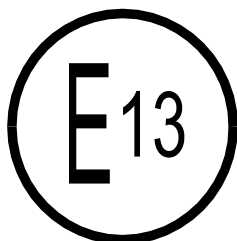




Référence: SNCH*R13:A11*0003*00

Annexes: - Rapport technique
- Fiche de renseignements du constructeur

Luxembourg, le 03 mai 2019



Communication concernant ⁽¹⁾:

Communication concerning ⁽¹⁾:

- **Délivrance d'une confirmation**
Confirmation granted
- ~~Extension d'une confirmation~~
~~Confirmation extended~~

**d'un rapport technique concernant l'Annexe 11, Appendice 2, paragraphe 3.9. du Règlement CEE N° 13
pour un essieu de référence/frein de référence**

of a test report regarding Annex 11 Appendix 2 item 3.9. of ECE Regulation N° 13 for a reference axle/brake

Numéro de confirmation:

Confirmation number:

SNCH*R13:A11*0003*00

- 1. Marque de fabrique ou de commerce du dispositif ou du composant:**
Trade name or mark of the device or component: TRAX
(Logo: See information document)
- 2. Type du dispositif ou du composant:**
Type of the device or component: **TRAX DISC 4345**
- 3. Nom et adresse du constructeur:**
Manufacturer's name and address: ÖZKOÇ İLAVE DİNGİL SAN. TİC. LTD. ŞTİ.
Konya Organize Sanayi Bölgesi 13. Sk. No:5
Selçuklu / Konya / Turkey
- 4. Le cas échéant, nom et adresse du représentant du constructeur:**
If applicable, name and address of the manufacturer's representative: Not applicable
- 5. Présenté aux essais le:**
Submitted for tests on: 28.06.2018 and 29.06.2018

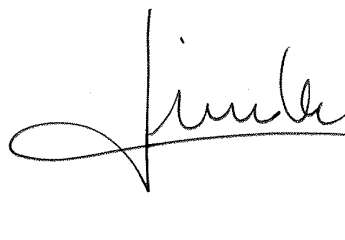
6. **Modifications faisant l'objet de la présente extension:**
Reasons for extension: Not applicable
7. **Autorité déléguée:**
Assigned authority: *Société Nationale de Certification et d'Homologation
L-5201 Sandweiler*
- Service technique chargé des essais:**
Technical service responsible for conducting tests: Luxcontrol SA
B.P. 349
L-4004 Esch-sur-Alzette
8. **Date du procès-verbal délivré par ce service:**
Date of test report issued by that service: 16.04.2019
9. **Numéro du procès-verbal délivré par ce service:**
Number of test report issued by that service: LC 1454 004 19
10. **Lieu:**
Place: Luxembourg
11. **Date:**
Date: 03 mai 2019
12. **Signature:**
Signature:

**Pour le Ministre de la Mobilité
et des Travaux publics**



Alain DISIVISCOUR
Conseiller

Pour la SNCH



Laurent LINDEN
Directeur opérationnel



13. **Pièces jointes:**
Attachments: See INDEX

⁽¹⁾ **Biffer les mentions inutiles.**
Strike out what does not apply.



Référence: SNCH*R13:A11*0003*00

Annexes: - Rapport technique
- Fiche de renseignements du constructeur

Luxembourg, le 03 mai 2019

INDEX INDEX

	Numéro de confirmation: Confirmation number:	SNCH*R13:A11*0003*00
	Marque de fabrique ou de commerce: <i>Trade name or mark:</i>	TRAX (Logo: See information document)
	Type: <i>Type:</i>	TRAX DISC 4345
1.	Procès-verbal d'essai: Test report:	N° LC 1454 004 19
	- Technical report:	Page(s) 1 to 3;
	- Index:	Page(s) 1;
	- General information:	Annex A - Page(s) 1;
	- Test results:	Annex B - Page(s) 1 to 6.
2.	Dossier du constructeur: Report of the manufacturer:	N° OKC 006
	- Manufacturer's information document:	Annex C - Page(s) 1 to 6.
3.	Autres documents annexés: Other documents annexed:	Not applicable
4.	Date de délivrance de la confirmation: Date of issue of the confirmation:	03.05.2019
5.	Date de la dernière délivrance d'une confirmation révisée: Date of last extension of the confirmation:	Not applicable

