NZ TRANSPORT AGENCY
WAKA KOTAHI

Heavy vehicle specialist certificate

Must be presented to a CoF (heavy) inspecting organisation if not entered into LANDATA

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

ID: CJC

Plate number *(optional)*:

VIN/chassis number: 7A9C10033T2023562

Make: DOMETT

Model *(optional)*: C1003

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 SCHEDULE 5 OF LTR 32015: NZ HEAVY VEHICLE BRAKE SPECIFICATION.
CARRY OUT BRAKE CALCULATIONS, INSPECTION AND ECU END OF LINE PROTOCOL.
3ASBTF TANKER **RSS ON TYRE:** 265 70 R19.5
FOR SYSTEM ARCHITECTURE, PLEASE REFER TO PDS WORKSHEET & SCHEMATIC.
REASON FOR CERTIFICATION: NEW TRAILER BUILD

Code/standard/rule certified to: LTR 32015

Component load rating(s): 34 Tonnes GVM
19 Tonnes (Rear group rating)

General drawing number(s): N/A

Supporting documents:
BRAKE RULE CERTIFICATE JH260405
BRAKE CALCULATION #

Special conditions *(optional)*:
WARNING LAMP MUST ILLUMINATE WHEN IGNITION IS SWITCHED ON & THEN EXTINGUISH IMMEDIATELY OR WHEN VEHICLE SPEED EXCEEDS 7 KM/H

Certification expiry date *(if applicable)*: N/A [UNLESS MODIFIED]

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: 04-May-26

Number: H 10945

CoF vehicle inspector ID *(if applicable)*:

CoF vehicle inspector signature *(if applicable)*:

Date:

All fields are mandatory unless otherwise stated.

Te Kāwanatanga o Aotearoa
New Zealand Government

Form ID: LT400

Version No. 09/24

NEW ZEALAND HEAVY VEHICLE BRAKE RULE 32015
WORKSHEET, PROCEDURE DOCUMENTATION SHEET
& CONFIRMATION OF COMPLIANCE

CLIENT

MANUFACTURER:	DOMETT TRAILERS
ADDRESS:	TAURIKURA DRIVE, TAURANGA 3110
FLEET:	IXOM NZ

VEHICLE DETAILS

VEHICLE TYPE:	3ASBTF TANKER	**CERT #:**	JH260405
YEAR:	2026	**CALCULATION #:**	
MAKE:	DOMETT	**REGO #:**	N/A
MODEL:	C1003	**LT400 #:**	H10945
CHASSIS #:	2562	**ORDER #:**	11096
VIN #:	7A9C10033T2023562		
GVM: *t*	34	**PRIME MOVER:**	EBS / EUROPEAN
LOAD CONFIGURATION:	UNIFORM DENSITY		

	FRONT	REAR
GROUP RATINGS: *t*	15	19
WHEEL BASE: *m*	7.05	

	UNLADEN COG *m*	MAX HEIGHT *m*	HEIGHT DECK *m*
	0.9	3	1.46
COG: *m*	1.936		

	FRONT	REAR	TOTAL
TARE: *t*	3.4	4.2	7.6

	REAR
TYRE SIZE:	265 70 R19.5
ROLLING CIRCUMFERENCE: *mm*	2645
AXLE SPACING: *m*	3

BRAKE & AXLE DETAILS

	MAKE	MODEL	TEST REPORT
AXLE:	SAF	SAF-ZI9S	TDB0878
STEER AXLE[S]:	NO	POLE WHEEL:	90
LINING MATERIAL:	SAF 607	BRAKE FACTOR:	22.37
SENSED AXLES:	#2		NOTES:
SERIAL NUMBERS: 1			NG-IO40-ZI9-19S
2			NG-IO40-ZI9-19S
3			NG-IO40-ZI9-19S
4	N/A		N/A

CHAMBER AND VALVING DETAILS

CHAMBERS:	AXLE 1 & 2	AXLE 3	
BRAND:	TSE_CHAMBERS	TSE_CHAMBERS	
SIZE:	1416HTLD	14HSCLD	
STROKE: *mm*	64	64	
TEST REPORT #:	N/A	N/A	
SPRINGBRAKE FORCE: *kN*	6.01	N/A	
HOLDOFF PRESSURE: *Bar*	4.9	N/A	
FOUNDATION BRAKE:	SAF SBS1918	SAF SBS1918	
LEVER LENGTH: *mm*	76	76	
BRAKE VALVES:	MAKE:	PART NUMBER:	PM PRESS. *kPa*
ECU PART #:	WABCO	480 102 08. 0 (MV)	80 kPa
3RD MODULATOR #:	N/A	N/A	N/A
ANTI-COMPOUNDING:	YES		
SPRING BRAKE RELAY:	WABCO_PREV	971 002 900 0	
YARD RELEASE VALVE:	WABCO-PREV	971 002 900 0	
INLINE RELAY FITTED:	N/A	N/A	

