NZ TRANSPORT AGENCY
WAKA KOTAHI

Heavy vehicle specialist certificate

Must be presented to a CoF (heavy) inspecting organisation

Heavy vehicle specialist inspector and inspecting organisation

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

ID: CJC

Vehicle registration *(optional)*:

VIN/chassis number: 7A9E10011H1023581

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.

Code/standard/rule certified to: SCHEDULE 5

General drawing number(s): N/A

Component load rating(s):

GVM 30,000 Kgs
BRAKES 35,200 Kgs

Supporting documents:

BRAKE CODE CERTIFICATE LC170509

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)*: UNTIL MODIFIED or CHANGE OF USE

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: 29-May-17

Number: 596267

CoF vehicle inspector ID:

CoF vehicle inspector signature:

Date:

All fields are mandatory unless otherwise stated.

WABCO START-UP LOG

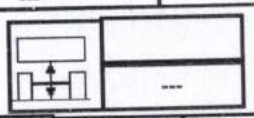
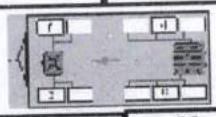
System	Trailer EBS-E	**WABCO part number**	480 102 064 0
Production date	2017-02-07	**Serial number**	436030998700N
Serial number (modulator)	000000142124		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2017-05-29 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00
TDB0870

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT T&T
TYP TYPE TYPE	5AFT TANKER
VEHICLE IDENT. NUMBER CHASSIS NUMBER NUMERO DE CHASSIS	7A9E10011H1023581
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP2017 SAF NEW
POLRADZÄHNEZAHL c-d | e-f POLE WHEEL TEETH c-d | e-f DENTS ROUE DENTÉE c-d | e-f	90 / 90 — ABS-System / ABS-System / Systeme 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	--- / I/O: 24N

GIO	Pin1	Pin3	Pin4
1	ILS1	---	ILS1
2	eTASC	---	eTASC
3	ALS2	ALS2	---
4	---	---	LS1
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	0.5	1.5	8000	5.1	0.4	1.3	---	5.8	-	18	65	69	506	3799
2	1400	0.5	1.5	8000	5.1	0.4	1.3	---	5.8	-	18	65	69	506	3799
3	1100	0.3	1.2	6400	3.9	0.3	1.4	---	4.6	-	14 / 16	64	69	500	2781
4	1100	0.3	1.2	6400	3.9	0.3	1.4	---	4.6	-	14 / 16	64	69	500	2781
5	1100	0.3	1.2	6400	3.9	0.3	1.4	---	4.6	1	14	64	69	500	2781

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 T&T	**Vehicle ident. no**	7A9E10011H1023581
Vehicle type	5AFT TANKER	**Odometer reading**	0.0 km
next Service	0 km	**Trip reading**	0.0 km
Tester	Chris Clarke	**Signature**	
Date	2017-05-29 11:01:52 a.m.		

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: DOMETTS
2017, 5A, SAF,
NEW TANKER
SAF CALIPERS

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 20.04.2016

vehicle manufacturer: DOMETTS
trailer model : 2017 5A TANKER, E1001 SAF
trailer type : 5-axle-full-trailer
remarks : air / hydraulic / VA suspension
EC w.o.annexVII
WABCO TRAILER - EBS
TRISTOP 3+4: T.14/24
265/70 R 19,5

axle 1 + 2 + 3 + 4 + 5 : SAF, SBS 1918, TDB 0870 ext01 ECE,

		unladen	laden
total mass	P in kg	6100	35200
axle 1	P1 in kg	1400	8000
axle 2	P2 in kg	1400	8000
axle 3	P3 in kg	1100	6400
axle 4	P4 in kg	1100	6400
axle 5	P5 in kg	1100	6400
wheel base	E in mm	5700 - 5700	
centre of gravity height	h in mm	900	1524

