

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) ID

Chris Clarke **CJC**

Vehicle Registration* VIN/Chassis Number

7A9D35011F1023404

Component being certified:

<input type="checkbox"/> Chassis	<input type="checkbox"/> Load Anchorage	<input type="checkbox"/> Log Bolsters
<input type="checkbox"/> Towing Connection	<input checked="" type="checkbox"/> Brakes	<input type="checkbox"/> SRT
<input type="checkbox"/> PSV Stability	<input type="checkbox"/> PSV Rollover	<input type="checkbox"/> Swept Path
<input type="checkbox"/> PBS		

Certification Category

HVEK

Description of Work

CERTIFY TO SCHEDULE 5

ROLL STABILTY FUNCTION ACTIVATED

Code/Standard/Rule Certified to Component Load Rating(s)

HVBR 32015/3 Schedule 5 **28000KG**

General Drawing Number(s)

N/A

Supporting Documents

BRAKE RULE CERTIFICATE - JH150806

Special Conditions*

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

Certification Expiry Date (if applicable) or Hubodometer Reading (whichever comes first)

N/A

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) ID Number

CHRIS CLARKE **CJC**

Date Number

28-Aug-15 **522450**

CoF Vehicle Inspector ID CoF Vehicle Inspector Signature Date

All fields excluding those marked with * must be completed before this certificate can be accepted.

WABCO

START-UP PROTOCOL

System	Trailer EBS-E	WABCO part number	480 102 080 0
Production date	2015-04-09	Serial number	437001360000F
Serial number (modulator)	000000039031		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2015-08-28 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

WABCO

TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00
TDB 0855

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT T&T			GIO	Pin1	Pin3	Pin4
TYP TYPE TYPE	4AFT TIPPER			1	24V-O1	---	---
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9D35011F1023404			2	---	---	---
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51305A			3	ALS2	ALS2	---
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	4	---	---	---
RSS RSS RSS	Einfachbereifung Single Tire Monte simple		Lenkachse Steering axle Essieu vireur	5	DIAG	DIAG	DIAG
	Zwillingsbereifung Twin Tire Monte jumelle	X	Kippkritisches Fahrzeug Critical Trailer Véhicule critique	6	---	---	---
Subsystems	SB		I/O	7	---	---	---
			24N				

ACHSE AXLE ESSIEU	pm (bar)		6.5		pm (bar)		0.8		2.0		---		6.5		TYP TYPE	(mm)	(mm)	(bar)	
	H (kg)	⊗	⊗	⊗	H (kg)	⊗	⊗	⊗	---	---	---	---	---	---				1.0	Pz
	⊗	⊗	⊗	⊗	⊗	⊗	⊗	⊗	---	---	---	---	---	---	---	---	---	---	---
1	1600	0.5	1.7	8000	4.9	0.4	1.3	---	6.5	-	24	67	152	626	5133				
2	1600	0.5	1.7	8000	4.9	0.4	1.3	---	6.5	-	24	67	152	626	5133				
3	1200	0.3	1.0	8000	4.9	0.4	1.5	---	4.2	-	24 / 30	64	127	588	2719				
4	1200	0.3	1.0	8000	4.9	0.4	1.5	---	4.2	-	24 / 30	64	127	588	2719				
5	0	---	---	0	---	---	---	---	---	-	---	---	---	---	---				

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light power supply	OK
EBS pressure test	Not tested	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 check	Not tested	Leak test	Not tested
Immobilizer test	Not tested	Signal outputs TEBS	Not tested
Signal inputs	Not tested	Tag axle test	Not tested

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

Manufacturer	DOMETT T&T	Vehicle ident. no	7A9D35011F1023404
Vehicle type	4AFT TIPPER	Odometer reading	10.9 km
next Service	0 km	Trip reading	10.9 km
Tester	Chris Clarke		
Date	2015-08-28 8:27:58 a.m.		

