



THE UNITED KINGDOM VEHICLE APPROVAL AUTHORITY

COMMUNICATION CONCERNING THE APPROVAL GRANTED <sup>(1)</sup>/ ~~APPROVAL EXTENDED <sup>(4)</sup>/~~  
~~APPROVAL REFUSED <sup>(4)</sup>/~~ ~~APPROVAL WITHDRAWN <sup>(4)</sup>/~~ ~~PRODUCTION DEFINITELY~~  
~~DISCONTINUED <sup>(1)</sup>~~ OF A TYPE OF MECHANICAL COUPLING DEVICE OR COMPONENT,  
PURSUANT TO REGULATION NO 55.01




Approval No: 55R-0110706

Extension No: Not applicable

1. Trade name or mark of the device or component: Çayırova Otomotiv
2. Manufacturer's name for the type of device or component: 066B
3. Manufacturer's name and address: Çayırova Otomotiv Gıda Taş. San. Ve Tic. Ltd. Şti  
KOSB 3. Sk. No:3 TR-42250,  
Selçuklu/KONYA TURKEY
4. If applicable, name and address of the manufacturer's representative: Not applicable
5. Alternative supplier's names or trade marks applied to the device or component: Not applicable
6. Name and address of company or body taking responsibility for the conformity of production:  
Çayırova Otomotiv Gıda Taş. San. Ve Tic. Ltd. Şti  
KOSB 3. Sk. No:3 TR-42250,  
Selçuklu/KONYA TURKEY
7. Submitted for approval on: 13 May 2015

8. Technical service responsible for conducting approval tests: TUV SUD Automotive GmbH(16 December 2014), VCA (13 May 2015)
9. Brief description:
- 9.1. Type and class of device or component: 066B, H50-X
- 9.2. Characteristic values:
- 9.2.1. Primary values:
- D 175 kN      Dc: Not applicable kN      S: Not applicable kg  
 U: Not applicable tonnes      V: Not applicable kN
- Alternative values:
- D 152 kN      Dc : Not applicable kN      S: Not applicable kg  
 U: Not applicable tonnes      V: Not applicable kN
- 9.3. For Class A mechanical coupling devices or components, including towing brackets: Not applicable
- Vehicle manufacturer's maximum permissible vehicle mass:      kg
- Distribution of maximum permissible vehicle mass between the axles:
- Vehicle manufacturer's maximum permissible towable trailer mass:      kg
- Vehicle manufacturer's maximum permissible static mass on coupling ball:      kg
- Maximum mass of the vehicle, with bodywork, in running order, including coolant, oils, fuel, tools and spare wheel (if supplied) but not including driver:      kg
- Loading condition under which the tow ball height of a mechanical coupling device fitted to category M<sub>1</sub> vehicles is to be measured -see paragraph 2 of annex 7, appendix 1:
- 9.4. For class B coupling heads, is the coupling head intended to be fitted to an unbraked O<sub>1</sub> trailer  
 YES/NO: Not applicable
10. Instructions for the attachment of the coupling device or component type to the vehicle and photographs or drawings of the mounting points given by the vehicle manufacturer: See information document
11. Information on the fitting of any special reinforcing brackets or plates or spacing components necessary for the attachment of the coupling device or component: Not applicable

12. Additional information where the use of the coupling device or component is restricted to special types of vehicles - see annex 5, paragraph 3.4.: Not applicable
13. For Class K hook type couplings, details of the drawbar eyes suitable for use with the particular hook type: Not applicable
14. Date of test report: 15 October 2015
15. Number of test report: TSR343306
16. Approval mark position: stamped on the fifth wheel coupling pin
17. Reason(s) for extension of approval: Not applicable
18. Approval GRANTED/EXTENDED/REFUSED/~~WITHDRAWN~~ (1)
19. Place: BRISTOL
20. Date: 12 NOVEMBER 2015
21. Signature:  D LAWLOR  
Head of Technical Standards & Legislation
22. The list of documents deposited with the Administration Service which has granted approval is annexed to this communication and may be obtained on request.

Any remarks: Approval to Supplement 4

(1) Strike out what does not apply.