TECHNICAL REPORT

Base Part: ID4-LC 1454 004 19

Suffix:00

Inspection concerning

Reference axle

performed according to

Annex 11, Appendix 2

**of ECE-Regulation No. 13
series of amendments: 11
Including supplement: 13**

Type: TRAX DISC 4345

Manufacturer name and address:

**ÖZKOÇ İLAVE DİNGİL SANAYİ VE TİCARET LTD. ŞTİ.
KONYA ORGANİZE SANAYİ BÖLGESİ 13. SK. NO:5
SELÇUKLU/KONYA/TURKEY**

Contents:

1. General
2. Test details
Index

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1. **General**

Manufacturer: **ÖZKOÇ İLAVE DİNGİL SANAYİ VE
TİCARET LTD. ŞTİ.
KONYA ORGANİZE SANAYİ
BÖLGESİ 13. SK. NO:5
SELÇUKLU / KONYA / TURKEY**

Vehicle Type **TRAX DISC 4345**
~~Or component or ESA or STU:~~

2. **Test details**

	Inspector	Location of test:	Date of receipt of test item:	Date of test:
Main report	Erdal Çınarcı	Konya Organized Zone Selçuklu / Konya / Turkey	28.06.2018	28.06.2018 29.06.2018

2.1. **Remarks**

2.1.1. **Main report:**

Not applicable.



3. **Statement of compliance**

The inspections items and measurements carried out have shown the compliance of the type described in this technical report and the attached Annexes with the requirements of the standard as stated on page 1.

Esch-sur-Alzette, April 16, 2019

Luxcontrol s.a.
Service Homologation-automobile

Erdal Çınarcı
Ingénieur-Inspecteur

Benedikt Leukart
Ingénieur-Inspecteur

Annexes



Details to the information package, including a summary in chronological order, concerning extensions and/or amendments

Previously granted: **not applicable**

Main Report

Technical Report No.:	LC 1454 004 19	3 Pages
	Index	1 Page

List of Annexes:

A: General Information	1 Page
B: Test results	6 Pages
C: Information folder	6 Pages

Content of the information folder:


- Manufacturer's information document no. OKC 006 dated 22/06/2018 acc. to ECE R13.11 (page 1 to 6)
-



GENERAL INFORMATION

Concerning a confirmation

of a Test Report regarding Annex 11 Appendix 2 item 3.9. of ECE Regulation No. 13 for a reference axle/brake

- | | | |
|------|---|--|
| [1.] | Trade name or mark of the device or component: |  |
| [2.] | Manufacturer's name for the type of device or component: | TRAX DISC 4345 |
| [3.] | Manufacturer's name and address: | ÖZKOÇ İLAVE DİNGİL
SANAYİ VE TİCARET LTD. ŞTİ.
KONYA ORGANİZE SANAYİ
BÖLGESİ 13. SK. NO:5
SELÇUKLU/KONYA/TURKEY |
| [4.] | If applicable, name and address of the manufacturer's representative: | Not applicable |
| [5.] | Submitted on: | 28.06.2018- 29.06.2018 |
| [6.] | Reason(s) for extension: | Not applicable |



Technical report No

Base Part: ID4-LC 1454 004 19

Suffix:00

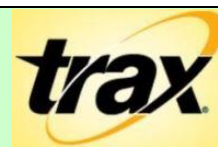
Note: Test report as prescribed in section 3.9 of Appendix 2 to Annex 11.