Signature

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

distribution: DOMETT T&T
 7A9D35011F1023404
 SODC: JH150806
 LT400: CJC 522450

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!
 WABCO Brake V6.14.04.20 db 08.07.2014

vehicle manufacturer: DOMETT T&T
 trailer model : 4AFT TIPPER
 trailer type : 4-axle-full-trailer
 remarks : air / hydraulic / VA suspension
 WABCO TRAILER - EBS
 TRISTOP 3+4: 24/30
 265/70 R 19,5

axle 1 + 2 + 3 + 4 : Assali Stefen, B (350x200), TDB 0855 ECE,

		unladen	laden
total mass	P in kg	5600	32000
axle 1	P1 in kg	1600	8000
axle 2	P2 in kg	1600	8000
axle 3	P3 in kg	1200	8000
axle 4	P4 in kg	1200	8000
wheel base	E in mm	5146 - 5146	
centre of gravity height	h in mm	1230	2073

	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	BC 0069.1BC	0069.1BC	0051.0BC	0051.0
brake chamber manufacturer	BPW	BPW	WABCO	WABCO
chamber size	24.	24.	24/30	24/30
lever length	1Bh in mm	152	127	127
brake factor	[-]	9.10	9.10	9.10
dyn. rolling radius	rdyn min in mm	421	421	421
dyn. rolling radius	rdyn max in mm	421	421	421
threshold torque	Co Nm	8.0	8.0	8.0

calculation:

chamber pressure(rdyn min)pH at z=22,5%bar	2.3	2.3	2.0	2.0
chamber pressure(rdyn max)pH at z=22,5%bar	2.3	2.3	2.0	2.0
chamber press.(servo)pcha at pm6,5bar bar	6.5	6.5	4.2	4.2
piston force ThA at pm6,5bar N	9386	9386	5915	5915
brake force(rdyn min)T lad. at pm6,5bar N	62111	62111	32912	32912
brake force(rdyn max)T lad. at pm6,5bar N	62111	62111	32912	32912
brake force within 1 % rolling friction proportion %	27.4	27.4	22.6	22.6

braking rate z laden 0.605 for rdyn min
 z = sum (TR)/PRmax 0.605 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: BFW 05.444.15...

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: BFW 05.444.15...

axle 3:

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

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

brake cylinder: WABCO 925 376 005 0 / 925 376 2.. 0

axle 4:

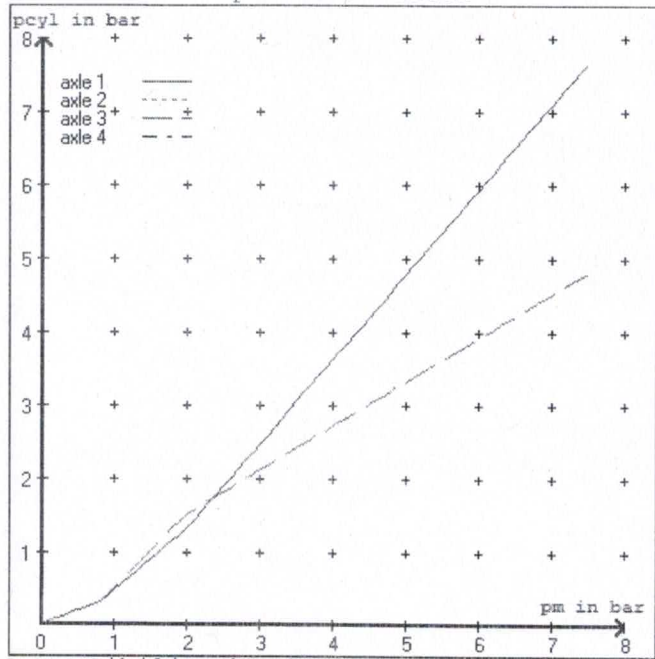
valve 1: 971 002 ... 0 WABCO
 EBS emergency valve