**ECE 55-01**

**UNIFORM PROVISIONS CONCERNING THE APPROVAL OF:  
MECHANICAL COUPLING COMPONENTS OF COMBINATIONS OF VEHICLES**

1. Trade name or mark of the device or component: Çayirova Otomotiv
2. Manufacturer's name for the type of device or component: Çayirova Otomotiv Gıda Taş. San. Ve Tic. Ltd. Şti
3. Manufacturer's name and address: Çayirova Otomotiv Gıda Taş. San. Ve Tic. Ltd. Şti  
KOSB 3. Sk. No:3 TR -42250 Selçuklu/KONYA TURKEY
4. If applicable, name and address of the manufacturer's representative: Not applicable
5. Name and address of company or body taking responsibility for the conformity of production:  
Çayirova Otomotiv Gıda Taş. San. Ve Tic. Ltd. Şti  
KOSB 3. Sk. No:3 TR-42250 Selçuklu/KONYA TURKEY
6. Brief description:
  - 6.1. Type and class of device or component: 066B H50-X See annex 1
  - 6.2. Characteristic values: See 6.2.1
    - 6.2.1. Primary values:  
D 175 kN Dc Not applicable S Not applicable U Not applicable V Not applicable  
Alternative values:  
D 152 kN Dc Not applicable S Not applicable U Not applicable V Not applicable
7. Instructions for the attachment of the coupling device or component type to the vehicle and photographs or drawings of the mounting points given by the vehicle manufacturer: See annex 2
8. Location of ECE approval mark: Stamped on the fifth wheel coupling pin, See annex 3

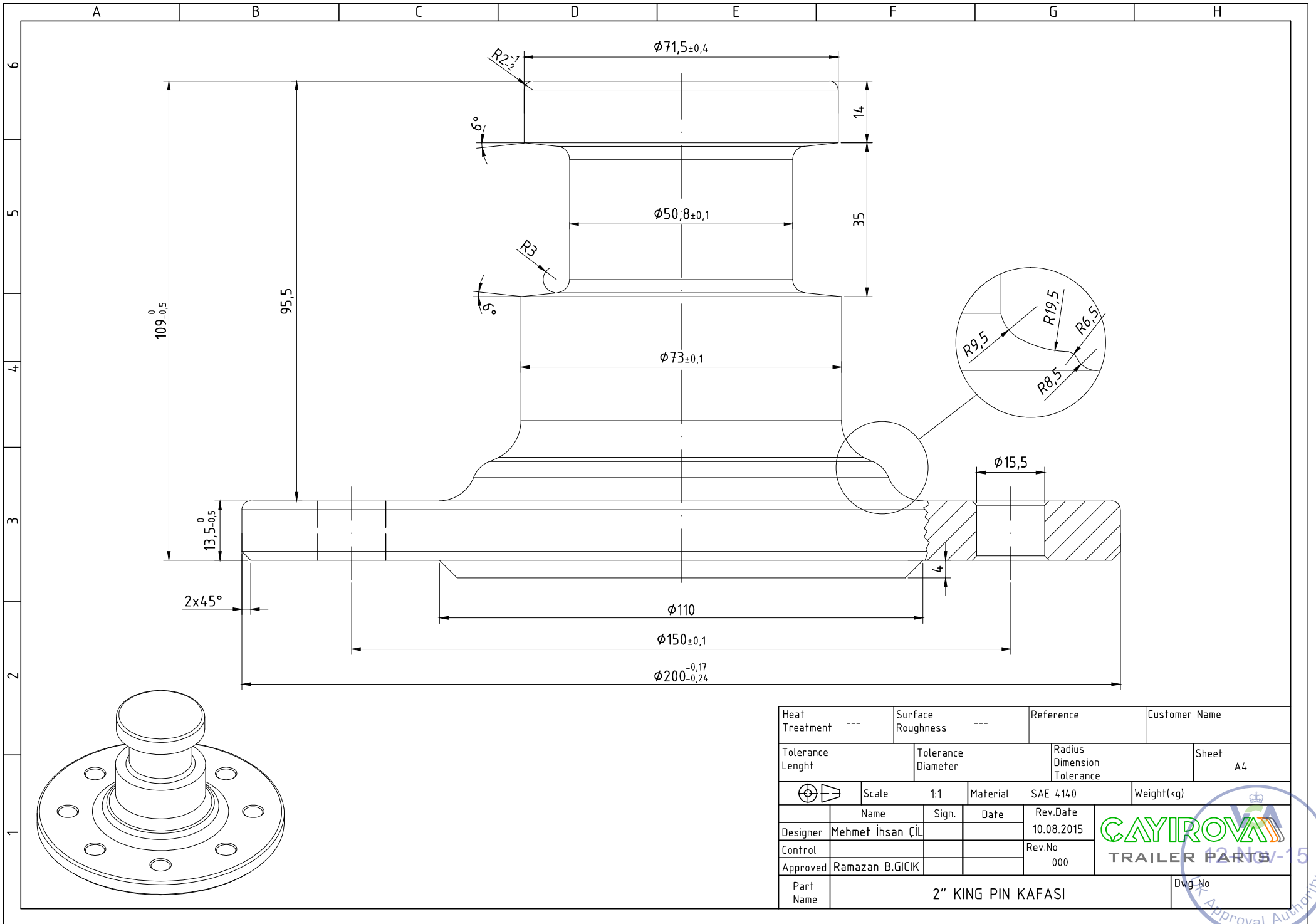
Annex List: Annex 1- technical drawing of coupling