		axle 1	axle 2	axle 3	axle 4	axle 5
no. of combined axles		1	1	1	1	1
no. of brake chambers per axle line	KDZ	2	2	2	2	2
The power output corresponds to		BZ 122.1	BZ 122.1	BZ 119.6	BZ 119.6	BZ 122.1
brake chamber manufacturer		Meritor	Meritor	Meritor	Meritor	Meritor
chamber size		18.	18.	T.14/24	T.14/24	14.
lever length	lBh in mm	76	76	76	76	76
brake factor	[-]	22.37	22.37	22.37	22.37	22.37
dyn. rolling radius	rdyn min in mm	421	421	421	421	421
dyn. rolling radius	rdyn max in mm	421	421	421	421	421
threshold torque	Co Nm	6.0	6.0	6.0	6.0	6.0

calculation:						
chamber pressure(rdyn min)pH at z=22,5%bar		2.2	2.2	2.0	2.0	2.0
chamber pressure(rdyn max)pH at z=22,5%bar		2.2	2.2	2.0	2.0	2.0
chamber press.(servo)pcha at pm6,5bar	bar	5.8	5.8	4.6	4.6	4.6
piston force ThA at pm6,5bar	N	6172	6172	4385	4385	4385
brake force(rdyn min)T lad. at pm6,5bar	N	49996	49996	35408	35408	35408
brake force(rdyn max)T lad. at pm6,5bar	N	49996	49996	35408	35408	35408
brake force within 1 % rolling friction proportion	%	21.2	21.2	19.2	19.2	19.2

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

0.597 for rdyn min
0.597 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 18HSCLD64