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

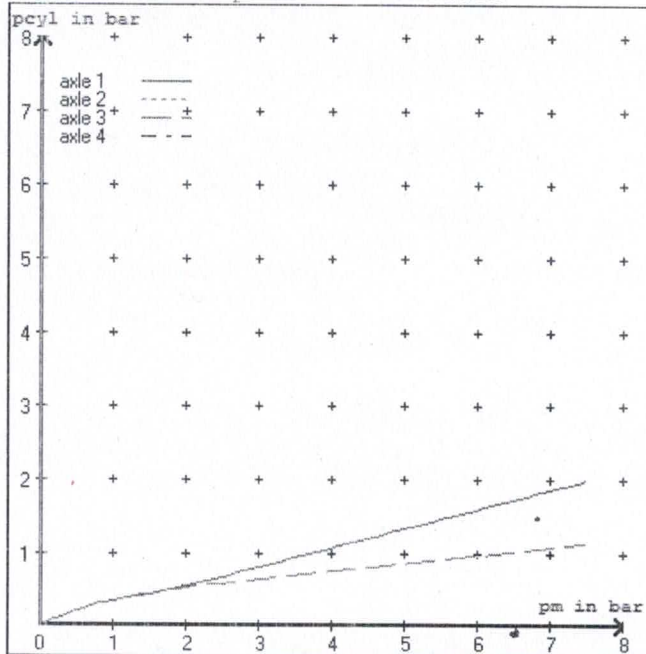
brake cylinder: WABCO 925 376 005 0 / 925 376 2.. 0

test type III	(zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm	3.6 bar =>	pcha in bar :	3.1	3.1	2.4	2.4	
test type III	(zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	
at pm	1.3 bar =>	pcha in bar :	0.7	0.7	0.8	0.8	