ECU DIRECTION: ☑ FRONT ☐ REAR

SUBSYSTEMS: ☐ SMARTBOARD ☐ OPTI-LINK ☑ CAN R/R 446 122 050/051 0

☐ ELEX 446 122 070 0 ☐ TAILGUARD

SUSPENSION

	REAR
SUSPENSION TYPE:	ELECTRONIC
MAKE:	SAF_AIRSPRING
MODEL:	SAF_INTRA
BELLOW SIZE:	2619, 300mm
HEIGHT CONTROL VALVE:	441 050 100 0
OTHER VALVES:	463 090 500 0 (eTASC)
RIDE HEIGHT *mm* :	400
HANGER HEIGHT *mm* :	250
PEDESTAL HEIGHT *mm* :	50
LIFTAXLE:	N/A
DUMP SWITCH:	N/A
LIFTAXLE VALVE:	N/A

AIR TANKS

AIR TANKS STANDARD:	SAE J10A / EN286-2

	REAR
BRAKE TANK SIZE: L	46 + 25
AUXILLARY TANK SIZE: L	46
PRESSURE PROTECTION:	WABCO PEM: 461 513 002 0

AIR LINES

TEST POINTS:	
CONTROL LINE:	X 1
FIXED AXLE CHAMBERS:	X 2
STEER AXLE CHAMBERS:	N/A
DUOMATIC COLOUR CODED:	YES
TANK:	X 1

RULES / STANDARD COMPLIANCE REFERENCE: LTR32015

☑ SCHEDULE 5 ☐ ADR 35 ☐ ECE R 13 ☐ FMVSS 121

CHECKS AT COMMISSION OF VEHICLE

CHAMBER BUNGS REMOVED:	☑	**VALVE MOUNTING:**	☑
ECU BLANKING PLUGS CHECKED:	☑	**DUOMATIC DRILLED:**	☑

RESPONSE TIME: ms:	**MODULATOR 2.1**	**MODULATOR 2.2**	**RELAY VALVE**
			N/A

NOTES, SKETCHES AND SPECIAL CONDITIONS

FILES RECEIVED: 18.03.2026 **FILES CREATED: 13.04.2026**

FILES ENCRYPTED + SENT (CJC):

REQUEST A COPY OF THE TARE WEIGHT DOCKET ☑

FILES RETURNED AS COMPLETE:

REASON FOR CERTIFICATION: NEW TRAILER BUILD

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 NOTICE 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, SCHEDULE 5.

DATE: 4/05/2026

SIGNED:

CERTIFIER NAME & ID: CHRIS CLARKE CJC

SODC BY: JOHN HIRST JEH

PHONE (BUS): 09-980-7300

POSTAL ADDRESS: P.O. Box 98-971, Manukau 2241
New Zealand

JH260405

This brake calculation report takes into account:

- The legal regulations in the version valid at the time of the brake calculation
- The functional characteristics of the products stored in the program
- The wheel brake data from the available expert opinions of the axle manufacturers
- The vehicle data submitted in writing by the applicant
- A design according to the braking values required in ECE-R13, (EU) 2015/68 or StVZO § 41.

The General Terms and Conditions of delivery apply (see in particular Section 9.0)

Important instructions:

- The applicant/vehicle manufacturer is obliged to verify the actual vehicle data with those of the brake calculation.
- The applicant/vehicle manufacturer must inform ZF of any special requirements of the vehicles produced, according to this brake calculation.
- The applicant/vehicle manufacturer has special requirements that deviate from a standard design, must be informed to ZF.
- The applicant/vehicle manufacturer has an obligatory field-observation and must keep ZF informed in writing of any abnormalities.

Special operating conditions may require modified brake calculation. ZF must be informed accordingly.
Approval countries with specific requirements regarding the required deceleration values require modified brake calculations and must be informed to ZF.
Use with a low axle load and low braking frequency such as the predominant use of tractors with retarders influences the pairing of the coefficient of friction. If the applicant/vehicle manufacturer is aware of such use of the vehicles, ZF must be informed. In the road test, the applicant/vehicle manufacturer must check compliance with the legal regulations using the selected brake calculation and under these special conditions.

Summary

Brake calculation number:	TSL-00020
Manufacturer:	Domett Trailers
Trailer model:	3ASBTF Tanker
Author:	J.Hirst
Trailer type:	3-axle-semi-trailer
Distribution:	7A9C10033T2023562 SoDC: JH260405 LT400: CJC H10945
Directive:	UN/ECE-R.13.13

Brake system:	EBS
Assembly:	Air/ Hydraulic/ VA Suspension
Axle test reports:	Axles 1 - 3: SAF, TDB 0878 ECE , SBS1918
Brake cylinders:	Axles 1 - 2: TSE, 14/16, BC 0143.0 Axle 3: TSE, 14, BC 0127.0
Tire designations:	Axles 1 - 3: 265/70 R 19,5

Summary:	Air brake system is calculated according to the Directive.

Notes:	Domett chassis: 2562

			Empty	**Laden**
Total mass	P	[kg]	7000 - 8000	34000 - 36000
King-pin	PS	[kg]	2800 - 3800	14950 - 16950
Axle 1	P1	[kg]	1400	6350
Axle 2	P2	[kg]	1400	6350
Axle 3	P3	[kg]	1400	6350
Total axle mass	PR	[kg]	4200	19050
Centre of gravity height	h	[m]	0.9	1.95
K-factor (min)	-	-	Kv min: 2.012	Kc min: 1.018
K-factor (max)	-	-	Kv max: 2.028	Kc max: 1.034

			Min	**Max**
Wheel base	E	[m]	7.0	7.1

Trailer may only be operated in combination with trucks or tractors with ISO 7638 supply (5 or 7 polar).

