

# 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

**7A9E25017E1023316**

Component being certified:

<input type="checkbox"/> Chassis Modification	<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)
<b>HVBR 32015/3 Schedule 5</b>	<b>32000KG</b>
General Drawing Number(s)	
<b>N/A</b>	

Supporting Documents

**BRAKE RULE CERTIFICATE - JH150103**

Special Conditions\*

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

Certification Expiry Date <i>(if applicable)</i>	or	Hubodometer Reading <i>(whichever comes first)</i>
<b>N/A</b>		<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

**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

**13-Jan-15** **499971**

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	2014-06-25	Serial number	437000459200F
Serial number (modulator)	000000030791		
Fingerprint Customer EOL / Customer Development / Flash Program	W503643 / 2015-01-13 ; 00000000 / 0000-00-00 ; 00000000 / 0000-00-00		

## WABCO TRAILER EBS-E

GGVS/ADR TUEH TB 2007 - 019.00  
TDB0749

HERSTELLER MANUFACTURER CONSTRUCTEUR	DOMETT		
TYP TYPE TYPE	5AFT STOCK		
FAHRZEUG IDENTNR. CHASSIS NUMBER NUMERO DE CHASSIS	7A9E25017E1023316		
BREMSBERECHNUNGS-NR. BRAKE CALCULATION NO. CALCUL DE FREINAGE NO.	TP51190A		
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 Viseur	
	Zwillingsbereifung Twin Tire Monte jumelée	X	Kippkritisches Fahrzeug Critical Trailer Véhicule critique
Subsystems	---	I/O	24N


GIO	Pin1	Pin3	Pin4
1	24V-O1	---	---
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	2000	1.0	2.2	7250	4.6	0.4	1.3	---	6.2	-	18	64	69	493	4196				
2	2000	1.0	2.2	7250	4.6	0.4	1.3	---	6.2	-	18	64	69	493	4196				
3	1800	0.8	1.6	6000	3.7	0.3	1.4	---	4.2	-	14 / 16	64	69	486	2516				
4	1800	0.8	1.6	6000	3.7	0.3	1.4	---	4.2	-	14 / 16	64	69	486	2516				
5	1800	0.8	1.6	6000	3.7	0.3	1.4	---	4.2	-	14	64	69	486	2516				

Diagnostic memory	OK	Warning lamp control	OK
Parameter setting	carried out	Stop light power supply	Not tested
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	Vehicle ident. no	7A9E25017E1023316
Vehicle type	5AFT STOCK	Odometer reading	0.0 km
next Service	0 km	Trip reading	0.0 km
Tester	Chris Clarke	Signature 	
Date	2015-01-13 10:36:55 a.m.		



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

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 08.07.2014

distribution: DOMETT  
 7A9E25017E1023316  
 SODC: JH150103

vehicle manufacturer: DOMETT  
 trailer model : 5AFT STOCK  
 trailer type : 5-axle-full-trailer  
 remarks : air / hydraulic / VA suspension  
 WABCO TRAILER - EBS E  
 TRISTOP 3+4: T.14/16  
 265/70 R 19,5

axle 1 + 2 + 3 + 4 + 5 : SAF, SBW 1937, TDB 0749 ECE,

		<u>unladen</u>	<u>laden</u>
total mass	P in kg	9400	32500
axle 1	P1 in kg	2000	7250
axle 2	P2 in kg	2000	7250
axle 3	P3 in kg	1800	6000
axle 4	P4 in kg	1800	6000
axle 5	P5 in kg	1800	6000
wheel base	E in mm	6800 - 6800	
centre of gravity height	h in mm	1093	2318

	<u>axle 1</u>	<u>axle 2</u>	<u>axle 3</u>	<u>axle 4</u>	<u>axle 5</u>
no. of combined axles	1	1	1	1	1
no. of brake chambers per axle line	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.14/16	T.14/16	14.
lever length	69	69	69	69	69
brake factor	23.03	23.03	23.03	23.03	23.03
dyn. rolling radius	421	421	421	421	421
dyn. rolling radius	421	421	421	421	421
threshold torque	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	1.9	1.9	1.9
chamber pressure(rdyn max)pH at z=22,5%bar	2.2	2.2	1.9	1.9	1.9
chamber press.(servo)pcha at pm6,5bar bar	6.2	6.2	4.2	4.2	4.2
piston force ThA at pm6,5bar N	6622	6622	3984	3984	3984
brake force(rdyn min)T lad. at pm6,5bar N	50102	50102	30045	30045	30045
brake force(rdyn max)T lad. at pm6,5bar N	50102	50102	30045	30045	30045
brake force within 1 % rolling friction proportion %	21.2	21.2	19.2	19.2	19.2

braking rate z laden 0.597 for rdyn min  
 z = sum (TR)/PRmax 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: 971 002 ... 0                      WABCO  
          EBS emergency valve