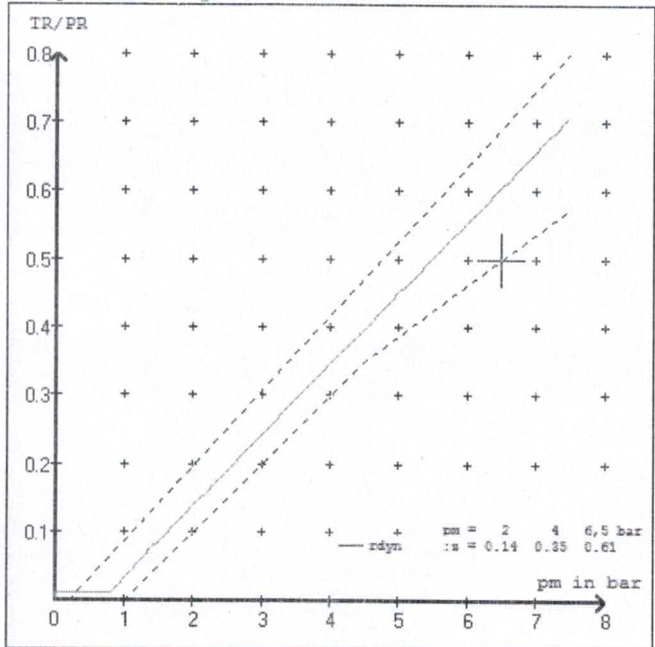
brake chamber pressure laden



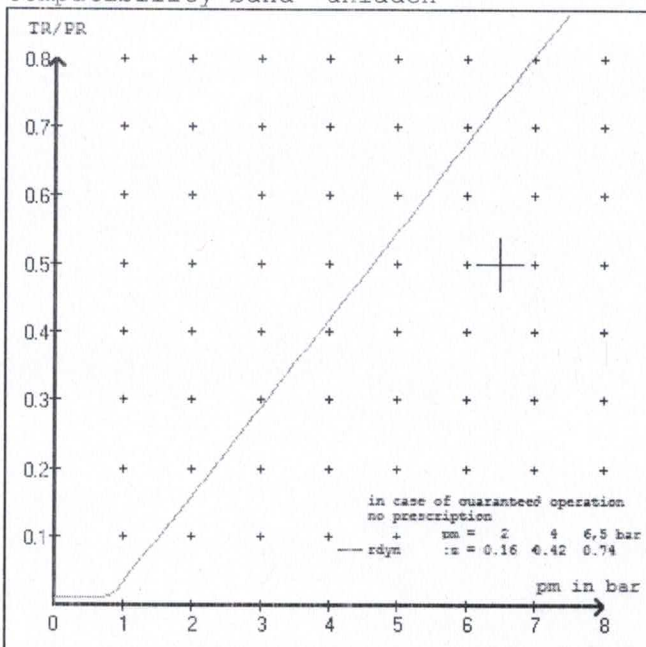
brake chamber pressure unladen



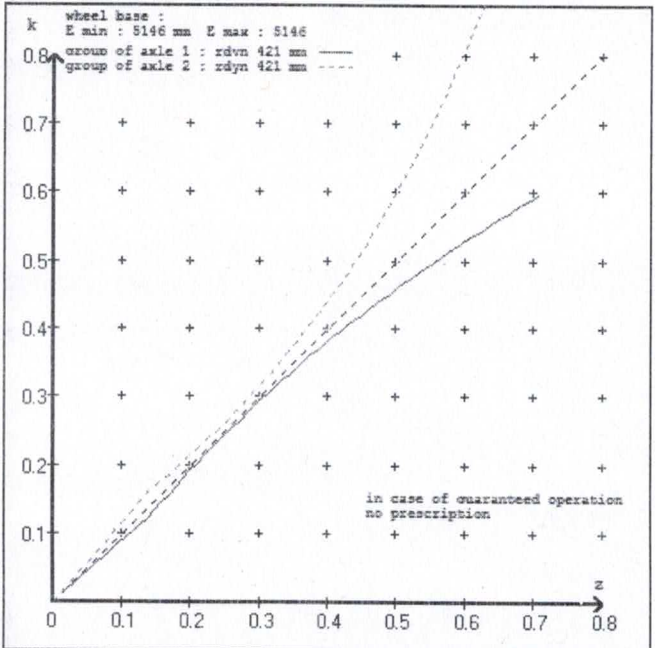
compatibility band laden



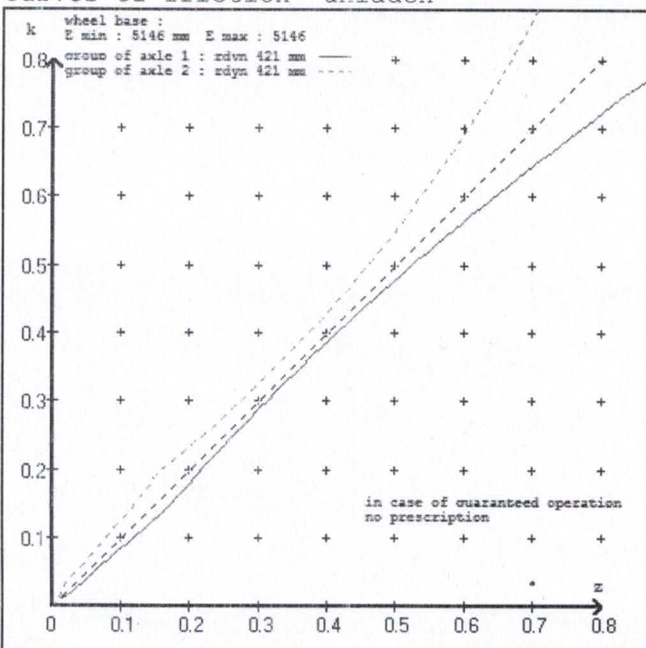
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT T&T
 trailer model : 4AFT TIPPER
 trailer type : 4-axle-full-trailer

brake chamber and lever length :

axle 1 : 2 x type/diameter 24. (BPW) lever length 152 mm
 axle 2 : 2 x type/diameter 24. (BPW) lever length 152 mm
 axle 3 : 2 x type/diameter 24/30 (WABCO) lever length 127 mm
 axle 4 : 2 x type/diameter 24/30 (WABCO) lever length 127 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 T&T
 trailer model : 4AFT TIPPER
 trailer type : 4-axle-full-trailer
 brake calculation no. : TP 51305A