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

brake cylinder: Meritor 18HSCLD64

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

brake cylinder: Meritor 1424HTLD64

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

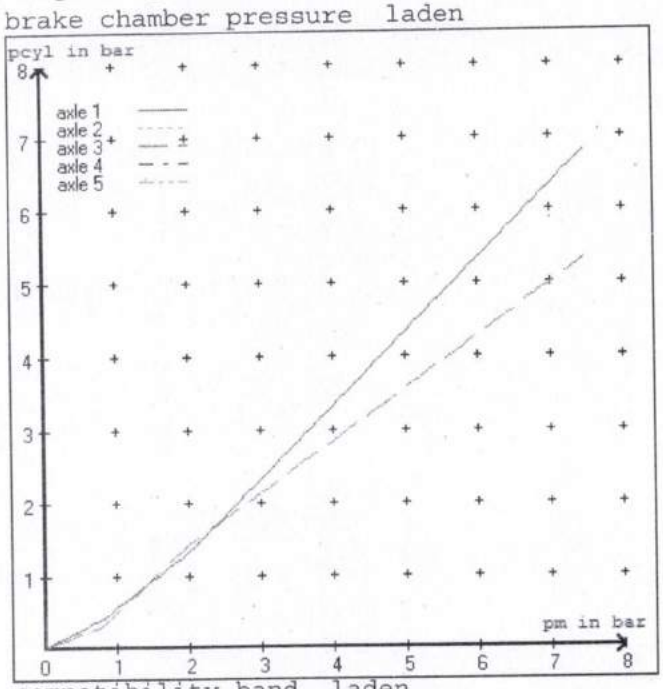
brake cylinder: Meritor 1424HTLD64

axle 5:
valve 1: 480 102 0.. 0 WABCO
EBS trailer modulator

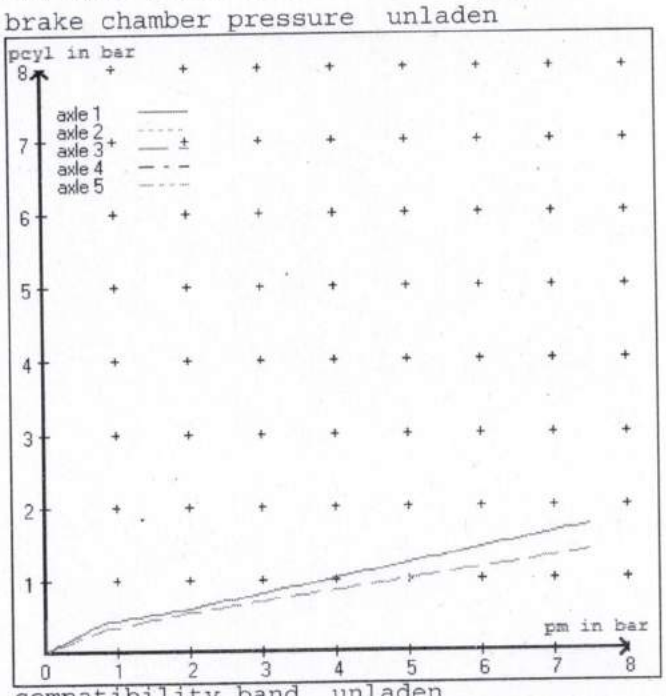
brake cylinder: Meritor 14HSCLD64

test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 3.6 bar =>	pcha in bar :	2.9	2.9	2.5	2.5	2.5	
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	0.7	0.7	0.7	