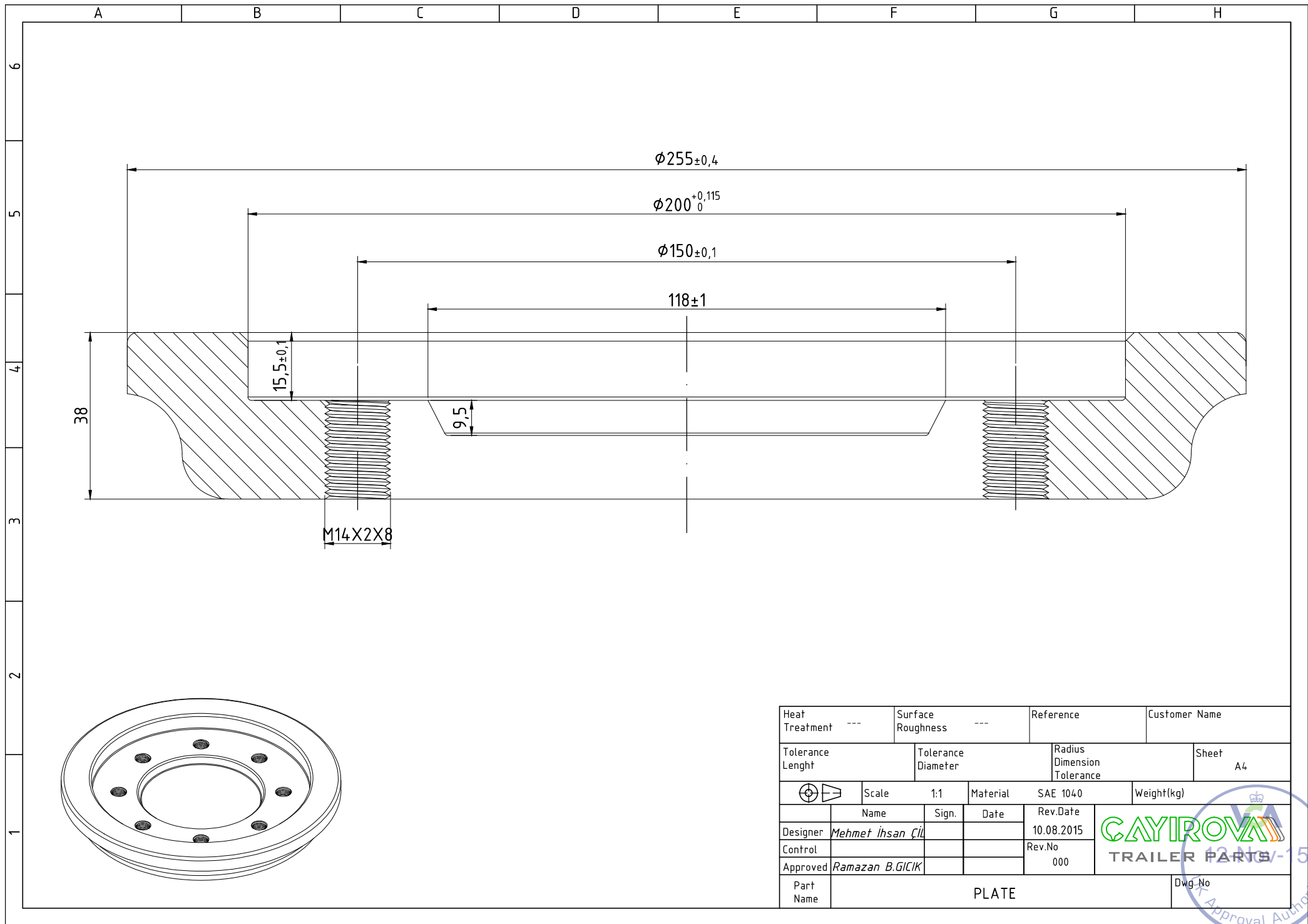
Annex 2- coupling installation and maintenance instruction