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	1600	to be	1.7	8000	to be	0.4	1.3	6.5
2	1600	entered by the vehicle manufact.	1.7	8000	entered by the vehicle manufact.	0.4	1.3	6.5
3	1200		1.0	8000		0.4	1.5	4.2
4	1200		1.0	8000		0.4	1.5	4.2
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
1600	1.7	1200	1.0
2100	2.1	1700	1.2
2600	2.5	2200	1.5
3100	2.8	2700	1.7
3600	3.2	3200	1.9
4100	3.6	3700	2.2
4600	4.0	4200	2.4
5100	4.3	4700	2.6
8000	6.5	8000	4.2

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

axle 1 : reference axle: Assali StefTM / LM / LCen	brake lining: ROR 685 AF
test report : TDB 0855 ECE	date : 20110721
axle 2 : reference axle: Assali StefTM / LM / LCen	brake lining: ROR 685 AF
test report : TDB 0855 ECE	date : 20110721
axle 3 : reference axle: Assali StefTM / LM / LCen	brake lining: ROR 685 AF
test report : TDB 0855 ECE	date : 20110721
axle 4 : reference axle: Assali StefTM / LM / LCen	brake lining: ROR 685 AF
test report : TDB 0855 ECE	date : 20110721

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 = 27.6 % Fe
axle 2	(rdyn 421 mm)	T = 27.6 % Fe
axle 3	(rdyn 421 mm)	T = 18.1 % Fe
axle 4	(rdyn 421 mm)	T = 18.1 % Fe

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

axle 1	(sp = 74 mm)	s = 65 mm
axle 2	(sp = 74 mm)	s = 65 mm
axle 3	(sp = 63 mm)	s = 54 mm
axle 4	(sp = 63 mm)	s = 54 mm

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

axle1	ThA = 9386 N
axle2	ThA = 9386 N
axle3	ThA = 5915 N
axle4	ThA = 5915 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 = 50532 N
axle 2	(rdyn 421 mm)	T = 50532 N
axle 3	(rdyn 421 mm)	T = 26736 N
axle 4	(rdyn 421 mm)	T = 26736 N

basic test	type III
of subject	(calculated)
trailer (E)	residual

braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	0.61	(hot)braking 0.49
---	------	----------------------

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 = 50532 N
axle 2	(rdyn 421 mm)	T = 50532 N
axle 3	(rdyn 421 mm)	T = 26736 N
axle 4	(rdyn 421 mm)	T = 26736 N

basic test	type III
of subject	(calculated)
trailer (E)	residual

braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	0.61	(hot)braking 0.49
---	------	----------------------

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

	<u>axle 3</u>	<u>axle 4</u>
no of TRISTOP-actuators per axle line KDZ	2	2
TRISTOP-actuator type	24/30	24/30
lever length lBh in mm	127	127
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	6360	6360
sp.brake chamber no 925	376 005 0376 005 0	
sp.brake chamber no 925	376 2.. 0376 2.. 0	
release pressure pLs in bar	4.9	4.9

calculation:

ratio until road	2.8820	2.8820
$iFb = lBh * \eta * C * rBt / (2 * rBn * rstat)$ for rstat in mm	401	401
brake force of spring br. Tf in N	36297	36297
$Tf = (TFZ * KDZ - 2 * Co / lBh) * iFb$		
braking rate zf laden	0.241	
$zf = \text{sum}(Tf) / P + 0,01$		