1 Detailed vehicle data

		Axle 1	Axle 2	Axle 3
No. of brake chambers	KDZ	2	2	2
Brake chamber manufacturer		TSE	TSE	TSE
Brake chamber test report no		BC 0143.0	BC 0143.0	BC 0127.0
Brake chamber size		14/16	14/16	14
Brake chamber part number		1416HT**64-XXXX	1416HT**64-XXXX	14*SC ** 64
Lever length	lBh in mm	76	76	76
Brake factor	-	22.37	22.37	22.37
Smallest tire - dynamic radius	r_{min} in mm	421	421	421
Largest tire - dynamic radius	r_{max} in mm	421	421	421
Threshold torque	C_0 in Nm	6.0	6.0	6.0

2 Braking system

This section shows the braking system and diagram.

Brake diagram:
Maximum pressure: 8.5 bar

Braking system and valves per axle. For each valve the following information is shown: Part number and **alternative part numbers are mentioned in brackets ( ),** manufacturer and the type of the valve.

	Valve 1	Valve 2
Axle 1	971 002 9.. 0 WABCO Relay-emergency valve	480 102 ... 0 WABCO EBS modulator
Axle 2	971 002 9.. 0 WABCO Relay-emergency valve	480 102 ... 0 WABCO EBS modulator
Axle 3	971 002 9.. 0 WABCO Relay-emergency valve	480 102 ... 0 WABCO EBS modulator

Notes

- For iEBS; Park Release Emergency Valve (PREV 971 002 9.. 0) is replaced by Park Release Valve PRV (971 003 ... 0).

3 EBS input data

Manufacturer:	Domett Trailers
Trailer model:	3ASBTF Tanker
Trailer type:	3-axle-semi-trailer
Brake calculation number:	TSL-00020
Tire circumference main axle:	2645
Tire circumference auxiliary axle:	2645
Assignment p_m / deceleration (z) (Laden state)	p_m 0.8 bar z = 0.01 p_m 2.0 bar z = 0.124 p_m 6.5 bar z = 0.6

	P_n **Empty**	p_m **6.5 bar**	P_n **Laden**	p_m **0.8 bar**	p_m **2.0 bar**	p_m **6.5 bar**
Axle 1	1400	1.9	6350	0.4	1.2	4.9
Axle 2	1400	1.9	6350	0.4	1.2	4.9
Axle 3	1400	1.9	6350	0.4	1.2	4.9

Note: Bellow pressure in empty and loaded state must be filled in by manufacturer

Please note: At a control pressure of 6.5 bar, the brake pressure delivered to the brake cylinder is significantly low. In the event of an EBS failure, there is a risk of potential damage to the brakes. (Recommended: greater than 5.5 bar)

As can be seen from the table above, the empty values are for the basic parameter set. Higher empty axle loads and lifting axles are automatically recognized and do not require separate adjustment. The above empty axle loads must not be fallen below.

Axle 1		**Axle 2**		**Axle 3**	
Axle load (kg)	p_{cha}	**Axle load (kg)**	p_{cha}	**Axle load (kg)**	p_{cha}
1400	1.9	1400	1.9	1400	1.9
1900	2.2	1900	2.2	1900	2.2
2400	2.5	2400	2.5	2400	2.5
2900	2.8	2900	2.8	2900	2.8
3400	3.1	3400	3.1	3400	3.1
3900	3.4	3900	3.4	3900	3.4
4400	3.7	4400	3.7	4400	3.7
4900	4.0	4900	4.0	4900	4.0
6350	4.9	6350	4.9	6350	4.9

4 Deceleration of Park brake

		Axle 1	Axle 2
Number of TRISTOP-actuators per axle line (KDZ)	[-]	2	2
TRISTOP actuator type	[-]	14/16	14/16
Lever length (l_{Bh})	[mm]	76	76
Maximum static tire radius ($r_{stat}max$)	[mm]	401	401
Stroke (s)	[mm]	30.0	30.0
Minimum force of spring brake (TFZ)	[N]	6160.0	6160.0
Release pressure (pLs)	[bar]	5.0	5.0
Spring brake chamber no.	[-]	1416HT**64-XXXX	1416HT**64-XXXX
Spring brake chamber no. 2	[-]	-	-
Brake force (T_f) at $r_{stat}max$	[N]	51564.0	51564.0
Ratio until road (iF_b)	[-]	4.24	4.24

$$iF_b = \frac{l_{Bh} * ETA * C * r_{Bt}}{r_{Bn} * r_{stat}}$$

$$T_f = \left(TFZ * KDZ - \frac{2 * C_o}{l_{Bh}}\right) * iF_b$$

$$z_f = \sum \left(\frac{T_f}{P}\right) + 0.01$$

Braking rates (z_f laden)

z_f laden at $r_{stat}min$	0.562
z_f laden at $r_{stat}max$	0.562

Summary

-

Test of the frictional connection required by the parking brake

Min. wheelbase / min. supporting width (theoretical proof / no ECE regulation!): In the event of non-compliance, carry out a practical test or use the procedure described in ECE / Appendix 20.

min E_f for E = 7000 mm	5505 mm
min E_f for E = 7100 mm	5576 mm

5 Type-0 tests

Detailed Type-0 test results at pm=6.5 bar and brake force proportion including 1% rolling resistance