Annex 3- location of approval mark

CBU.01-REV000/18.09.2015



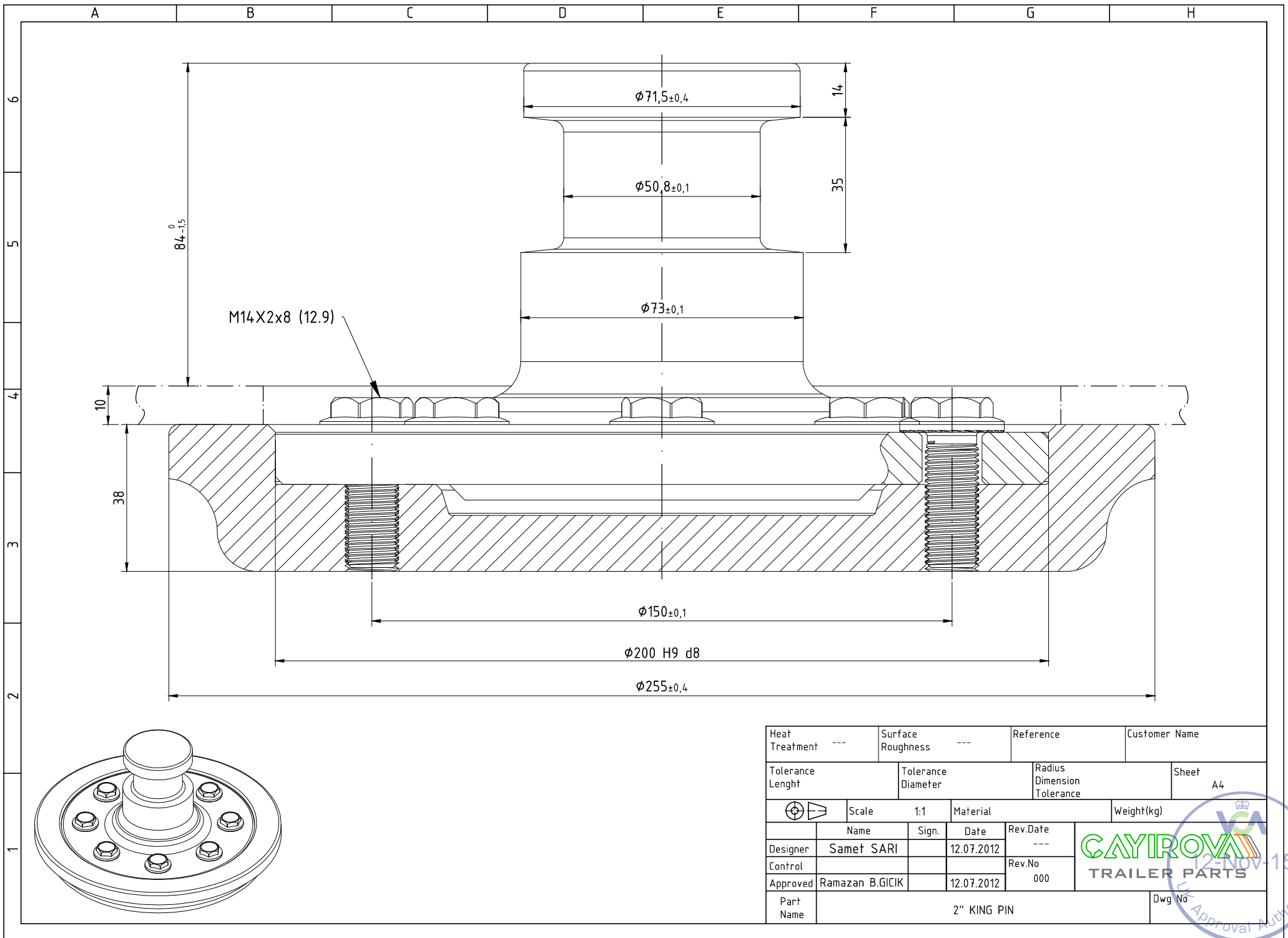




Heat Treatment	---	Surface Roughness	---	Reference	Customer Name
Tolerance Length		Tolerance Diameter		Radius Dimension Tolerance	Sheet A4
	Scale	1:1	Material	SAE 1040	Weight(kg)
Designer	Name	Sign.	Date	Rev.Date	
Control	Mehmet İhsan Çil			10.08.2015	
Approved	Ramazan B.GİCİK			Rev.No	
				000	
Part Name	PLATE				Dwg.No

**CAYIROVA**  
TRAILER PARTS

12 Nis-15  
Approval Authority



### MOUNTING AND MAINTENANCE INSTRUCTIONS FOR KING PIN 066B

The king pin 066B is homologated according to ECE R 55 as class H50-X with a

Material: SAE4140 : DIN 42 CrMo4 D-value : 152kN & 175kN

Hardness : 32 Rockwell-C

ATTENTION: To combine and connect to fifth Wheel coupling H50 or H50-x

#### MOUNTING TO THE TRAILER

- 1 - The king pin must be mounted with the related welding plate