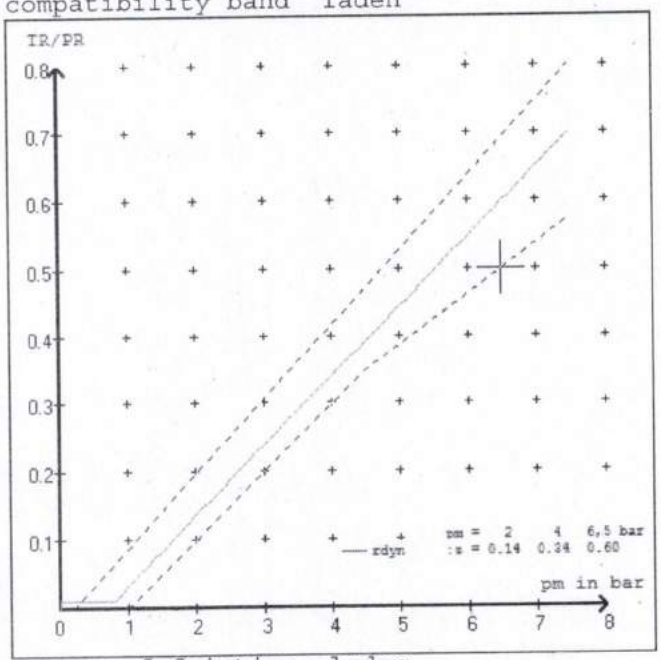
brake chamber pressure laden



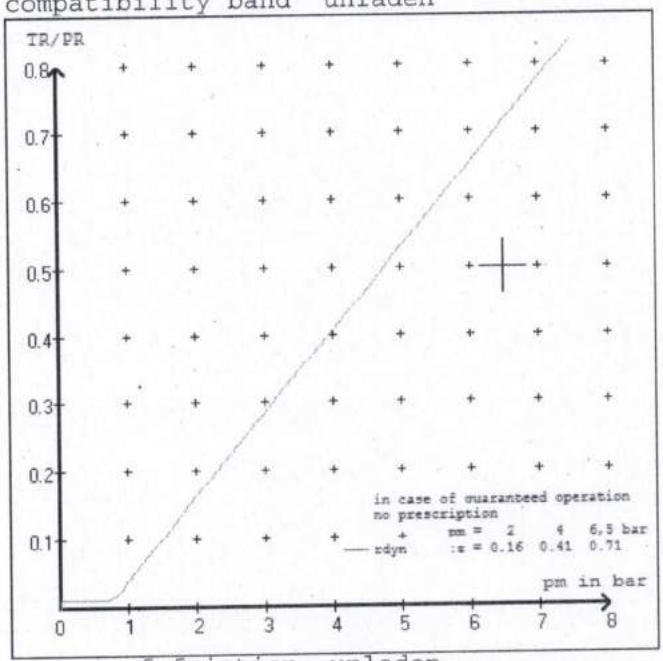
brake chamber pressure unladen



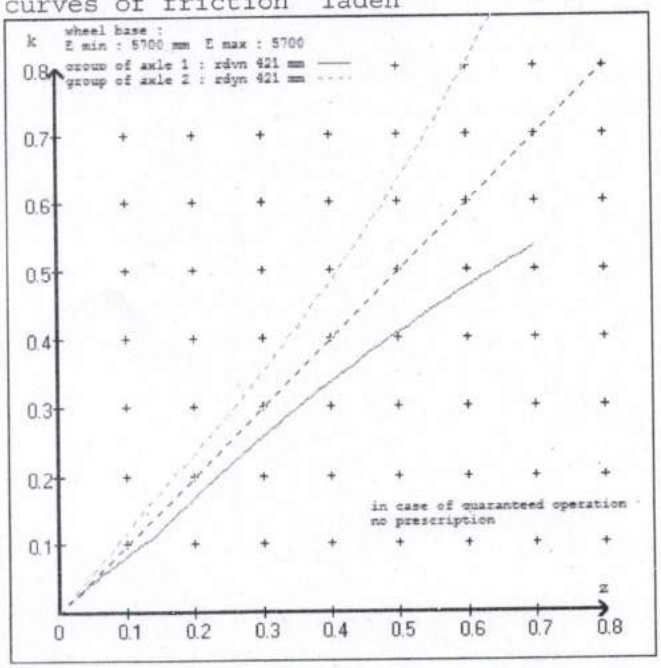
compatibility band laden



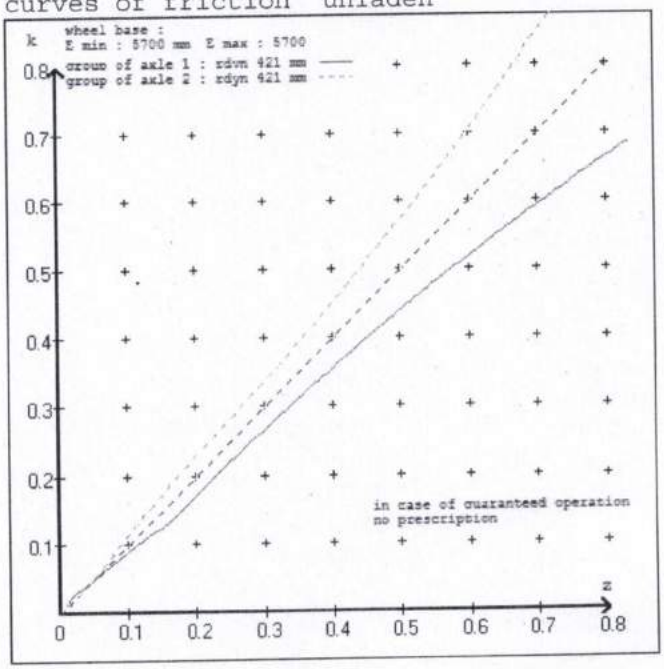
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETTS
trailer model : 2017 5A TANKER, E1001 SAF
trailer type : 5-axle-full-trailer

brake chamber and lever length :

axle 1 :	2 x type/diameter	18.	(Meritor)	lever length 76 mm
axle 2 :	2 x type/diameter	18.	(Meritor)	lever length 76 mm
axle 3 :	2 x type/diameter	T.14/24	(Meritor)	lever length 76 mm
axle 4 :	2 x type/diameter	T.14/24	(Meritor)	lever length 76 mm
axle 5 :	2 x type/diameter	14.	(Meritor)	lever length 76 mm

brake diagram :

valve :
480 207 0.. 0 WABCO EBS relay valve or 480 207 2.. 0
480 102 0.. 0 WABCO EBS trailer modulator