Test of the frictional connection required by the parking brake

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

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

$$\text{min Ef} = 3801 \text{ mm} \quad \text{for } E = 5146 \text{ mm}$$

$$\text{min Ef} = 3801 \text{ mm} \quad \text{for } E = 5146 \text{ mm}$$

- min Ef = minimum distance between front axle(s) (trailer) or support (semitraile
- 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 = 2073 mm height of center of gravity - laden
- PR = 16000 kg maximum bogie mass - laden
- P = 32000 kg maximum total mass - laden
- nf = 2 no. of axle(s) with TRISTOP spring brake actuators
- ng = 2 no. of bogie axle(s)

axle manufacturer	axle 1 + 2 + 3 + 4
type of brake	Assali Stufen
type of axle	E (350x200)
test report no.	TM / LM / LC
test report of characteristic value	TDB 0855 ECE
adm. stat. axle load	Estat in kg 10500
tested axle load	Pe in kg 10500
max. adm. tyre radius	Rezul in mm 999
adm. cam. torque (6,5 bar)	Czul in Nm 1926
lining area per brake	AB in cm ² 1264
no. of brake cylinder	- 2
brakefactor Bf	- 9.10
threshold torque (Co,dec)	in Nm 8
date	20110721
brake lining	ROR 685 AF
cam torque	Ce in Nm 1457
brake force	TeIII in daN 5080
stroke	seIII in mm 54
tested tyre radius	Re in mm 432
tested lever length	le in mm 127
threshold torque (Co,e)	in Nm 32