1.General

1.1. Axle manufacturer name and address:

ÖZKOÇ İLAVE DİNGİL SANAYİ VE TİCARET LTD. ŞTİ.
KONYA ORGANİZE SANAYİ BÖLGESİ 13. SK. NO:5
SELÇUKLU / KONYA / TURKEY

1.1.1. Make of axle manufacturer:



1.2. Brake manufacturer name and address:

See item 1.1.

1.2.1. Brake identifier ID2-:

SK7

1.2.2. Automatic brake adjustment device:

- Integrated*
- ~~Non-integrated*~~

**Strikethrough, as appropriate.*

1.3. Manufacturer's information document:

OKC 006

2. Test Record

The following data is recorded for each test:

2.1. Test code:

LC 1454 004 19

2.2. Test specimen:

Disc Brake

Test variant:

Floating Caliper

2.2.1. Axle code:

See below

2.2.1.1. Axle identifier:

ID1- TRAX DISC 4345

2.2.1.2. Identification of tested axle:

TRAX DISC 4345



2.2.1.3.	Test axle load (Fe identifier) [daN]:	ID3-10807
2.2.2.	Brake:	See below
2.2.2.1.	Brake identifier:	ID2- SK7
2.2.2.2.	Identification of tested brake:	SK7
2.2.2.3.	Maximum stroke capability of the brake: <i>Note: Applies to disc brakes only.</i>	64 mm
2.2.2.4.	Effective length of the cam shaft: <i>Note: Applies to drum brakes only.</i>	NA mm
2.2.2.5.	Material variation: <i>Note: As per paragraph 3.8 (m) of Appendix 2 to this annex.</i>	NA
2.2.2.6.	Brake: - Drum* - Disc* <i>*Strikethrough, as appropriate.</i>	
2.2.2.6.1.	Actual test mass of drum /disc: <i>*Strikethrough, as appropriate.</i>	35 kg
2.2.2.6.2.	Nominal external diameter of disc: <i>Note: Applies to disc brakes only.</i>	430 mm
2.2.2.6.3.	Type of cooling of the disc: - Ventilated* - Non-ventilated* <i>*Strikethrough, as appropriate.</i>	
2.2.2.6.4.	Integrated hub: - With* - Without* <i>*Strikethrough, as appropriate.</i>	
2.2.2.6.5.	Disc with integrated drum: - With parking brake function* - Without parking brake function* <i>*Strikethrough, as appropriate. Note: Applies to disc brakes only.</i>	



- 2.2.2.6.6. Geometric relationship between disc friction surfaces and disc mounting:
Single Part
Examples: One piece, casted, connection on action side.
- 2.2.2.6.7. Base material: Grey Cast Iron
- 2.2.2.7. Brake:
- Lining*
- Pad*
**Strikethrough, as appropriate.*
- 2.2.2.7.1. Manufacturer: Honeywell Bremsbelag GmbH
- 2.2.2.7.2. Make: JURID
- 2.2.2.7.3. Type: JURID 539
- 2.2.2.7.4. Method of attachment: Pressed on back plate
- Lining*
- Pad on the ~~brake shoe~~*
- Back plate*
**Strikethrough, as appropriate.*
- 2.2.2.7.5. Thickness of back plate: 11 mm*
~~Weight of shoes:~~ NA kg*
**Strikethrough, as appropriate.*
- 2.2.2.7.6. Base material: Steel
- Back plate*
- ~~Brake shoe~~*
**Strikethrough, as appropriate.*
- 2.2.3. Automatic brake adjustment device: NA
**Not applicable in the case of integrated automatic brake adjustment device.*
- 2.2.3.1. Manufacturer name and address:
NA
- 2.2.3.2. Make: NA
- 2.2.3.3. Type: NA



2.2.3.4. Version: NA

2.2.4. Wheel(s): 445/65 R22,5

Note: For dimensions, see Figures 1A and 1B in Appendix 5 to this annex.