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

brake cylinder: Meritor 18HSCLD64

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: Meritor 18HSCLD64

axle 3:

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

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

brake cylinder: Meritor1416HTLD64

axle 4:

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

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

brake cylinder: Meritor1416HTLD64

axle 5:

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

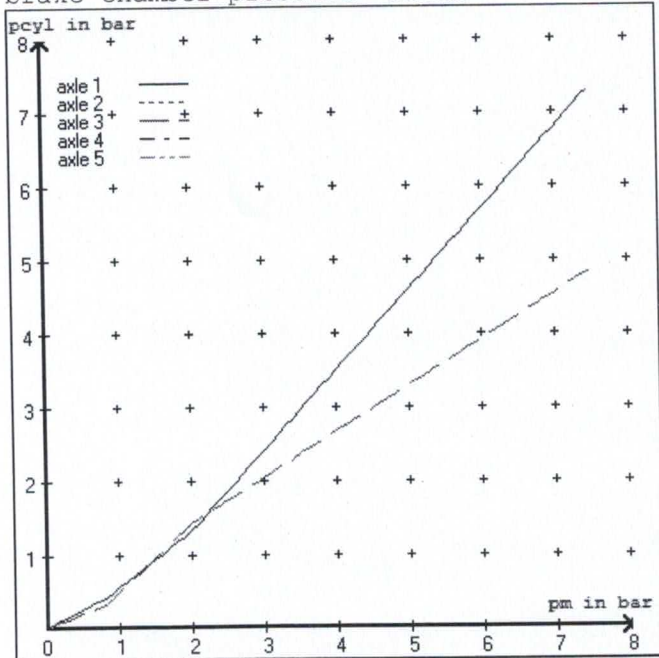
valve 2: 480 102 ... 0 WABCO  
EBS trailer modulator

brake cylinder: Meritor 14HSCLD64

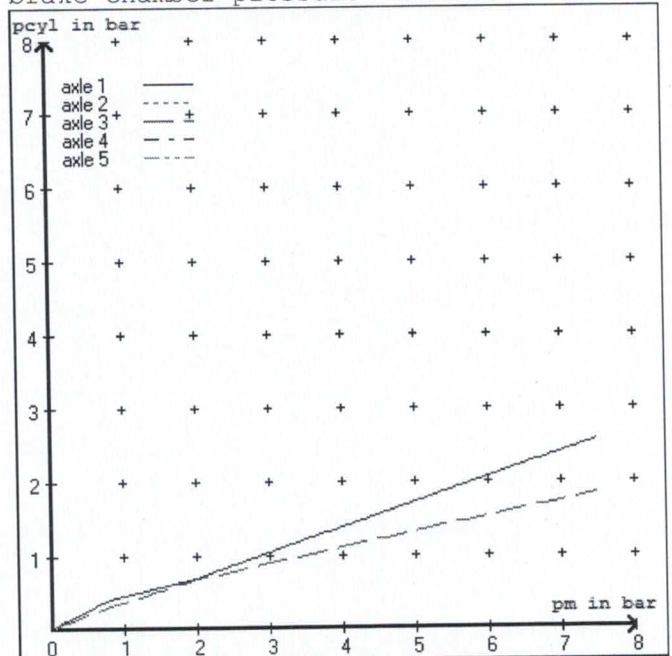
test type III (zIII = 0.30)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 3.6 bar =>	pcha in bar :	3.0	3.0	2.4	2.4	2.4	2.4
test type III (zIII = 0.06)	for rdyn min :	axle1	axle2	axle3	axle4	axle5	
at pm 1.3 bar =>	pcha in bar :	0.8	0.8	0.7	0.7	0.7	0.7