- 2 - During the welding process pay attention to avoid extreme heat on the pin
- 3 - Welding must be minimum 7 mm from both sides.  
Please see drawing where last page.
- 4 - Fix the pin with a torque of 160 Nm (for 152kN) and 190 Nm (for 175kN) on all 8 bolts, assure the bolt quality of 12.9
- 5 - Assure the sufficient mechanical resistance of the trailer coupling plate
- 6 - The welding must make at once

#### MAINTENANCE

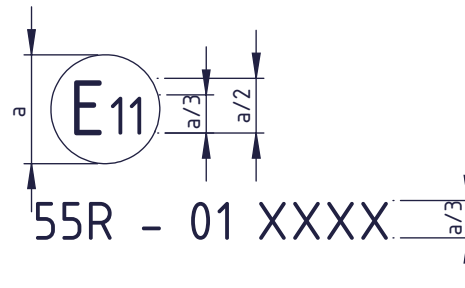
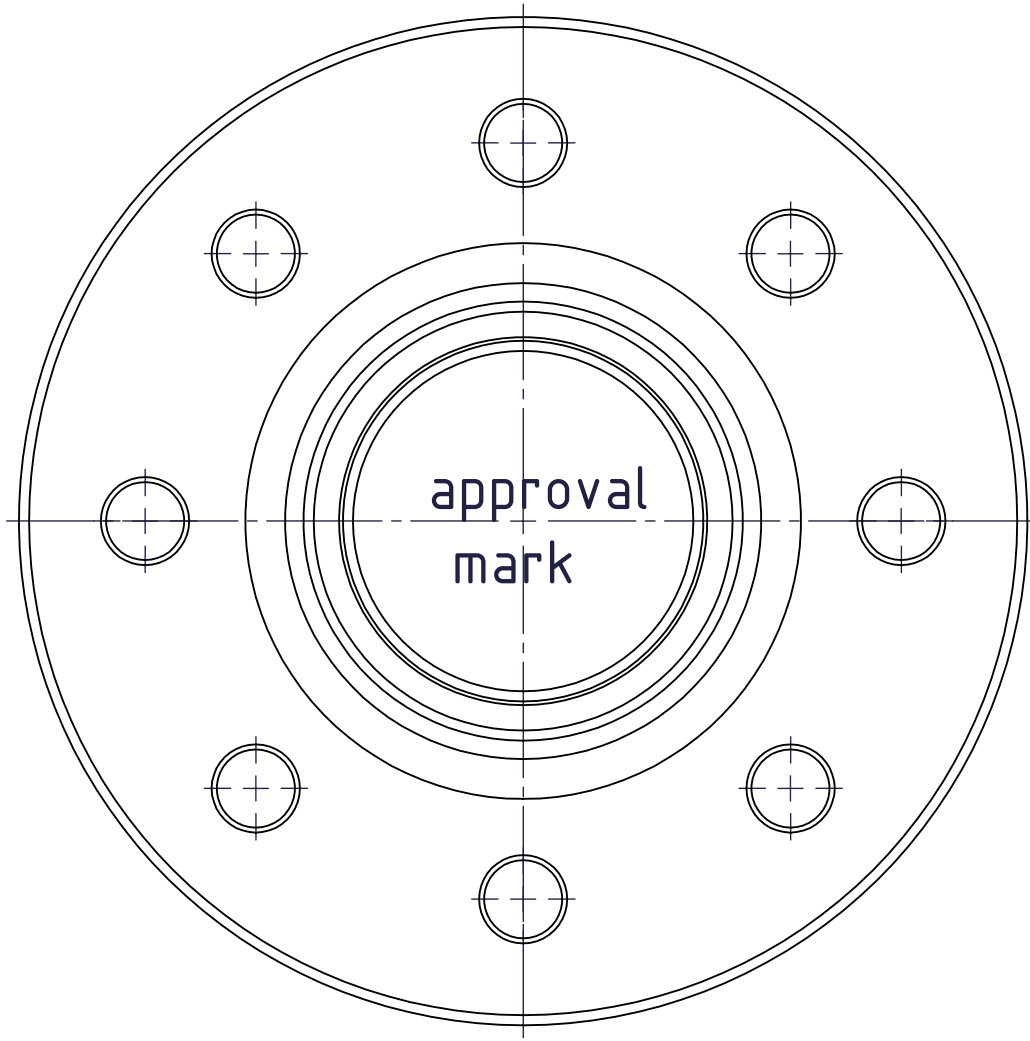
- 1 - The greasing of the pin as the bolt torque and usage diameter must be controlled at least every 15 days
- 2 - Use grease with quality least EP 2
- 3 - THE PIN HAS TO BE EXCHANGED ON EVERY INDICATION OF DAMAGE DEFORMATION, VISIBLE CRACKS OR VISIBLE USAGE OF SURFACE (MINIMUM DIAMETER : 50 mm)

