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	436051454500C
Serial number (modulator)	000000687574		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2019-05-24 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

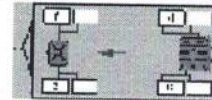
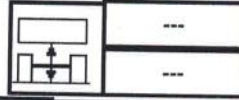
WABCO

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	7A9D10013K1023830		
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 vitreur	
	Zwillingsbereifung Twin Tire Monte jumelée	Kippkräftiges Fahrzeug Critical Trailer Véhicule critique	
Subsystems	SB	I/O	24N

GIO	Pin1	Pin3	Pin4
1	24V-01	---	---
2	---	---	---
3	ALS2	ALS2	---
4	---	---	---
5	DIAG	DIAG	DIAG
6	---	---	---
7	---	---	---

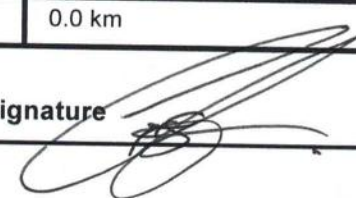


ACHSE AXLE ESSIEU	pm (bar)		6.5		pm (bar)		0.8		2.0		---		6.5		TYP TYPE	(mm)	(mm)	(bar)	
	+	-	+	-	+	-	+	-	+	-	+	-	+	-				1.0	Pz
1	1400	0.4	1.5	7500	4.4	0.4	1.3	---	5.5	-	20	65	76	539	4277				
2	1400	0.4	1.5	7500	4.4	0.4	1.3	---	5.5	-	20	65	76	539	4277				
3	1200	0.3	1.2	7500	4.4	0.4	1.5	---	4.6	-	16 / 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	7A9D10013K1023830
Vehicle type	4A TANKER, D1001	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tester	Chris Clarke	Signature 	
Date	2019-05-24 3:14:34 PM		

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!
 WABCO Brake 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	7500
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

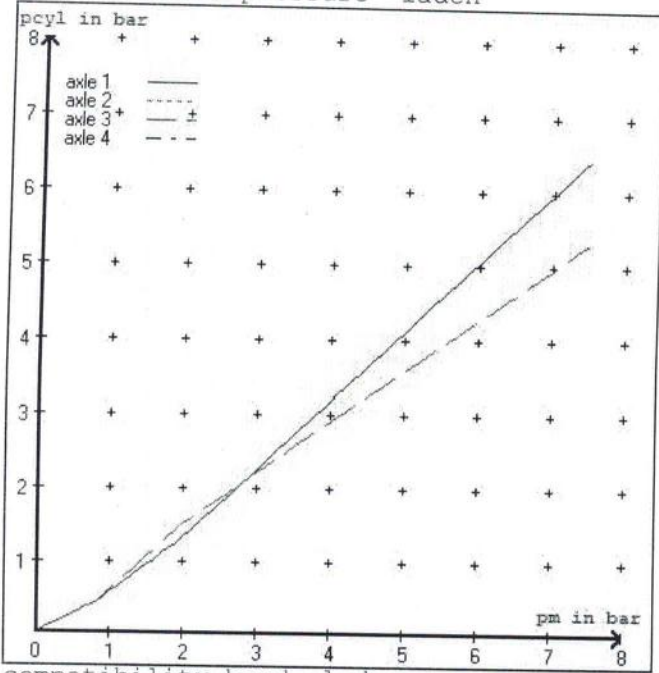
axle 4:

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

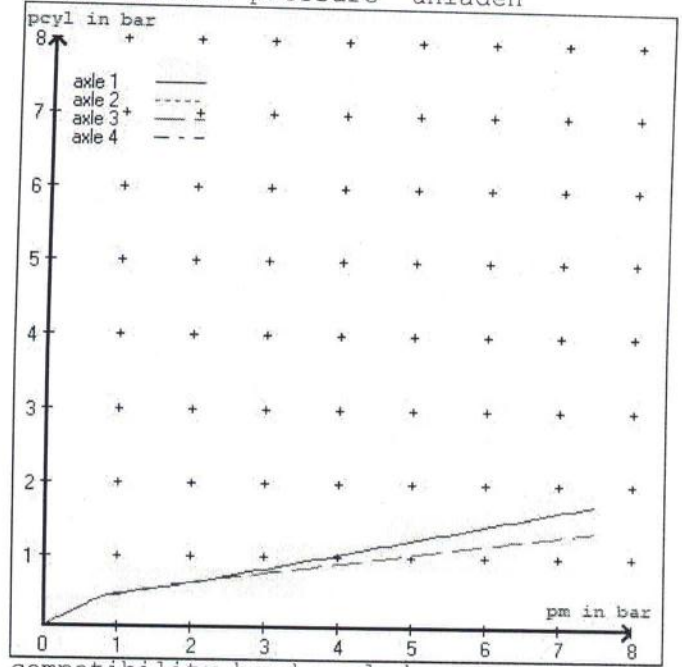
brake cylinder: Meritor 1624HTLD64

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

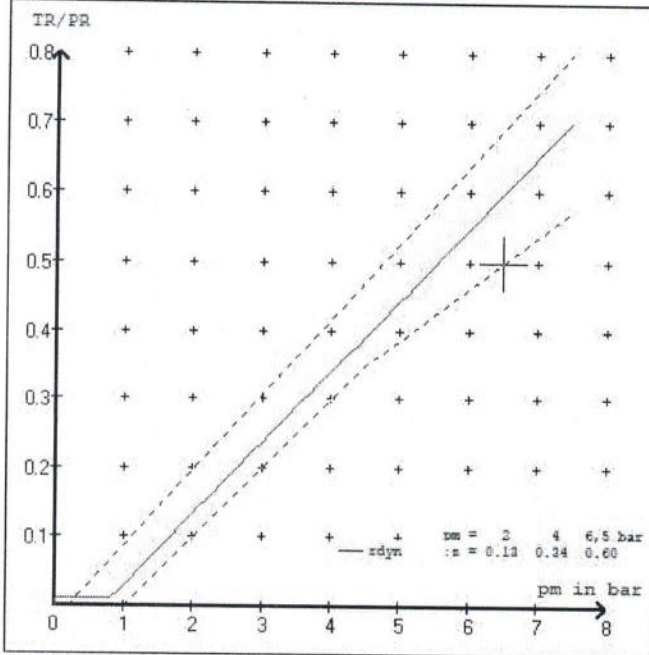
brake chamber pressure laden



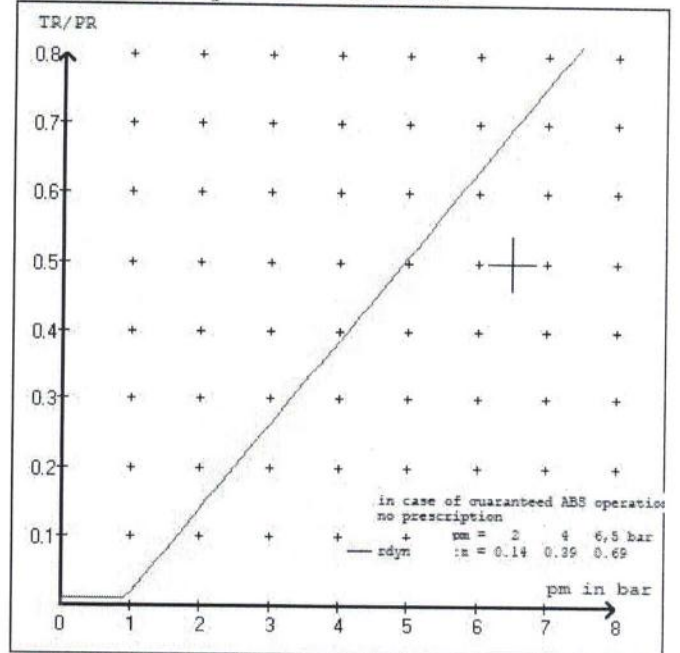
brake chamber pressure unladen



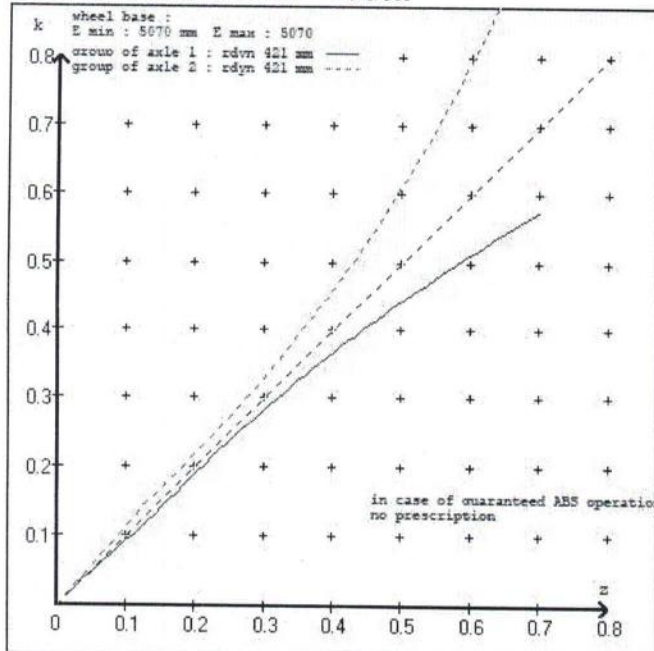
compatibility band laden



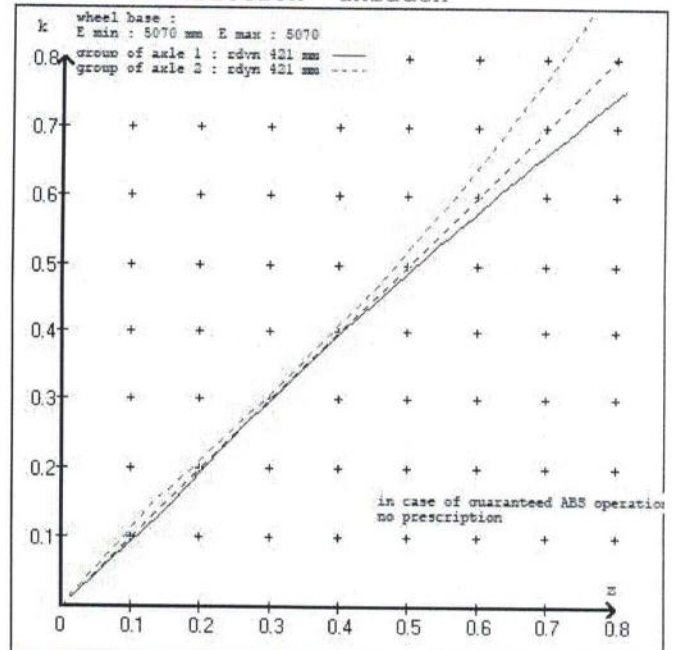
compatibility band unladen



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	1.5	7500	to be	0.4	1.3	5.5
2	1400	entered by the vehicle manufact.	1.5	7500	entered by the vehicle manufact.	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	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

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. verific. 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	type III
of subject	(calculated)
trailer (E)	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	type III
of subject	(calculated)
trailer (E)	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)

		<u>axle 3</u>	<u>axle 4</u>
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
$iFb = lBh * \eta * C * rBt / (rBn * rstat)$	for rstat in mm	401	401
brake force of spring br. Tf in N		63816	63816
$Tf = (TFZ * KDZ - 2 * Co / lBh) * iFb$			
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

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

$$\min Ef = 3630 \text{ mm for } E = 5070 \text{ mm}$$

$$\min Ef = 3630 \text{ mm for } E = 5070 \text{ mm}$$

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)