		Axle 1	Axle 2	Axle 3
Chamber pressure at r_{min} & at $z = 22.5$ %	bar	2.0	2.0	2.0
Chamber pressure at r_{max} & at $z = 22.5$ %	bar	2.0	2.0	2.0
Chamber pressure	bar	4.9	4.9	4.9
Piston force	ThA in N	4685	4685	4489
Brake force laden (R_{min})	T in N	37830	37830	36247
Brake force laden (R_{max})	T in N	37830	37830	36247
Brake force proportion	%	33.8	33.8	32.4
Calculated brake input torque (C 6.5 bar)	Nm	356	356	341

Braking rate (z) laden (for r_{min})	0.599
Braking rate (z) laden (for r_{max})	0.599

Summary

-

6 Type-III tests

Summary: Brake linings

Brake lining	Test date/code	Legal requirements fulfilled?
SAF 607	20150626	**Yes**

Summary

-

6.1 Results for set of brake linings 1 out of 1

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

Axle	Axle manufacturer	Type of axle	Axle test report number	Brake linings	Test date/code
Axle 1	SAF	SBS1937	TDB 0878 ECE	SAF 607	20150626
Axle 2	SAF	SBS1937	TDB 0878 ECE	SAF 607	20150626
Axle 3	SAF	SBS1937	TDB 0878 ECE	SAF 607	20150626

Calculation verification of residual (hot) braking force type III (item 4.2.1 of appendix 2 to annex 11)

Axle	r_{min}	% $Fe(r_{min})$	Axle	r_{max}	% $Fe(r_{max})$
Axle 1	421	19.2	**Axle 1**	421	19.2
Axle 2	421	19.2	**Axle 2**	421	19.2
Axle 3	421	17.6	**Axle 3**	421	17.6

Calculation of actuator stroke in mm (item 4.3.1.1 of appendix 2 to annex 11) and the average thrust output in N at pm = 6.5 bar (however max. pcha = 7.0 bar)

Axle	Calculated stroke (sp)	Stroke (s)	Average thrust output (ThA)
Axle 1	56 mm	48 mm	4685 N
Axle 2	56 mm	48 mm	4685 N
Axle 3	56 mm	48 mm	4489 N

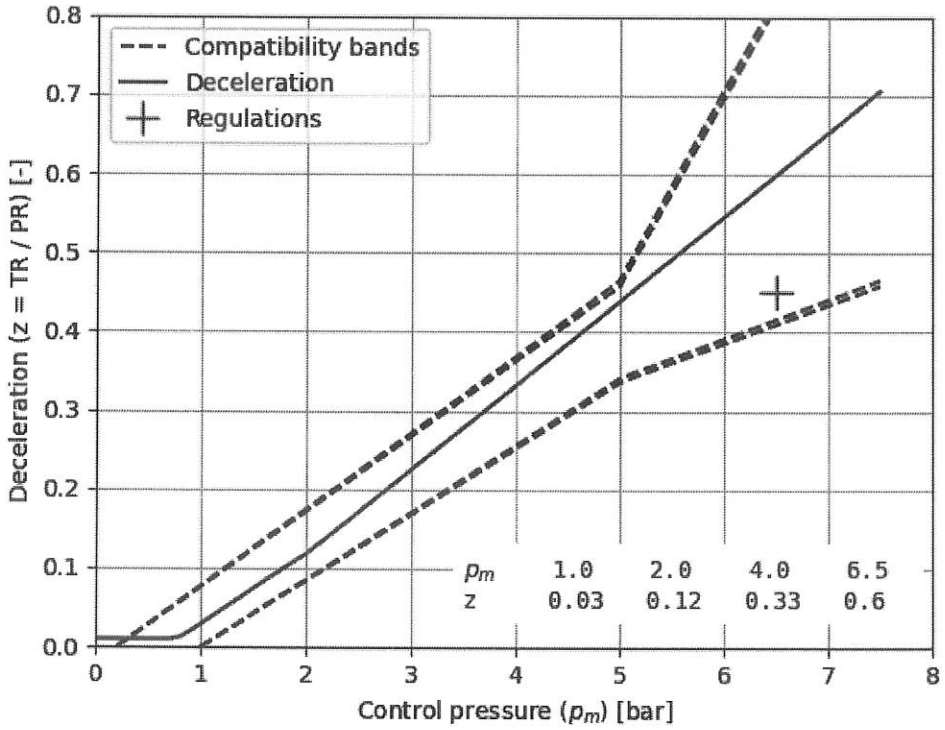
Calculated residual (hot) braking force (T)in Newtons (item 4.3.1.4 of appendix 2 to annex 11)

Axle	r_{min}	Braking force (T) (r_{min})	Axle	r_{max}	Braking force (T) (r_{max})
Axle 1	421	26431 N	**Axle 1**	421	26431 N
Axle 2	421	26431 N	**Axle 2**	421	26431 N
Axle 3	421	25333 N	**Axle 3**	421	25333 N