2.2.4.1. Reference tyre rolling radius (R_e) at test axle load (F_e): 555 mm

2.2.4.2. Data of the fitted wheel during testing:

Tyre Size	Rim Size	X_e (mm)	D_e (mm)	E_e (mm)	G_e (mm)
445/65 R22,5	22,5x14,0	45	430	50	-20

2.2.5. Lever length l_e : 76 mm

2.2.6. Brake Actuator: See below

2.2.6.1. Manufacturer: Arfesan Arkan Fren Ekipmanları Sanayi Tic. A.Ş.

2.2.6.2. Make: Arfesan

2.2.6.3. Type: 24/24'' Diaphragm Piston Brake Chamber Disc

2.2.6.4. (Test) identification number: 15-00767-CT-IST-00

2.3. Test results: See below

Note: Corrected to take account of rolling resistance of $0.01 \cdot F_e$.



2.3.1.

In the case of vehicles of categories O₂ and O₃ where the O₃ trailer has been subject to the Type I test:

Test Type	0	I	
Annex 11, Appendix 2, paragraph:	3.5.1.2	3.5.2.2/3	3.5.2.4
Test speed (km/h)	40	40	40
Brake actuator pressure p _e (kPa)	650	100	650
Braking time (min)	-	2,33	-
Braking force developed T _e (daN)	5992	757	5126
Brake efficiency T _e /F _e	0,55	0,07	0,47
Actuator stroke s _e (mm)	40	-	40
Brake input torque C _e (Nm)	682	-	682
Brake input threshold torque C _{0,e} (Nm)	10	-	10

2.3.2.

In the case of vehicles of categories O₃ and O₄ where the O₃ trailer has been subject to the Type III test:

Test Type	0	III	
Annex 11, Appendix 2, paragraph:	3.5.1.2.	3.5.3.1.	3.5.3.2.
Initial test speed (km/h)	60	60	60
Final test speed (km/h)	0	44	0
Brake actuator pressure p _e (kPa)	650	300	650
Number of brake applications	-	20	-
Duration of brake cycle(s)	-	60	-
Braking force developed T _e (daN)	6100	3242	5343
Brake efficiency T _e /F _e	0,56	0,3	0,49
Actuator stroke s _e (mm)	40	-	40
Brake input torque C _e (Nm)	682	-	682
Brake input threshold torque C _{0,e} (Nm)	10	-	10

2.3.3.

This item is to be completed only when the brake has been subject to the test procedure defined in paragraph 4 of Annex 19 to this regulation, to verify the cold performance characteristics of the brake by means of the brake factor (BF).

2.3.3.1.

Brake factor B_F:

26,5

2.3.3.2.

Declared threshold torque C_{0,dec}:

10

Nm



2.3.4 Performance of the automatic brake adjustment device, (if applicable).

2.3.4.1. Free running according to paragraph 3.6.3 of Annex 11, Appendix 2:

- Yes*

- No*

**Strikethrough, as appropriate.*

3. Application Range

Application range specifies the axle/brake variants that are covered in this test report, by showing which variables are covered by the individual test codes.

NA

This test has been carried out and the results reported, in accordance with Appendix 2 to Annex 11 and, where appropriate, paragraph 4 of Annex 19 – Part 1 to Regulation No. 13, as last amended by the 11 series of amendments.

Yes

At the end of the test defined in paragraph 3.6 of Annex 11, Appendix 2, the requirements of paragraph 5.2.2.8.1 of Regulation No. 13 are deemed to be fulfilled.

Yes

Note: Only to be completed when an automatic brake wear adjustment device is installed.

4. Remarks

The inspection results are only applicable to items which have been tested.

5. Test facilities

Calibration of measuring and test equipment used to carry out the inspections is in accordance with the standard stated on page 1 of this report and with ISO 17025.