EBS input data
==========
vehicle manufacturer: DOMETTS
trailer model : 2017 5A TANKER, E1001 SAF
trailer type : 5-axle-full-trailer
brake calculation no. : TP 2017A

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	8000	to be entered by the vehicle manufact.	0.4	1.3	5.8
2	1400		1.5	8000		0.4	1.3	5.8
3	1100		1.2	6400		0.3	1.4	4.6
4	1100		1.2	6400		0.3	1.4	4.6
5	1100		1.2	6400		0.3	1.4	4.6

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
1400	1.5	1400	1.5	1100	1.2	1100	1.2	1100	1.2
1900	1.8	1900	1.8	1600	1.5	1600	1.5	1600	1.5
2400	2.2	2400	2.2	2100	1.8	2100	1.8	2100	1.8
2900	2.5	2900	2.5	2600	2.2	2600	2.2	2600	2.2
3400	2.8	3400	2.8	3100	2.5	3100	2.5	3100	2.5
3900	3.1	3900	3.1	3600	2.8	3600	2.8	3600	2.8
4400	3.5	4400	3.5	4100	3.1	4100	3.1	4100	3.1
4900	3.8	4900	3.8	4600	3.4	4600	3.4	4600	3.4
8000	5.8	8000	5.8	6400	4.6	6400	4.6	6400	4.6

spring parking brake

		axle 3	axle 4
no of TRISTOP-actuators per axle line	KDZ	2	2
TRISTOP-actuator type		T.14/24	T.14/24
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	0.380	
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 = 4325 mm for E = 5700 mm
==========
min Ef = 4325 mm for E = 5700 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	=	1524 mm	height of center of gravity - laden
PR	=	19200 kg	maximum bogie mass - laden
P	=	35200 kg	maximum total mass - laden
nf	=	2	no. of axle(s) with TRISTOP spring brake actuators
ng	=	3	no. of bogie axle(s)