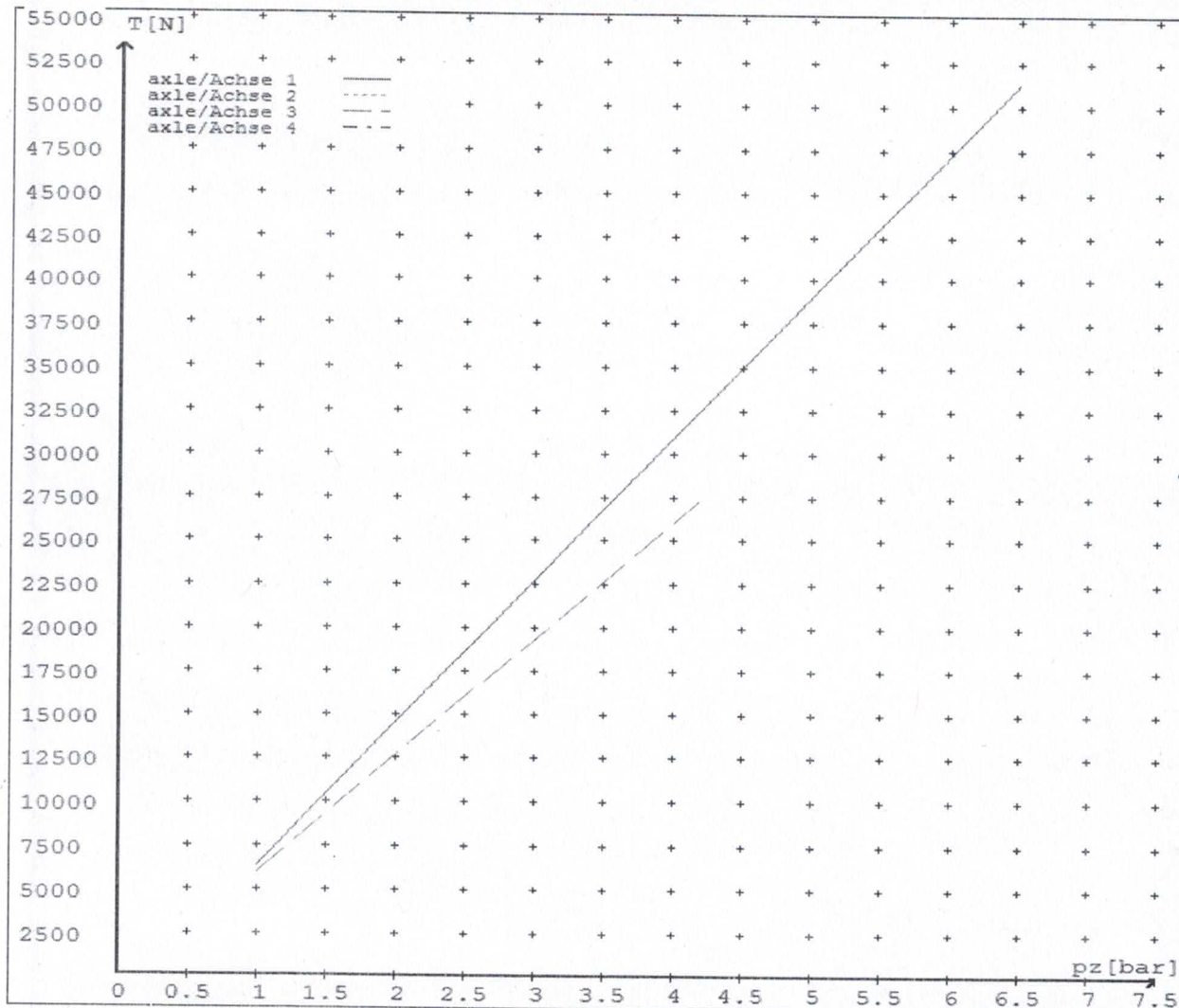
reference values

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	6260	
	6.5	51332	
axle 2	1.0	6260	
	6.5	51332	
axle 3	1.0		5885
	4.2		27200
axle 4	1.0		5885
	4.2		27200

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	24./	24./	24/30	24/30	/
Maximum stroke smax = ...mm maximaler Hub smax =mm	75	75	64	64	
Lever length =mm Hebellänge =mm	152	152	127	127	



reference values for $z = 0.5$

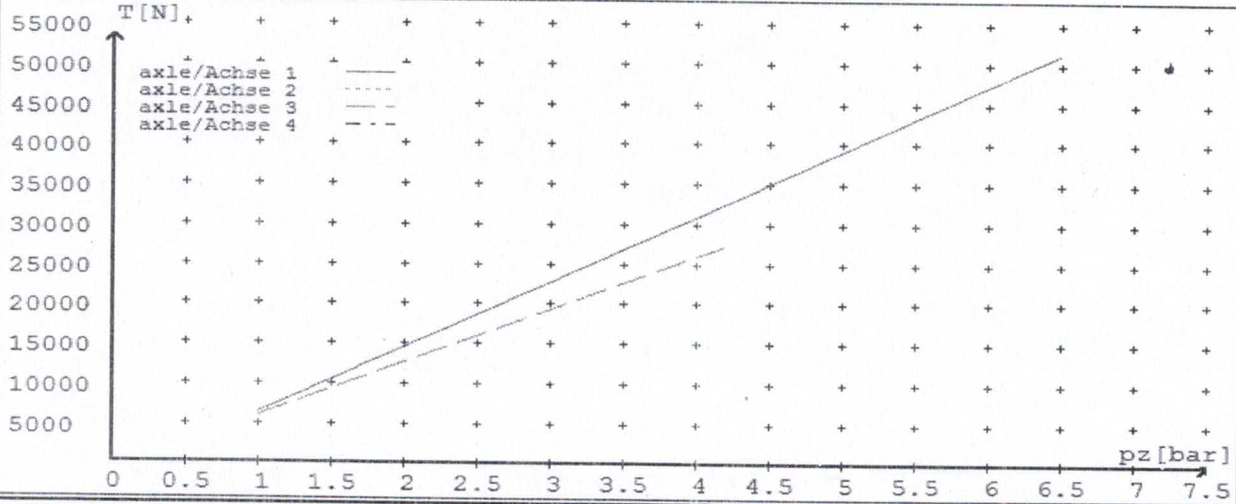
Angabe der Referenzwerte für $z = 0.5$

for max r_{dyn}: 421 mm

für max r_{dyn}: 421 mm

brake calculation no: TP 51305A date 08.08.2015

Bremsberechnung Nr: TP 51305A vom 08.08.2015



	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	24./	24./	24/30	24/30	/
Maximum stroke s _{max} = ...mm maximaler Hub s _{max} = ...mm	75	75	64	64	
Lever length = ...mm Hebellänge = ...mm	152	152	127	127	

HVBR WORKSHEET
(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No.