#### ATTENTION !

If the user do not make the mounting and maintenance instructions for king pin 066B according to above requirements , the manufacturer is not responsible for any damage that occurred by wrong mounting and maintenance.







	Lenght Without Tollerance $\pm 5$		Scale 1:2	Material	Weight(kg)	Customer Name 0000	Sheet A4
	Name	Sign.	Date	Rev.Date			
Designer	Mehmet İhsan ÇİL		07.10.2015				
Control	Ömer YILMAZ		07.10.2015				
Approved	Ramazan B.GICIK		07.10.2015				
Part Name	Annex 3- location of approval mark					Dwg No 000000	





## Test Report: Mechanical Coupling Components

### Legislation

UNECE Regulation 55.01 to Supplement 4

### Test Details

Location of Test: Tuv Sud Automotive GmbH  
Garching /Germany

Date of Test: 16.12.2014, 13.05.2015  
VCA Representative(s): Not applicable  
Manufacturer's Representative(s): Not applicable  
Reason for Test Report: New Approval

### Manufacturer Details

Name and Address: Çayirova Otomotiv Gıda Taş. San. Ve Tic. Ltd. Şti.  
KOSB 3. Sk. No:3 TR-42250, Selçuklu/KONYA TURKEY

Model Type and Description: 066B

Category: H50-X

### Conclusion

The above mentioned component was tested in accordance with the above mentioned legislation and was found to comply in all respects.

Signature:

Name: Zehra Doğan  
Position: Type Approval Engineer  
Date: 15 October 2015

### List of Annexes

Annex	No of Pages	Subject
I	6	Manufacturer information document CBU.01-REV000/18.09.2015



## Worst Case Rationale

This test to cover the coupling only as detailed in manufacturers documentation.  
This coupling was originally tested by TUV SUD on 16.12.2014. The result given by the report number 360-0043-05-FBKV and approved by VCA with the approval number e11\*94/20\*5589\*01. As TUV SUD is a technical service to VCA this result is accepted and the results are reproduced here for the purpose of this report. This principle is accepted in line with VCA policy VP03.  
There is minor changes of dimensions which do not have negative effect on previously achieved test results. The requirements of 94/20/EC directive and those set out in ECE R 55 are identical for H50-X class of coupling.

## Tests Required

Complies  
Yes / NA

Yes, NA, See Report ... / Approval ... / Annex ...