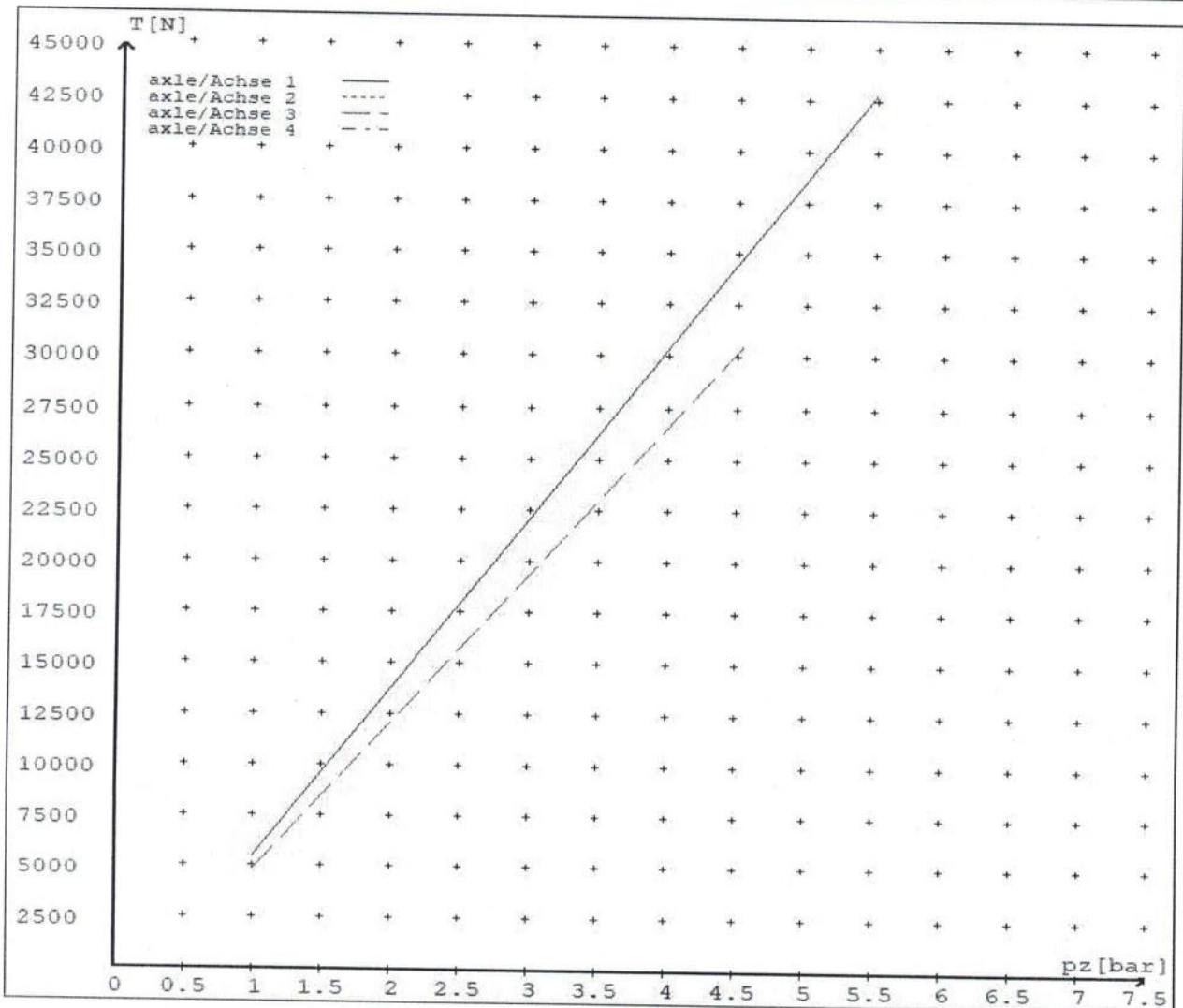
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	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.:

	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	



reference values for $z = 0.5$

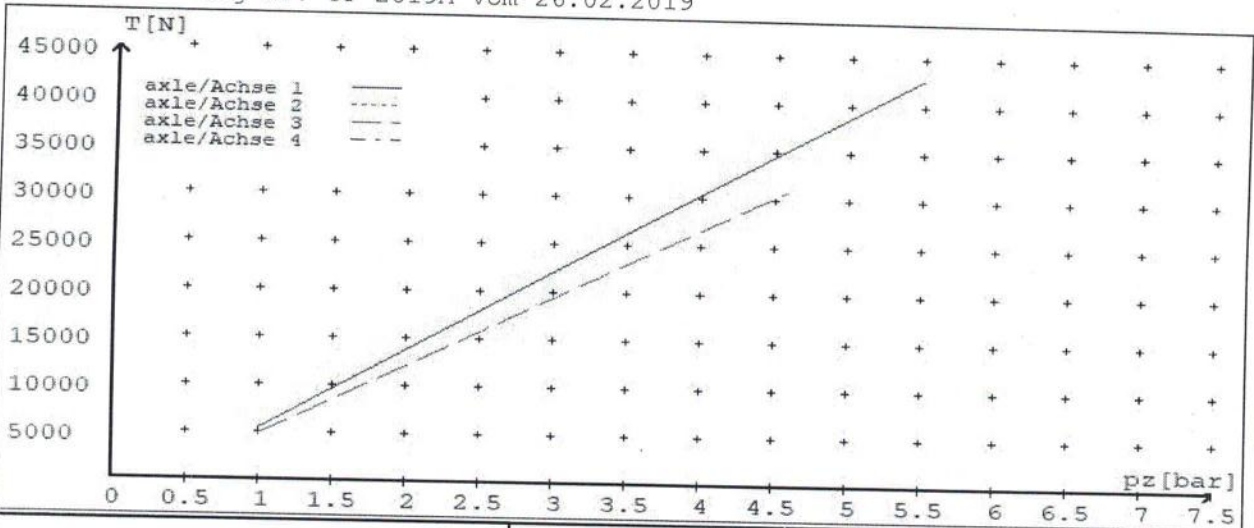
Angabe der Referenzwerte für $z = 0.5$

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 $s_{max} = \dots mm$ maximaler Hub $s_{max} = \dots mm$	65	65	64	64	
Lever length = $\dots mm$ Hebellänge = $\dots mm$	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:	FONTERRA

VEHICLE DETAILS

VEHICLE TYPE:	4A FULL TANKER	CERT #:	LC190405
YEAR:	2019	CALCULATION #:	2019 ROR 4A WPC
MAKE:	DOMETT	REGO:	
MODEL:	D1001	LT400 #:	
CHASSIS #:	1830	ORDER NUMBER:	6344
VIN #:	7A9D10013K1023830		
GVM: TONNES	26	PRIME MOVER:	EBS / EUROPEAN
LOAD CONFIGURATION:	UNIFORM DENSITY		
GROUP RATINGS: TONNES	FRONT	REAR	
	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: <i>MILLIMETRES</i>	66	57	
TEST REPORT #:	BC0175.0	BZ130.0	
SPRINGBRAKE FORCE: <i>kN</i>	N/A	7.85	
HOLDOFF PRESSURE: <i>kPa</i>	N/A	5	
FOUNDATION BRAKE:	HALDEX	HALDEX	
LEVER LENGTH: <i>MILLIMETRES</i>	76	76	
BRAKE VALVES:	MAKE:	PART NUMBER:	PM PRESS. <i>kPa</i>
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 <i>MM</i> :	250	250
HANGER HEIGHT <i>MM</i> :	200	200
PEDESTAL HEIGHT <i>MM</i> :		
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: <i>L</i>	46L	46L
AUXILLARY TANK SIZE: <i>L</i>		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:	<input type="text"/>	<input type="text"/>
NORMAL LEVEL:	<input type="text"/>	<input type="text"/>
LOWER LEVEL:	<input type="text"/>	<input type="text"/>

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: 24/05/2019

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**