TRAILER AXLE & BRAKE INFORMATION DOCUMENT

Date 22.06.2018

Document Nr. OKC 006

Revision Nr. 00

Page 1 / 6

According to
ECE R13.11, Annex 11, Appendix 5

1. GENERAL

Name and address of axle or vehicle manufacturer

ÖZKOÇ İLAVE DİNGİL SAN. TİC. LTD. STİ.
Konya Organize Sanayi Bölgesi 13. Sk. No:5
Selçuklu / Konya / Turkey

1.1. Commercial Description

TRAX 4345

1.2. Category

O3/O4

2. AXLE DATA

2.1. Manufacturer (name and address)

ÖZKOÇ İLAVE DİNGİL SAN. TİC. LTD. STİ.
Konya Organize Sanayi Bölgesi 13. Sk. No:5
Selçuklu / Konya / Turkey

2.1.1. Make of axle manufacturer

TRAX

2.2. Type / variant

TRAX DISC 4345

2.3. Axle identifier

ID1- **TRAX DISC 4345**

2.4. Test axle load (F_e)

10807 daN

2.5. Wheel and brake data according to the following
Figures 1A and 1B

Figure 1A

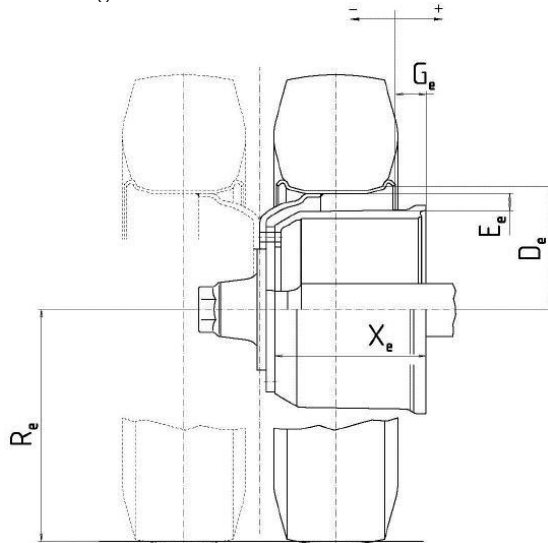
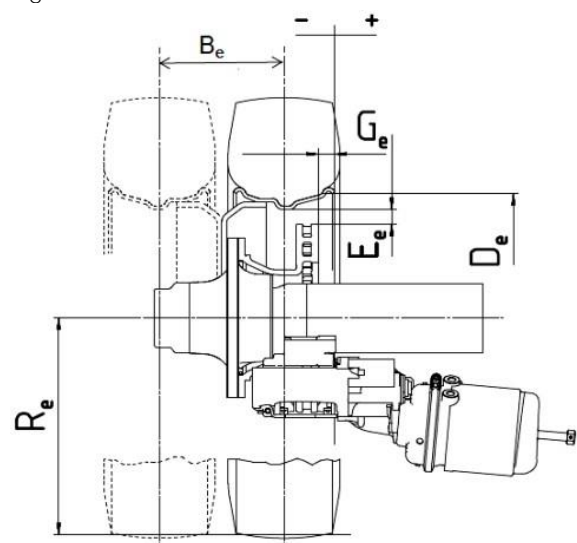


Figure 1B



Tyre	Rim	D_e (mm)	E_e (mm)	G_e (mm)	R_e (mm)	B_e (mm)
445/65 R22,5	22,5x14,00	430	50	-20	555	--



TRAILER AXLE & BRAKE
INFORMATION DOCUMENT

Date	22.06.2018
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Revision Nr.	00
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According to
ECE R13.11, Annex 11, Appendix 5