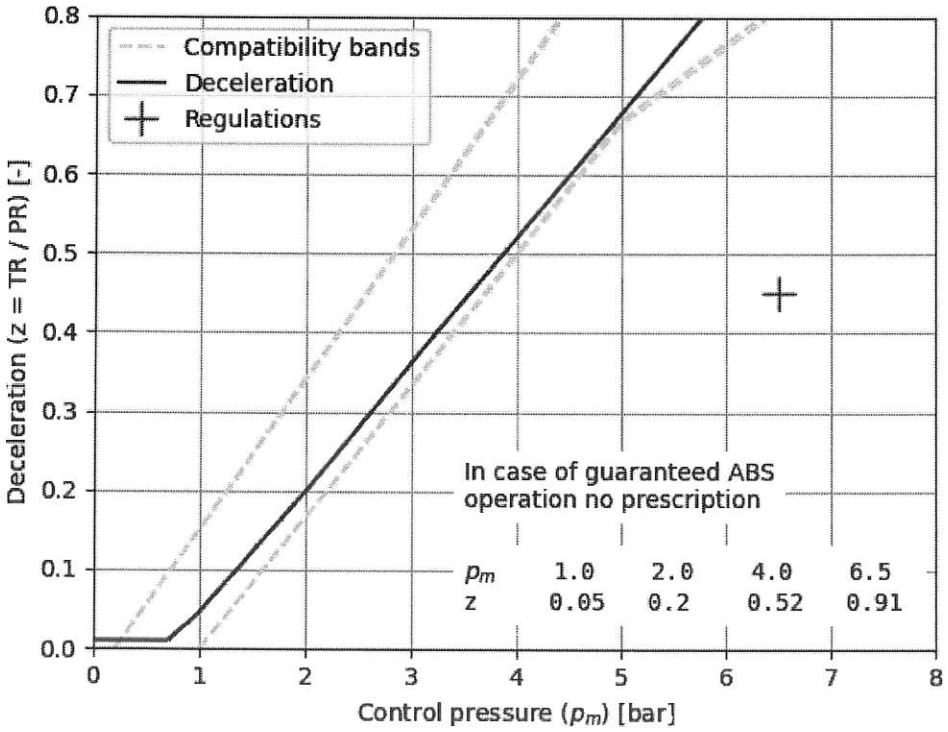
Braking rates of the vehicle for smallest and largest tires. Basic test of subject trailer (E) and Type III calculated residual (hot) braking deceleration (z_{III})

	Basic test of subject trailer (E)			
	z_0 at r_{min}	z_0 at r_{max}	z_{III} at r_{min}	z_{III} at r_{max}
Braking rate of the vehicle (item 4.3.2 to appendix 2 to annex 11)	0.6	0.6	0.41	0.41
Required braking rates (items 1.5.3 and 1.7.2 to annex 11)			>= 0.4 and >= 0.6 * E = 0.36	>= 0.4 and >= 0.6 * E = 0.36