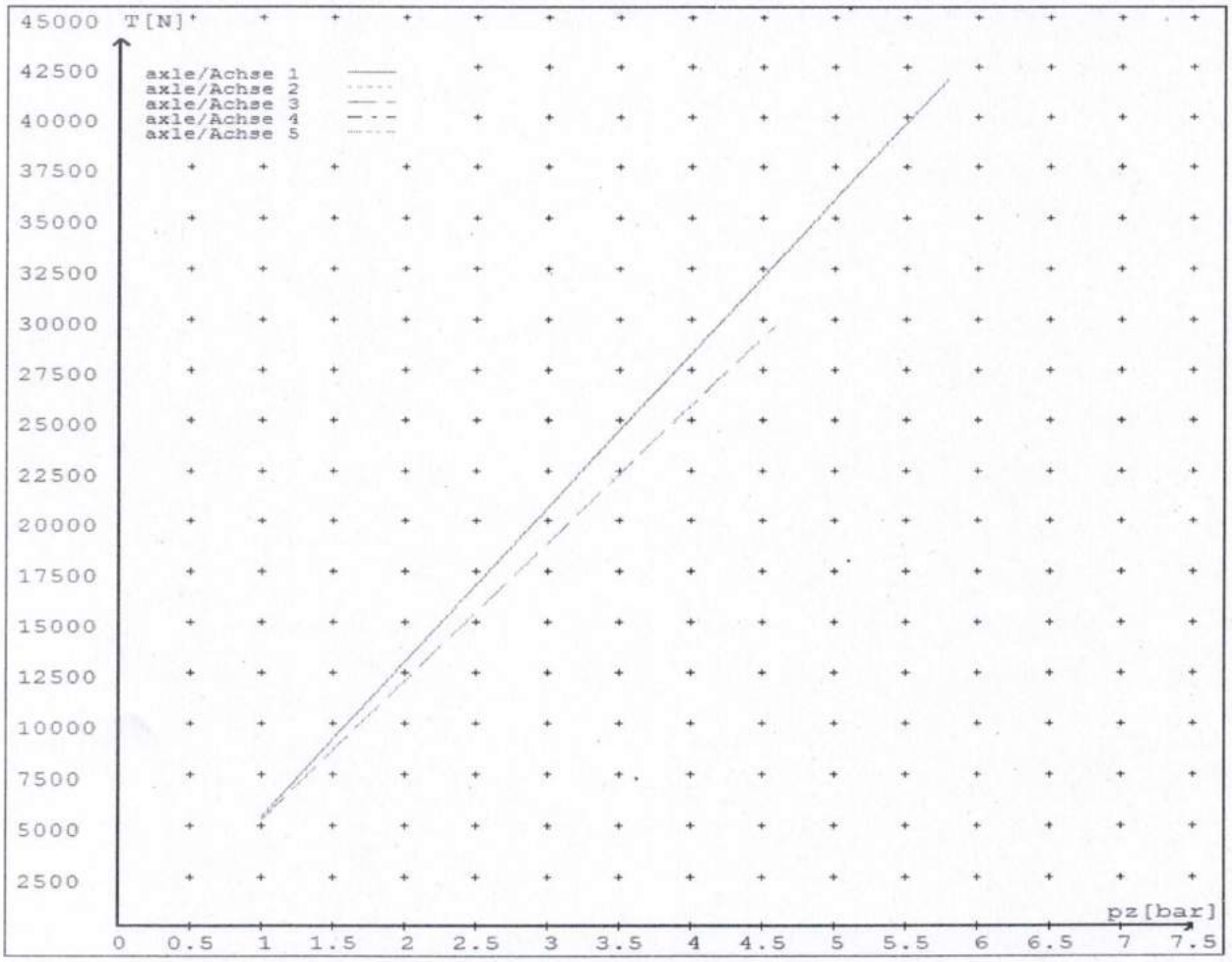
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0 5.8	5345 41873	
axle 2	1.0 5.8	5345 41873	
axle 3	1.0 4.6		5254 29655
axle 4	1.0 4.6		5254 29655
axle 5	1.0 4.6		5254 29655

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	18./	18./	T.14/24	T.14/24	14./
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	64	64	64	64	64
Lever length = ...mm Hebellänge = ...mm	76	76	76	76	76