JH150806

CUSTOMER NAME

DOMETT TRAILERS LTD

CUSTOMER ORDER No.

4439

DATE RECEIVED

July 2015

VEHICLE TYPE

4 AXLE FULL TRAILER

REG No.

CHASSIS No.

7A9D35011F1023404

BRIEF SPECIFICATION AS CERTIFIED TO HVBR

BRAKE CHAMBERS:

<u>Ax #</u>	<u>Make/model</u>	<u>Max stroke</u>	<u>Lever length</u>
1&2	TSE 24S	67 mm	152 mm
3&4	TSE 2430GC	64 mm	127 mm

BRAKE SYSTEM:

WABCO EBS : RSS ACTIVATED

TEST POINTS FITTED:

3 4 5 7

FRICITION LINING:

(All) Lining Brand

OEM

JURID 539

Aftermarket

EBS CONTROL: SPECIAL CONDITIONS APPLY – SEE INSTRUCTION ON LT400:

VALVES: AS PER BRAKE CALCULATION TP 51305 & SO.....

TYRE SIZE: 265 70 R 19.5

NOTES

PACKING SLIP NO.

T.B.A.

PROCESS TIME:

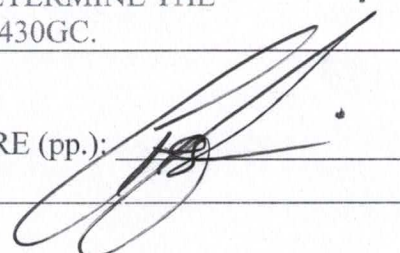
1

BRAKE CALC #TP51305. BPW T24 CHAMBERS (05.444.15...) ARE USED TO DETERMINE THE PERFORMANCE OF THE FRONT BRAKE CHAMBERS, TSE 24S.

WABCO 2430 CHAMBERS (925 376 005 0) ARE USED TO DETERMINE THE PERFORMANCE OF THE REAR BRAKE CHAMBERS, TSE 2430GC.

COMPLETION DATE : 8th August 2015

SIGNATURE (pp.):



Statement of Compliance with the New Zealand Heavy Brake Rule

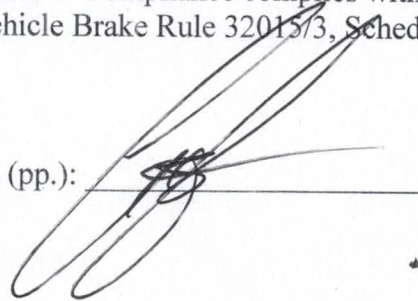
Documentation required supporting Statements of Compliance with the New Zealand Heavy Brake Rule, to be made available to the Statutory Authority on request, must include all calculations and test reports.

Confirmation of compliance

I confirm that the vehicle identified on page 1 of this Statement of Compliance complies with all relevant requirements of the current New Zealand Heavy Vehicle Brake Rule 32015/3, Schedule 5.

Date: 8th August 2015

Signed (pp.):



Certifier's identification

Name: J E Hirst

Phone (bus): (09) 980 7300 Fax (bus): (09) 980 7306

Postal address: Transport Specialties, Cnr Kerrs & Ash Roads
Wiri, Auckland, PO Box 98 971 Manukau City 2241

Position: JEH

Confirmation of continued compliance of modification

I confirm the brake system of the vehicle identified on 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 Vehicle Brake Rule 32015/3, Schedule 5.

Date: _____

Signed: _____

Certifier's identification: JEH

Name:

Phone (bus): (09) 980 7300 Fax (bus): (09) 980 7306

Postal address: Transport Specialties Ltd
Cnr Kerrs & Ash Roads, Wiri, Auckland
PO Box 98 971, Manukau City 2241