7 Deceleration curve

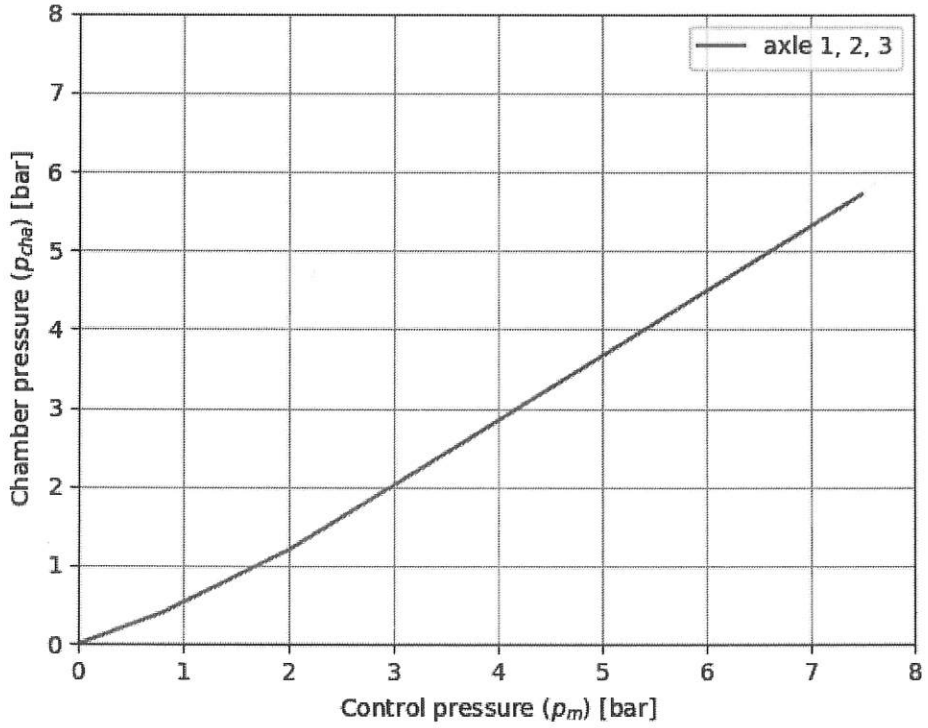


Laden state

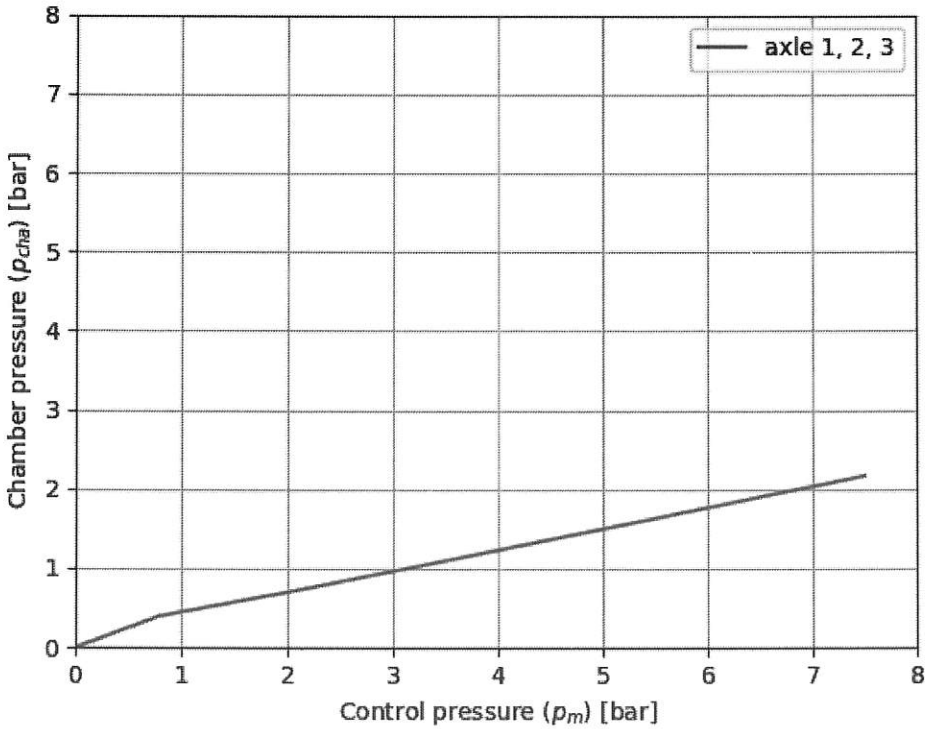


Empty state

8 Brake chamber pressures

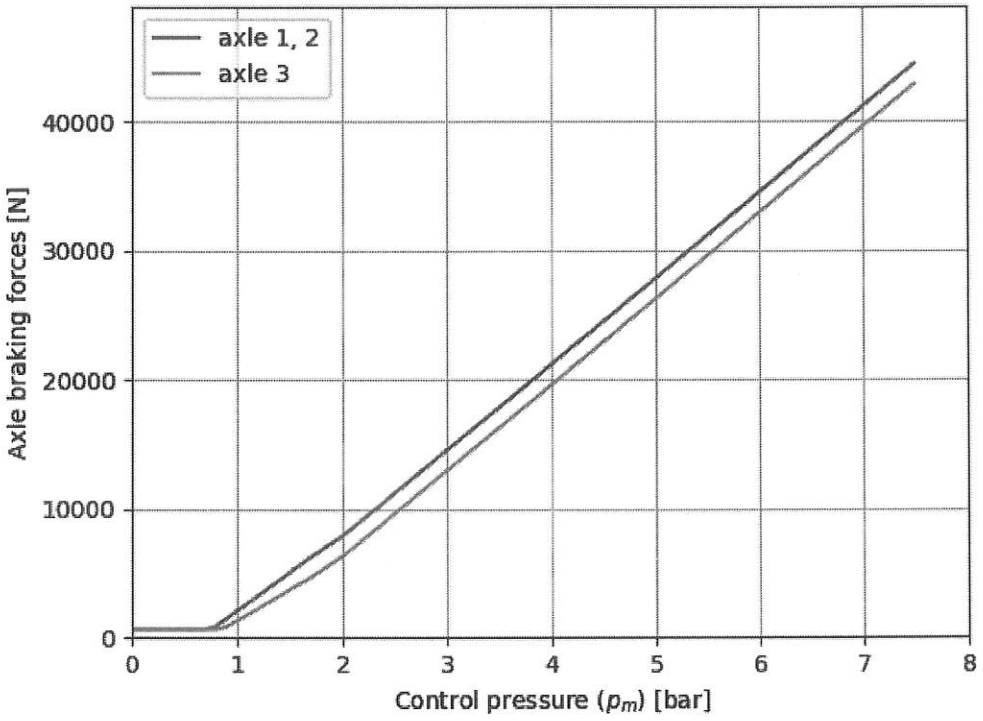


Laden state

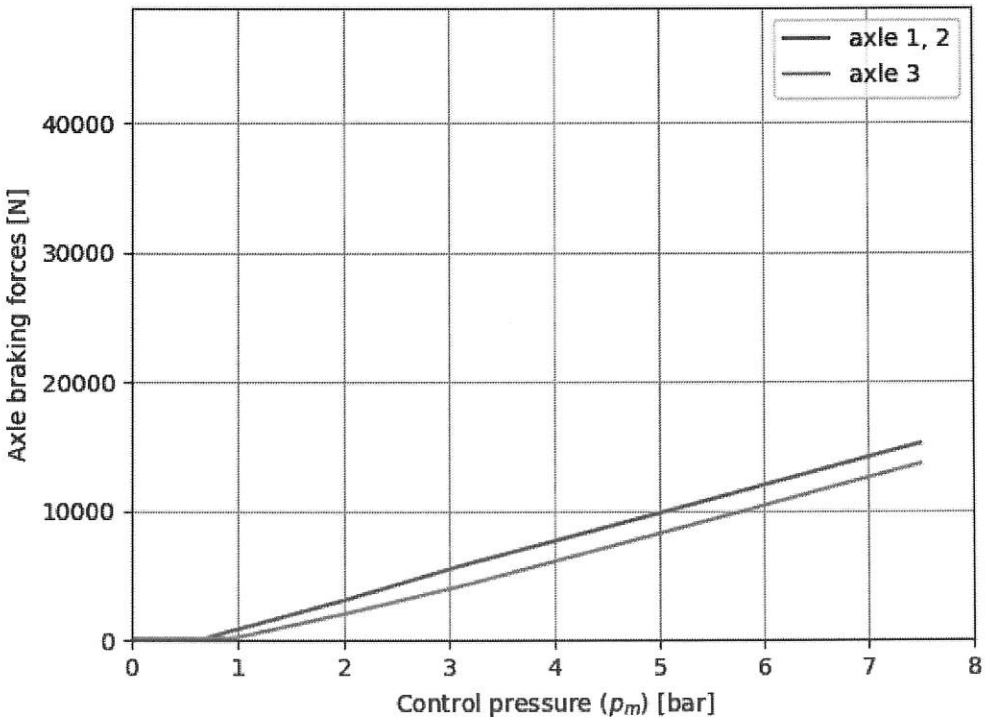


Empty state

9 Brake force distribution



Laden state



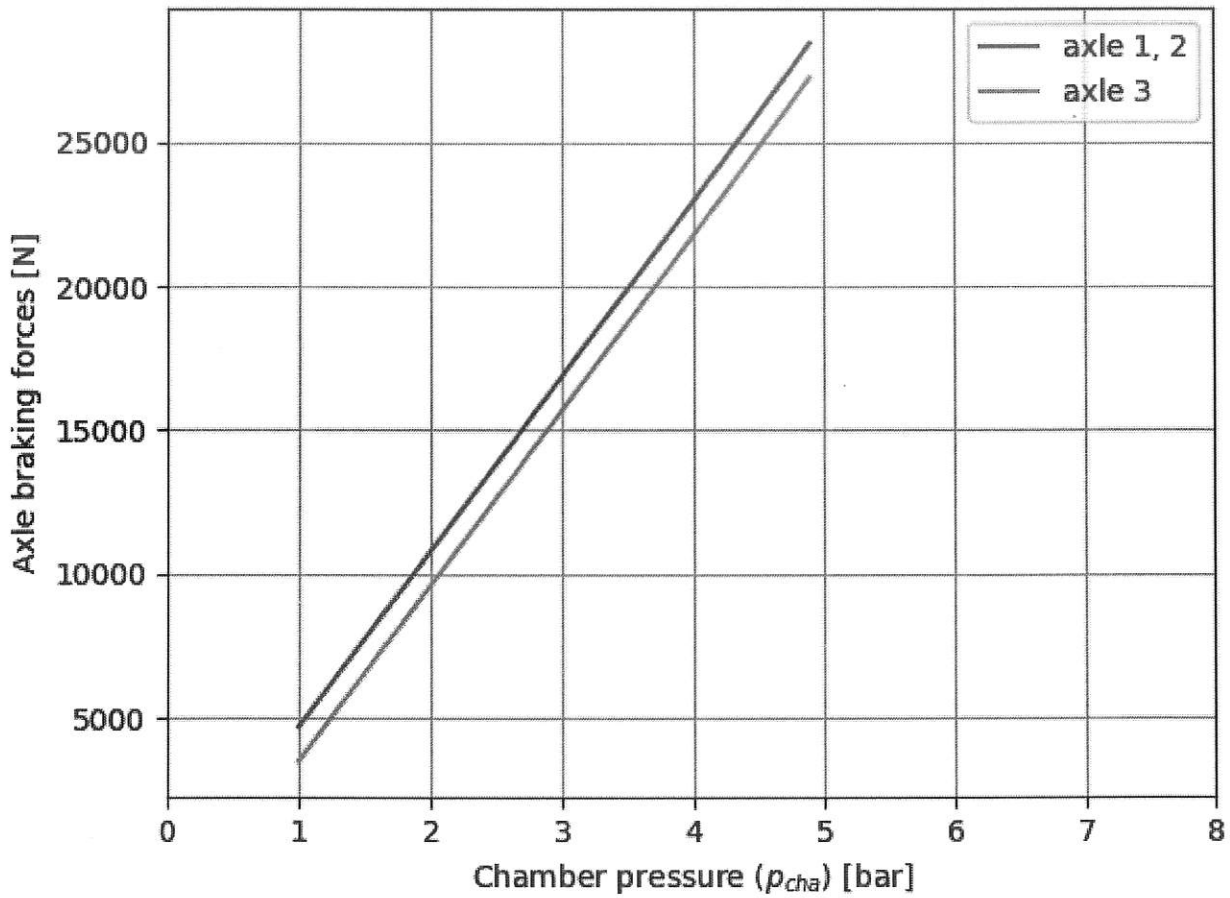
Empty state

10 Reference values

The following table shows the reference values for z = 45.0% for r_{max} : 421 mm. These reference values are the chamber pressure (p_{cha}) in bar and associated axle braking force (T) in N for each axle. Moreover the table shows the brake cylinder type (service/parking), the maximum stroke (s_{max}) in mm and the lever length (l_{Bh}) in mm. The reference values in the table are used to generate the curve displayed below.