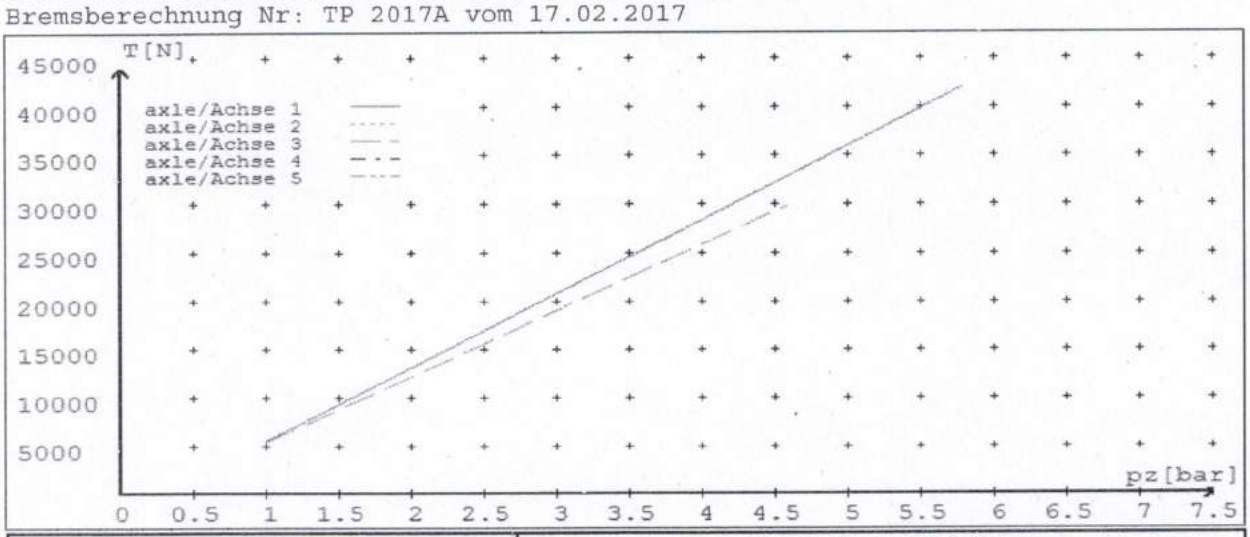


Print on WABCO no. 899 200 922 4 (only possible with laser printers!)

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 2017A date 17.02.2017
Bremsberechnung Nr: TP 2017A vom 17.02.2017



	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	18./	18./	T.14/24	T.14/24	14./
Maximum stroke smax = ...mm maximaler Hub smax = ...mm	64	64	64	64	64
Lever length = ...mm Hebellänge = ...mm	76	76	76	76	76

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

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 20.04.2016

distribution: DOMETTS
2017, 5A, SAF,
NEW TANKER
SAF CALIPERS

vehicle manufacturer: DOMETTS
trailer model : 2017 5A TANKER, E1001
trailer type : 5-axle-full-trailer
remarks : air / hydraulic / VA suspension
EC w.o.annexVII
WABCO TRAILER - EBS
TRISTOP 3+4: T.16/16
265/70 R 19,5

axle 1 + 2 + 3 + 4 + 5 : SAF, SBS 1918, TDB 0870 ext01 ECE,

		unladen	laden
total mass	P in kg	6300	35200
axle 1	P1 in kg	1500	8000
axle 2	P2 in kg	1500	8000
axle 3	P3 in kg	1100	6400
axle 4	P4 in kg	1100	6400
axle 5	P5 in kg	1100	6400
wheel base	E in mm	5700 - 5700	
centre of gravity height	h in mm	900	1521

		axle 1	axle 2	axle 3	axle 4	axle 5
no. of combined axles		1	1	1	1	1
no. of brake chambers per axle line	KDZ	2	2	2	2	2
The power output corresponds to		BZ 122.1	BZ 122.1	BZ 119.6	BZ 119.6	BZ 122.1
brake chamber manufacturer		Meritor	Meritor	Meritor	Meritor	Meritor
chamber size		18.	18.	T.16/16	T.16/16	14.
lever length	lBh in mm	76	76	76	76	76
brake factor	[-]	22.37	22.37	22.37	22.37	22.37
dyn. rolling radius	rdyn min in mm	421	421	421	421	421
dyn. rolling radius	rdyn max in mm	421	421	421	421	421
threshold torque	Co Nm	6.0	6.0	6.0	6.0	6.0

calculation:						
chamber pressure (rdyn min)	pH at z=22,5% bar	2.2	2.2	2.0	2.0	2.0
chamber pressure (rdyn max)	pH at z=22,5% bar	2.2	2.2	2.0	2.0	2.0
chamber press. (servo)	pcha at pm6,5bar bar	5.6	5.6	4.7	4.7	4.7
piston force	ThA at pm6,5bar N	5947	5947	4589	4589	4485
brake force (rdyn min)	T lad. at pm6,5bar N	48179	48179	37050	37050	36217
brake force (rdyn max)	T lad. at pm6,5bar N	48179	48179	37050	37050	36217
brake force within 1 % rolling friction proportion	%	21.0	21.0	19.5	19.5	19.0

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).

spring parking brake

		axle 3	axle 4
no of TRISTOP-actuators per axle line	KDZ	2	2
TRISTOP-actuator type		T.16/16	T.16/16
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	6160	6160
sp.brake chamber no Meritor.....		4	4
release pressure	pLs in bar	4.5	4.5