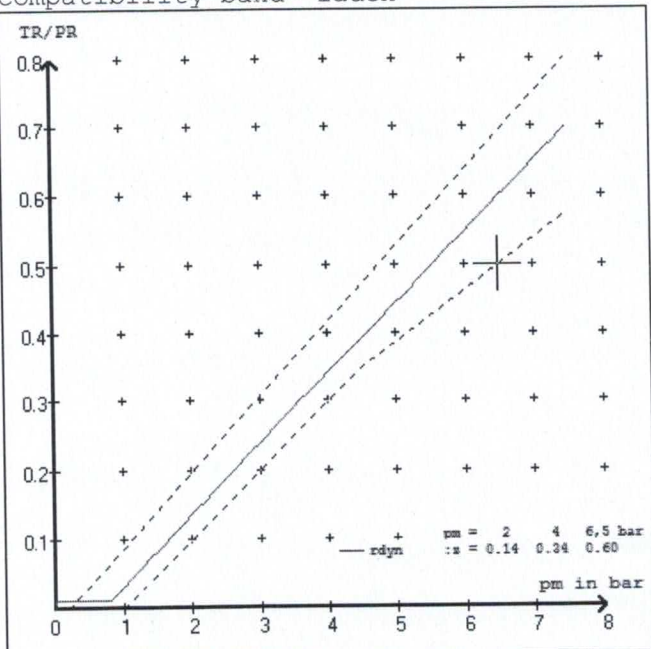
brake chamber pressure laden



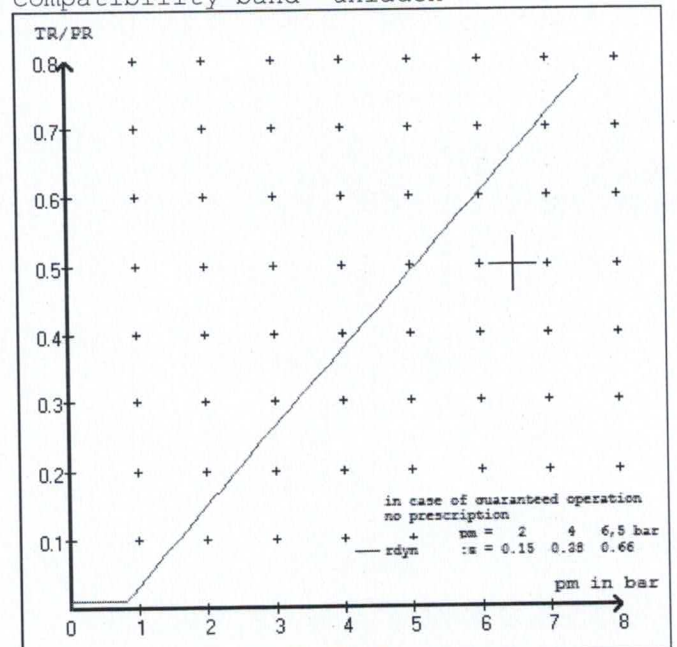
brake chamber pressure unladen



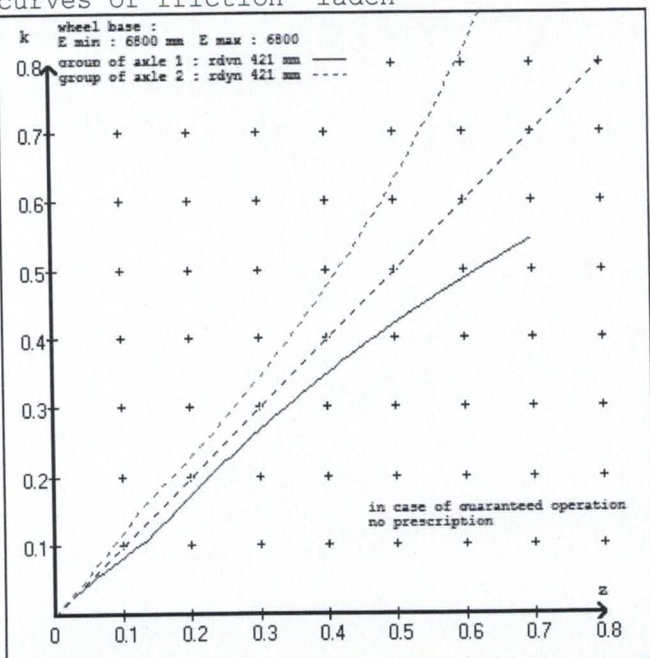
compatibility band laden



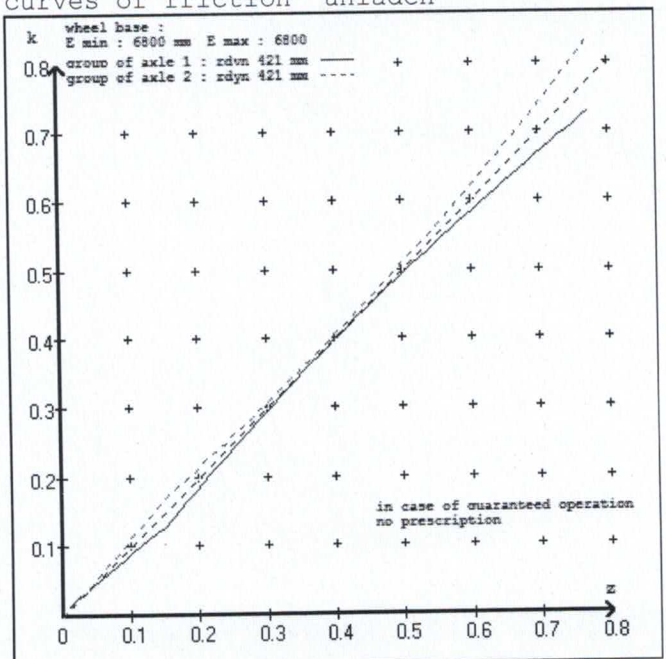
compatibility band unladen



curves of friction laden



curves of friction unladen



vehicle manufacturer: DOMETT  
 trailer model : 5AFT STOCK  
 trailer type : 5-axle-full-trailer

brake chamber and lever length :

axle 1 : 2 x type/diameter 18. (Meritor) lever length 69 mm  
 axle 2 : 2 x type/diameter 18. (Meritor) lever length 69 mm  
 axle 3 : 2 x type/diameter T.14/16 (Meritor) lever length 69 mm  
 axle 4 : 2 x type/diameter T.14/16 (Meritor) lever length 69 mm  
 axle 5 : 2 x type/diameter 14. (Meritor) lever length 69 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  
 trailer model : 5AFT STOCK  
 trailer type : 5-axle-full-trailer  
 brake calculation no. : TP 51190A

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	2000	to be	2.2	7250	to be	0.4	1.3	6.2	
2	2000	entered by the vehicle manufact.	2.2	7250	entered by the vehicle manufact.	0.4	1.3	6.2	
3	1800		1.6	6000		0.3	1.4	4.2	
4	1800		1.6	6000		0.3	1.4	4.2	
5	1800		1.6	6000		0.3	1.4	4.2	

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 pcy1	axle load pcy1	axle load pcy1	axle load pcy1	axle load pcy1
2000 2.2	2000 2.2	1800 1.6	1800 1.6	1800 1.6