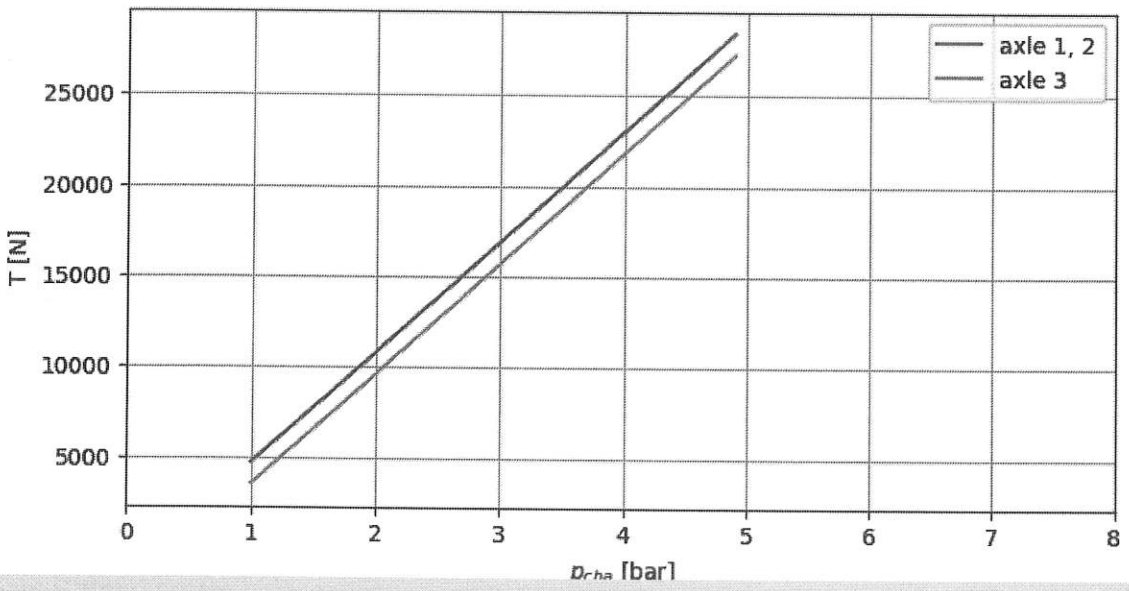
Reference values for z = 45.0% for r_{max}: 421 mm

Axle	p_{cha} **[bar]**	T **[N]**	Brake cylinder type	s_{max} [mm]	(l_{Bh}) [mm]
Axle 1	1.0	4710.0	14/16	64	76
	4.9	28420.0			
Axle 2	1.0	4710.0	14/16	64	76
	4.9	28420.0			
Axle 3	1.0	3520.0	14	64	76
	4.9	27231.0			



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

The following table shows the reference values for z = 45.0% for r_{max} : 421 mm
Brake calculation number: TSL-00020 date: 2026-04-13



	Axle 1	Axle 2	Axle 3
Brake cylinder type (service/parking)	14/16	14/16	14
Maximum stroke s_{max} [mm]	64	64	64
Lever length [mm]	76	76	76

11 Appendices

11.0.1 Axle test report Axles 1 - 3: TDB 0878 ECE

Property	Value	Unit
Manufacturer	SAF	-
Axle test report number	TDB 0878 ECE	-
Type of brake	Disk	-
Designation	SBS1918	-
Possible lever lengths	[76]	-
Type of axle	SBS1937	-
Static axle load	9000	N
Tested axle load	10200	N
Maximum allowed tire radius	None	mm
Allowed camshaft torque (6.5 bar)	650.0	Nm
Lining area per brake	304.0	cm^2
Number of brake cylinders	2	-
Brake factor	22.37	-
Threshold torque	6.0	Nm
Rolling resistance	0.01	-
Notes	-	-

Brake lining: SAF 607

Property	Value	Unit
Brake lining	SAF 607	-
Test date/code	20150626	-
Type test	Type III	-
Camshaft torque	608.0	Nm
Threshold torque	10.0	Nm
Tested tire radius	475	mm
Brake force	4007.0	daN
Determined brake force	3142.0	daN
Stroke	48.0	mm
Tested lever length	76.0	mm

12 ALB Data

Manufacturer:	Domett Trailers
Trailer model:	3ASBTF Tanker
Trailer type:	3-axle-semi-trailer

	Vehicle unladen			Vehicle laden				
	Control pressure pm [bar]		6.5	Control pressure pm [bar]		0.8	2.0	6.5
Axle #	**Axle load [kg]**	**Bellow pressure [bar]**	**Braking pressure [bar]**	**Axle load [kg]**	**Bellow pressure [bar]**	**Braking pressure [bar]**		
Axle 1	1400		1.9	6350		0.4	1.2	4.9
Axle 2	1400		1.9	6350		0.4	1.2	4.9
Axle 3	1400		1.9	6350		0.4	1.2	4.9

Axles #	**1**	**2**	**3**	**4**	**5**	**6**
Actuator type - Service brake	14	14	14			
Actuator type - Parking brake	16	16	-			
Maximum actuator stroke [mm]	64	64	64			
Lever length [mm]	76	76	76			
Reference value TR (daN) at 1.0 bar	471.0	471.0	352.0			
Reference value TR (daN) at Pcha	2842.0	2842.0	2723.1			