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	51564	51564

braking rate zf laden 0.309
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 = 4324 mm for E = 5700 mm
==========
min Ef = 4324 mm for E = 5700 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	=	1521 mm	height of center of gravity - laden
PR	=	19200 kg	maximum bogie mass - laden
P	=	35200 kg	maximum total mass - laden
nf	=	2	no. of axle(s) with TRISTOP spring brake actuators
ng	=	3	no. of bogie axle(s)

GOUGH Transpecs

HEAVY VEHICLE BRAKE RULE
32015/4 WORKSHEET
PROCEDURE DOCUMENTATION SHEET- (PDS)
&
CONFIRMATION OF COMPLIANCE

CERTIFICATE NO:	LC170509		
CUSTOMER NAME:	DOMETT TRAILERS		
CUSTOMER ORDER NO:	4729	DATE RECEIVED:	13/02/2017
VEHICLE TYPE:	FULL TANKER		
VIN / CHASSIS NO:	7A9E10011H1023581		

BRIEF SPECIFICATION AS CERTIFIED TO SCHEDULE 5

	MAKE	TYPE
BRAKE VALVES:		
PRIMARY RELAY:	WABCO	480 102 064 0
SECONDARY RELAY:	WABCO	480 207 001 0
SPRING BRAKE RELAY:	SEALCO	110701
PARK BRAKE VALVE:	SEALCO	17600B

LOCKED RATIO:	
MAKE:	
SETTING:	

OTHER VALVES

OTHER VALVES

MAKE:		TYPE		SETTING	
MAKE:		TYPE		SETTING	
MAKE:		TYPE		SETTING	
MAKE:		TYPE		SETTING	

BRAKE CHAMBERS

	FRONT	REAR	5TH
MAKE:	TSE	TSE	TSE
SIZE:	18HSCLD65	1416HTLD64	14HSCLD64
STROKE: *MM*	65mm	64mm	64mm
SLACK LENGTH: *MM*	DISC	DISC	DISC

BRAKE CALIPERS

BRAKE CALIPERS:	SAF

FRICTION MATERIAL: ☑ OEM ☐ Aftermarket

LINING BRAND

LINING BRAND

FRONT	REAR
SAF 607	SAF 607

OTHERS

TYRES:	FRONT	REAR
	265/70R 19.5	265/70R 19.5

COMMENTS

EBS, SPECIAL CONDITIONS APPLY. SEE INSTRUCTIONS ON LT400 # 0

NOTES:

PACKING SLIP NO. _____ PROCESS TIME _____

CONFIRMATION OF COMPLIANCE

I CONFIRM THAT THE VEHICLE IDENTIFIED IN PAGES 1 AND 2 OF THIS CONFIRMATION OF COMPLIANCE COMPLIES WITH ALL RELEVANT REQUIREMENTS OF THE CURRENT NEW ZEALAND HEAVY VEHICLE BRAKE RULE 32015/4, SCHEDULE 5.

DATE: 29/05/2017 **SIGNED:** PP

NAME & ID: *LANCE CAWTE (LPC)*

PHONE (BUS): 09 980 7300 **FAX (BUS):** 03 3083277

POSTAL ADDRESS: TRANSPORT SPECIALTIES LTD
PO BOX 98-971,
MANUKAU CITY,
AUCKLAND 2241

POSITION: Brake certifier HVEK

I CONFIRM THE BRAKE SYSTEM OF THE VEHICLE IDENTIFIED IN PAGE 1 OF THIS STATEMENT OF COMPLIANCE AS MODIFIED BY MYSELF, CONTINUES TO COMPLY WITH ALL THE RELEVANT REQUIREMENTS OF THE CURRENT NEW ZEALAND HEAVY BRAKE RULE 32015/4 SCHEDULE 5.

DATE: _____ **SIGNED:** _____

NAME: _____

CERTIFIERS ID: _____ **POSITION:** _____

PHONE (BUS): _____ **FAX (BUS):** _____

COMMENTS: _____