2500 2.6	2500 2.6	2300 1.9	2300 1.9	2300 1.9
3000 3.0	3000 3.0	2800 2.2	2800 2.2	2800 2.2
3500 3.3	3500 3.3	3300 2.5	3300 2.5	3300 2.5
4000 3.7	4000 3.7	3800 2.8	3800 2.8	3800 2.8
4500 4.1	4500 4.1	4300 3.1	4300 3.1	4300 3.1
5000 4.5	5000 4.5	4800 3.5	4800 3.5	4800 3.5
5500 4.9	5500 4.9	5300 3.8	5300 3.8	5300 3.8
7250 6.2	7250 6.2	6000 4.2	6000 4.2	6000 4.2



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

axle 1 : reference axle: SAF	SBW 1937	brake lining: Jurid 539
test report :	TDB 0749 ECE	date : 20130930 30.09.2013
axle 2 : reference axle: SAF	SBW 1937	brake lining: Jurid 539
test report :	TDB 0749 ECE	date : 20130930 30.09.2013
axle 3 : reference axle: SAF	SBW 1937	brake lining: Jurid 539
test report :	TDB 0749 ECE	date : 20130930 30.09.2013
axle 4 : reference axle: SAF	SBW 1937	brake lining: Jurid 539
test report :	TDB 0749 ECE	date : 20130930 30.09.2013
axle 5 : reference axle: SAF	SBW 1937	brake lining: Jurid 539
test report :	TDB 0749 ECE	date : 20130930 30.09.2013

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 = 23.2 % Fe
axle 2	(rdyn 421 mm)	T = 23.2 % Fe
axle 3	(rdyn 421 mm)	T = 16.4 % Fe
axle 4	(rdyn 421 mm)	T = 16.4 % Fe
axle 5	(rdyn 421 mm)	T = 16.4 % Fe

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

axle 1	(sp = 58 mm)	s = 39 mm
axle 2	(sp = 58 mm)	s = 39 mm
axle 3	(sp = 56 mm)	s = 39 mm
axle 4	(sp = 56 mm)	s = 39 mm
axle 5	(sp = 56 mm)	s = 39 mm