3. BRAKE

3.1. *General Information*

3.1.1. Name

3.1.1.1. Option 1 KNORR

3.1.1.2. Option 2 HALDEX

3.1.2. Manufacturer (Name and address)

3.1.2.1. Option 1 KNORR-Bremse SfN GmbH
Knorr str. 1, D-94501 Aldersbach – Germany

3.1.2.2. Option 2 Haldex Brake Products AB
Instrumentgatan 15 Box 501 261 14
Landskrona Sweden

3.1.3. Type of brake Disc Brake

3.1.3.1. Variant Floating Caliper

3.1.4. Brake identifier ID2- SK7

3.1.5. Brake data according to the following
Figures 2A and 2B

3.1.6. Brake Factor (Br) 26,5



TRAILER AXLE & BRAKE
INFORMATION DOCUMENT

According to
ECE R13.11, Annex 11, Appendix 5

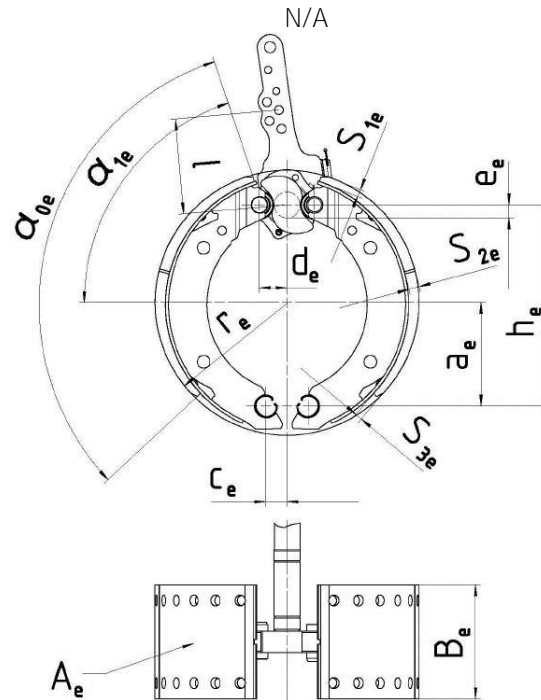
Date 22.06.2018

Document Nr. OKC 006

Revision Nr. 00

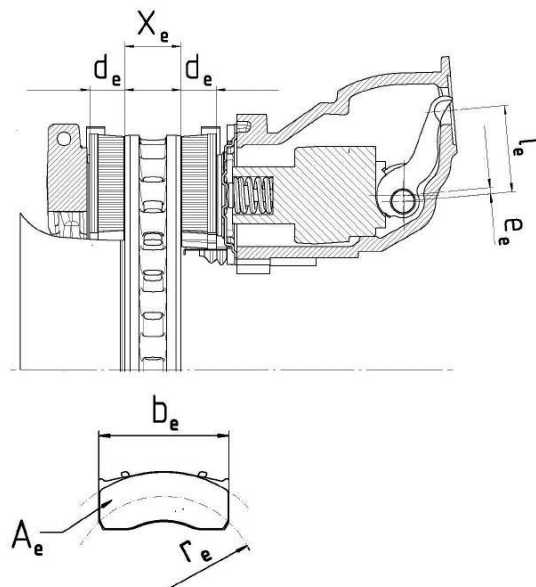
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Figure 2A




a_e (mm)	h_e (mm)	c_e (mm)	d_e (mm)	e_e (mm)	α_{0e} (°)	α_{1e} (°)	B_e (mm)	r_e (mm)	A_e (cm ²)	S_{1e} (mm)	S_{2e} (mm)	S_{3e} (mm)
--	--	--	--	--	--	--	--	--	--	--	--	--

Figure 2B



X_e (mm)	d_e (mm)	e_e (mm)	l_e (mm)	b_e (mm)	A_e (cm ²)	r_e (mm)
45	30	4,9	76	247	2 x 192	173

	TRAILER AXLE & BRAKE INFORMATION DOCUMENT	Date	22.06.2018	
		Document Nr.	OKC 006	
	According to ECE R13.11, Annex 11, Appendix 5		Revision Nr.	00
			Page	4 / 6