Single axis fatigue test	Yes
Twin axis fatigue test	NA
Three axis fatigue test	NA
Secondary coupling test	NA

Description		Date	Engineer
Rig installation	A		
Load and test angle check	B		
Rig demount	C		
Dye penetrant inspection	D		
Dimensional check	E	13.05.15	Zehra Doğan
Height and installation check	F	13.05.15	Zehra Doğan
Document checks and approval	G	12.10.15	Zehra Doğan

## Manufacturer's Documentation

Manufacturer's documentation is complete and reflects the agreed specification for the component tested, and covers all variants and versions agreed in the worst case rationale.

Yes

## Facility and Equipment Checks

Calibration certificates checked and valid, recorded in the following table.

Yes

Generic risk assessment followed.

Insert RA identifier here:

0

NA

Facilities and test equipment are appropriate.

Yes

Brief description of test equipment:

See below

Equipment	Serial No/Certification No	Calibration due*
Calipper	4	15-06079-08.02.2016

\*Specify calibrated date + (interval) or calibration due.



## Test Requirements

Complies  
Yes / NA

### Essential Information

	Does the mechanical coupling device satisfy the requirements of Annex 5?	Yes
3.2.4.	Has the manufacturer supplied a detailed technical description of the device or component, specifying, in particular, the type and the materials used.	Yes
3.2.7.	Test samples are fully finished with the final surface treatment applied. However, if the final treatment is by painting or epoxy powder coating, this is omitted.	Yes
4.5.	All mechanical coupling devices or components are designed to have positive mechanical engagement and the closed position is locked at least once by further positive mechanical engagement, unless further requirements are stated in Annex 5. Alternatively, there may be two or more separate arrangements to ensure the integrity of the device, but each arrangement is designed to have positive mechanical engagement and is tested individually to any requirements given in Annex 6. Positive mechanical engagement is as defined in paragraph 2.14.	Yes
1.5.	Manufacturers of towing brackets incorporate attachment points to which either secondary couplings or devices necessary to enable the trailer to be stopped automatically in the event of separation of the main coupling may be attached.	NA



## Test Requirements

Complies  
Yes / NA

<i>Ann 5, 1.6.1.</i>	Attachment points for a secondary coupling and/or breakaway cable are positioned such that, when in use, the secondary coupling or breakaway cable does not restrict the normal articulation of the coupling or interfere with the normal inertia braking system operation.	NA
<i>Ann 5, 1.6.1.</i>	Single attachment point positioned within 100 mm of a vertical plane passing through the centre of articulation of the coupling. If this is not practicable, two attachment points are provided, one on each side of the vertical centre line and equidistant from the centre line by a maximum of 250 mm. The attachment point(s) are as rearward and as high as practicable.	NA
<i>Ann 7, 1.1.4.</i>	When the trailer is not coupled to the towing vehicle, the mounted towing bracket and coupling ball do not obscure the mounting space provided for the rear registration plate or affect the visibility of the rear registration/ licence plate of the towing vehicle. If the coupling ball or other items do obscure the rear registration plate, they are removable or repositionable without the use of tools except, for example, an easily operated (i.e. an effort not exceeding 20 Nm) release key, which is carried in the vehicle.	NA



## Test Requirements

Complies  
Yes / NA

### Marking of the Component

7.1.	Factory mark, trade name or manufacturer's name (and trade mark if appropriate).	Yes
7.1.	Type and, if appropriate, version.	Yes
7.2.	Adequate space for ECE approval mark and additional information.	Yes
7.3.	Class of device, including capacity as per 2.11.	Yes
3.2.3.	Information according to section 3.2.3. Permissible value D	175,0 kN
	Permissible value Dc	NA kN

D or Dc (centre axle trailer) value is the theoretical reference value for the horizontal forces in the towing vehicle and the trailer and is used as the basis for horizontal loads in the dynamic tests.

### Test Information

Test load (kN):	105,0
Permissible value S (kg):	NA

S value is the vertical mass, in kilograms, imposed on the coupling under static conditions by the centre axle trailer, as defined in paragraph 2.13 of technically permissible maximum mass.

Permissible value V (kN):	NA
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V value is the theoretical reference value of the amplitude of the vertical force imposed on the coupling by the centre axle trailer of technically permissible maximum mass greater than 3.5 tonnes. The V value is used as the basis for vertical forces in the dynamic tests. See 2.11.4.