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

axle1	ThA = 6622 N
axle2	ThA = 6622 N
axle3	ThA = 3984 N
axle4	ThA = 3984 N
axle5	ThA = 3984 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 = 39128 N
axle 2	(rdyn 421 mm)	T = 39128 N
axle 3	(rdyn 421 mm)	T = 23538 N
axle 4	(rdyn 421 mm)	T = 23538 N
axle 5	(rdyn 421 mm)	T = 23538 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	0.47
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 = 39128 N
axle 2	(rdyn 421 mm)	T = 39128 N
axle 3	(rdyn 421 mm)	T = 23538 N
axle 4	(rdyn 421 mm)	T = 23538 N
axle 5	(rdyn 421 mm)	T = 23538 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	0.47
required braking rate (items 1.5.3 and 1.7.2 to annex 11)		>= 0,4 and >= 0,6*E (0.36)





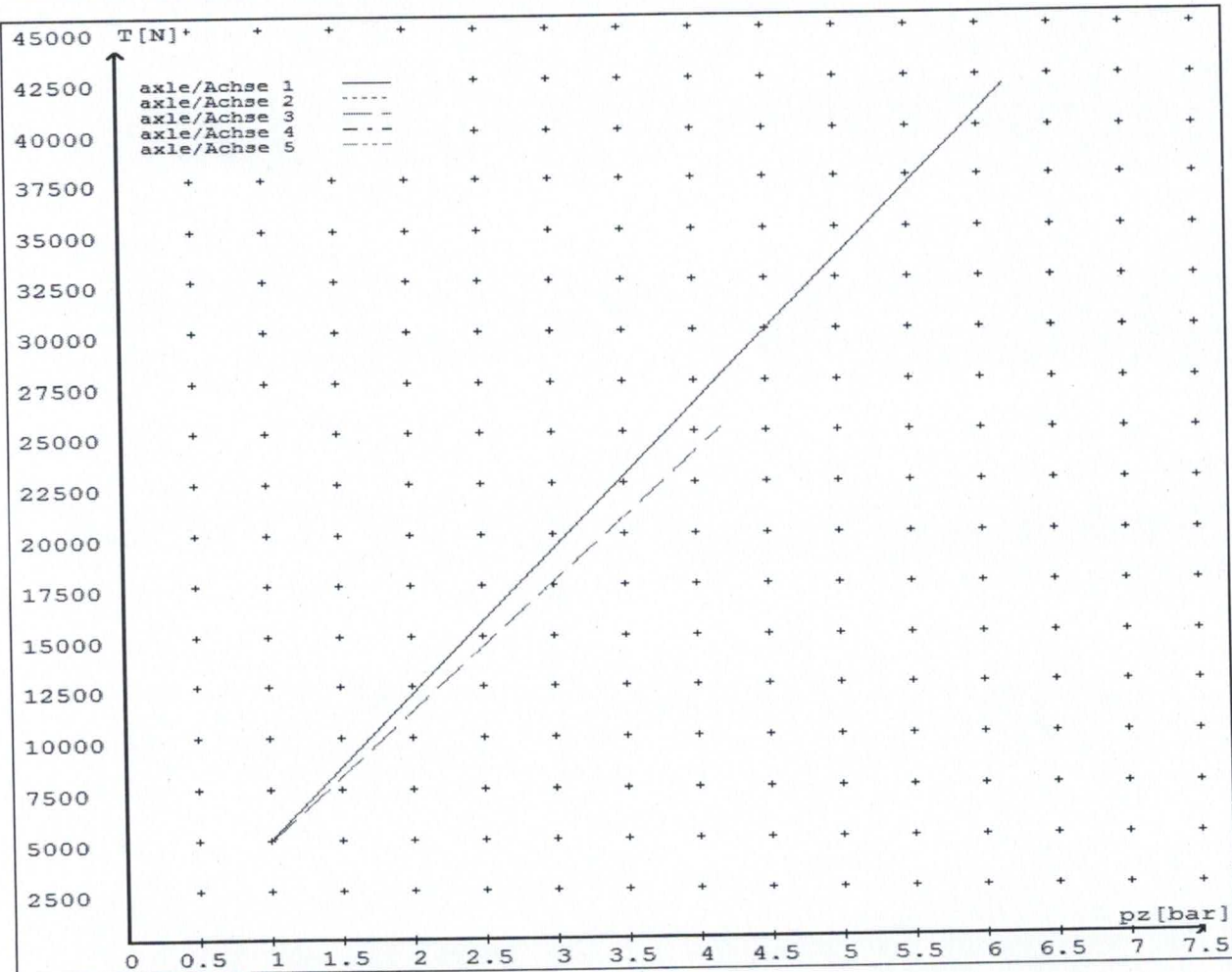
**reference values**

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

	pz [bar]	T [N]	T [N]
axle 1	1.0	4932	
	6.2	41962	
axle 2	1.0	4932	
	6.2	41962	
axle 3	1.0		4868
	4.2		25164
axle 4	1.0		4868
	4.2		25164
axle 5	1.0		4868
	4.2		25164

VIN - no.:

	Axle(s) / Achse(n)				
brake cylinder type (service / parking) Bremszylinder Typ (Betrieb / Fest)	18./	18./	T.14/16	T.14/16	14./
Maximum stroke s <sub>max</sub> = ...mm maximaler Hub s <sub>max</sub> = ....mm	64	64	64	64	64
Lever length = ....mm Hebellänge = ....mm	69.08	69.08	69.08	69.08	69.08





**HVBR WORKSHEET**  
(PROCEDURE & COMPLIANCE DOCUMENTATION SHEET)

CERTIFICATE No. JH150103

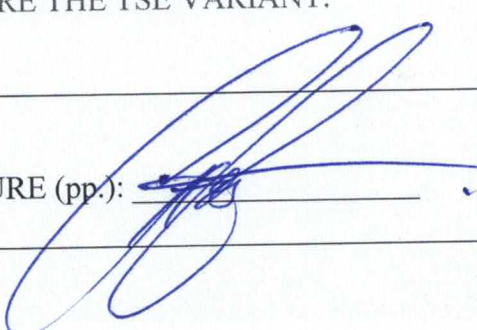
CUSTOMER NAME DOMETT TRAILERS LTD