3.2. *Drum brake data*

3.2.1.	Brake adjustment device (externa/internal)	N/A
3.2.1.1.	Manufacturer (Name and address)	N/A
3.2.1.2.	Make	N/A
3.2.1.3.	Type	N/A
3.2.2.	Declared maximum brake input torque (C_{max})	N/A
3.2.3.	Mechanical efficiency (η)	N/A
3.2.4.	Declared brake input threshold torque ($C_{0,dec}$)	N/A
3.2.5.	Efficiency length of the cam shaft	N/A

3.3. *Brake drum*

3.3.1.	Max. diameter of friction surface (wear limit)	N/A
3.3.2.	Base material	N/A
3.3.3.	Declared mass	N/A
3.3.4.	Nominal mass	N/A
3.3.5.	Permitted range of the brake drum mass	N/A

3.4. *Brake Lining*


3.4.1.	Manufacturer (Name and address)	N/A
3.4.2.	Make	N/A
3.4.3.	Type	N/A
3.4.4.	Identification (type identification on lining)	N/A
3.4.5.	Minimum thickness (wear limit)	N/A
3.4.6.	Method of attaching friction material to brake shoe	N/A
3.4.6.1.	Worst case of attachment (in the case of more than one)	N/A
3.4.6.2.	Base material of the brake shoe	N/A



TRAILER AXLE & BRAKE INFORMATION DOCUMENT

Date	22.06.2018
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3.4.6.3.	Range of the weight of the brake shoes (without brake lining)	N/A
3.5.	<i>Disk brake data</i>	
3.5.1.	Connection type to the axle (axial, radial, integrated etc.)	integrated
3.5.2.	Brake adjustment device (external / integrated)	integrated
3.5.3.	Max. actuation stroke	64 mm
3.5.4.	Declared maximum input force (Th_{Amax})	1875 daN
3.5.4.1.	Declared maximum brake input torque (C_{max}) $C_{max} = Th_{Amax} * l_e$	1500 Nm
3.5.5.	Friction radius (r_e)	173 mm
3.5.6.	Lever length (l_e)	76 mm
3.5.7.	Input/output ratio (i) (l_e/e_e)	15,5
3.5.8.	Mechanical efficiency (η)	0,95
3.5.9.	Declared brake input threshold force ($Th_{A0,dec}$)	150 N
3.5.9.1.	$C_{0,dec} = Th_{A0,dec} * l_e$	11,4 Nm
3.5.10.	Minimum rotor thickness (wear limit)	37 mm
3.6.	<i>Brake disc data</i>	
3.6.1.	Disc type description	Ventilated flange disc
3.6.2.	Connection/mounting to the hub	Fixed by screw
3.6.3.	Ventilation (yes/no)	Yes
3.6.4.	Declared mass	35-40 kg
3.6.5.	Nominal mass	35 kg
3.6.6.	Declared external diameter	430 mm
3.6.7.	Minimum external diameter	428 mm
3.6.8.	Inner diameter of friction ring	247 mm

	TRAILER AXLE & BRAKE INFORMATION DOCUMENT	Date	22.06.2018	
		Document Nr.	OKC 006	
	According to ECE R13.11, Annex 11, Appendix 5		Revision Nr.	00
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3.6.9.	Width of ventilation channel (if appl.)	15 mm
3.6.10.	Base material	Cast iron
3.7.	<i>Brake pad data</i>	
3.7.1.	Manufacturer and address	Honeywell Bremsbelag GmbH
3.7.2	Make	Jurid
3.7.3.	Type	JURID 539
3.7.4.	Identification (type identification on pad back plate)	Jurid 539 FF 29
3.7.5.	Minimum thickness (wear limit)	11 mm
3.7.6.	Method of attaching friction material to pad back plate	Pressed on back plate
3.7.6.1.	Worst case of attachment (in case of more than one)	N/A