## Test Requirements

Complies  
Yes / NA

Permissible value U (kN):

NA

U value is the vertical mass, in tonnes, imposed on the fifth wheel coupling by the semi-trailer of technically permissible maximum mass.

Class of coupling device:

H50-X

Maximum mass of the vehicle (kg):

35.000

Maximum mass of trailer axles (kg):

24.000

## Carlos Test

Load Intensity Value (LIV) for test pattern as per  
[www.unece.org/trans/main/wp29/wp29wgs/wp29grgf/grgf-reg55.html](http://www.unece.org/trans/main/wp29/wp29wgs/wp29grgf/grgf-reg55.html)  
(It is also acceptable for manufacturers to develop own LIV - see 3.10.2.2.)  
Ann 5, 3.10.2.2. Iteration process acceptable.  
(VCA acceptance criteria RMS error < 10 %)

NA

Module 1 (M1)

NA

Module 2 (M2)

NA

Module 3 (M3)

NA

Test cycle completed in accordance with UNECE LIV specification.

$10 \times (5 \times (10 \times M1 + M2) + M3 + M2)$

NA

Appropriate scaling factors applied (mark appropriately).

$D \geq 7$  kN: Scaling factor for the three force components  $m \rightarrow D$ -value.

NA

$D < 7$  a) Scaling factor longitudinal and vertical force  $F_x, F_z$ ;  
all modules (M1, M2, M3)  $\rightarrow D$ -value  
b) Scaling factor lateral force  $F_y$ ; module 1 (M1) and  
module 2 (M2)  $\rightarrow (1+(7-D)*0.66)^{0.2}$   
c) Scaling factor lateral force  $F_y$ ; module 3 (M3)  $\rightarrow D$ -value

NA

Ann 5, 3.10.3.

Coupling mounted on stiff support or vehicle body/body part.

Stiff support:

0

Vehicle body/body part:

0



## Test Requirements

Complies  
Yes / NA

### Additional Information - Single Axis Test

Ann 6, 3.1.3.	Fixing points are as specified by the vehicle manufacturer.	Yes
Ann 6, 3.1.4.	Test sample is complete with all design details that may influence strength criteria.	Yes
Ann 6, 3.1.5.	Device is fitted to the test rig as specified.	Yes
	Coupling ball centre is:	NA
Ann 6, 3.1.6.	If adjustable, worst case configuration agreed. or Simplified test programme.	NA
	Test 1: Ball centre to line parallel to reference line.	NA
	Test 2: Ball centre to line parallel to reference line.	NA
	f min. =	NA
	f max. =	NA
	f min. - f max. < / = 100 mm	NA
	Maximum mass of vehicle (T):	NA kg
	Maximum mass of trailer axles (C) :	NA kg
	'D <sub>C</sub> ' Value x $\frac{T \times C}{T + C}$	NA kN
	Test load: $\pm F_{res} = 0.6 \times D_C$	NA kN
	Maximum static load 'S':	NA kg

### Test Angle Determination

$$\text{Test angle } 15^\circ \text{ if 'S' } \leq \frac{120 \times D}{g} = \text{NA}$$
$$\text{Test angle a } 20^\circ \text{ if 'S' } > \frac{120 \times D}{g}$$

TEST ANGLE =  
NA

### Test Data

Ram angle set to:	Plus	NA
Test load ap <sub>1</sub> ±	105,0	kN
Test load cycle frequency (max 35 Hz)	4,0	Hz
Test load applied for 2 x 10 <sup>6</sup> cycles.		Yes





### Test Results - Carlos

Complies  
Yes / NA

No torque loss of the bolts exceeding 30 per cent of the nominal torque measured in the closing direction.

NA

For coupling devices with detachable part, it is possible to detach and attach at least three times. For the first detachment, one impact is permitted.

NA

### Test Results - Carlos and Single Axis

Ann 6, 3.10.4. Free from visible failure or cracking following dye penetration test.

Yes

Free from visible plastic deformation.

Yes

Functionality and safety of the coupling unaffected.  
(E.g. safe connection of the trailer, maximum play.)

Yes

Secondary coupling tested at: NA kN

Load held for a minimum of 60 seconds.

Free from visible failure.

NA

### Remarks