CUSTOMER ORDER No. 4308 DATE RECEIVED Dec 14

VEHICLE TYPE 5 AXLE FULL TRAILER

REG No.  CHASSIS No. 7A9E25017E1023316

**BRIEF SPECIFICATION AS CERTIFIED TO HVBR**

<b>BRAKE CHAMBERS:</b>			
<u>Ax #</u>	<u>Make/model</u>	<u>Max stroke</u>	<u>Lever length</u>
1&2	TSE 18HSCLD65	65 mm	69 mm
3&4	TSE 1416HTLD64	64 mm	69 mm
5	TSE 14HSCLD64	64 mm	69 mm
<b>BRAKE SYSTEM:</b>		WABCO EBS : RSS ACTIVATED & OPTITURN	
<b># TEST POINTS FITTED:</b>		3 <u>4</u> 5 7	
<b>FRICITION LINING:</b>		<u>OEM</u>	Aftermarket
(All) Lining Brand		JURID 539	
<b><u>EBS CONTROL:</u> SPECIAL CONDITIONS APPLY – SEE INSTRUCTION ON LT400:</b>			
<b><u>VALVES:</u> AS PER BRAKE CALCULATION TP51190 &amp; SO1567099</b>			
<b><u>TYRE SIZE:</u> 265 70 R 19.5</b>			
<b>NOTES</b>			
<b>PACKING SLIP NO.</b>	<span style="border: 1px solid black; padding: 2px 20px;">SO1567099</span>	<b>PROCESS TIME:</b>	<span style="border: 1px solid black; padding: 2px 10px;">1</span>
<b>BRAKE CALC #TP51190: THE MERITOR CHAMBERS ARE THE TSE VARIANT.</b>			
<b>COMPLETION DATE :</b> 6 <sup>th</sup> Jan 2015		<b>SIGNATURE (pp.):</b> 	

## Statement of Compliance with the New Zealand Heavy Brake Rule

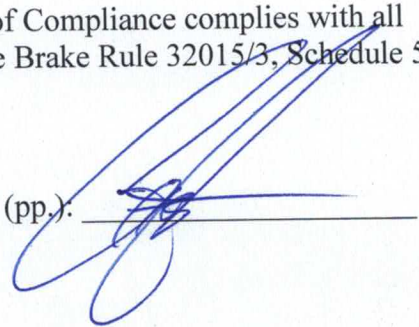
Documentation required supporting Statements of Compliance with the New Zealand Heavy Brake Rule, to be made available to the Statutory Authority on request, must include all calculations and test reports.

### 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: 6<sup>th</sup> Jan 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