

date: 12.11.2018

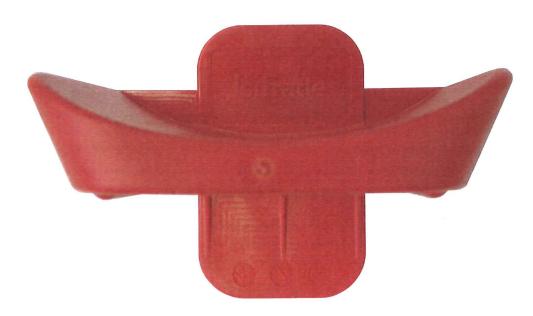
reference: 18slo0476.doc

## Certificate

This is to certify that the safety cups provided by:

IsiTrade
Isabel Rothenberger
Eickumer Str. 123
32051 Herford

have been tested at the Institut für Kraftfahrzeuge Aachen, RWTH Aachen University. The safety cups with the label "IsiTrade" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, November 2018

Univ.-Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. Sebastian Lovski



date: 31.01.2018

reference: 18slo0147.doc

## Certificate

This is to certify that the safety cups provided by:

Tecnoplastica Perletti Srl Via S.Lorenzo in Cavellas 39 24060 Casazza (BG)

have been tested at the Institut für Kraftfahrzeuge Aachen, RWTH Aachen University. The safety cups with the label "Special Support Steel H.18" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, January 2018

Univ.-Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. Sebastian Lovski

Institut für Kraftfahrzeuge · RWTH Aachen University · Steinbachstr. 7 · 52074 Aachen



## Test of Safety - Cups: 1st delivery

			Date: Project Number: Person in charge	
1	Nam	ne and address of manufacturer:		
	Teci	noplastica Perletti Srl Via s.lorenzo in cavellas 39 24060 Casazza (BG) Italia phone: +35 812000 fax: +35 811750		
	Labe	el of provided safety cup: "Special Support Steel H.18	)"	
2	Sup	olied samples and drawing		
	a)	3 samples of Safety Cups	⊠ yes	☐ no
	b)	1 original strip of 30 cm length	⊠ yes	☐ no
	c)	detailed drawing	⊠ yes	no
3	Fund	ction of the Safety Cup		
	a)	Basic concept O.K.	⊠ yes	☐ no
	b)	Vertical parallel shifting is proved	⊠ yes	☐ no
	c)	The moving out part is easy to be		
		removed in its initial position	⊠ yes	☐ no
	d)	Lubrication of moveable parts is possible	⊠ yes	no
	e)	Safety – Cup is corrosion resistant	⊠ yes	☐ no

4	Dimensions of Safety Cups					
	a)	Dimensions follow the specification by	drawing	⊠ yes	no	
	b)	Length of shallow holding part in				
		pole direction is at least 80 mm		⊠ yes	no	
	c)	Material thickness is at least 5 mm				
		(in case of steel)		☐ yes	no	
5	Weig	ght of Safety Cups				
	a)	Total weight:	284 g			
	b)	Weight of moving parts:	180 g			
6	Stati	c release force				
	Sam	ple 1: 128 daN				
	Sam	ple 2: 128 daN				
	Sam	ple 3: 137 daN				
7	Sum	mary				
	Test	passed		⊠ yes	no	
8	Com	ments				
The	static	release force is within the required limit	of 135±15 c	laN (popular kg).		
The	length	of shallow holding part in pole direction	is at the mi	nimum of 80 mm.		
Dr	-lpg [	DiplWirt. Ing. Roland Wohlecker	Dinl	Ing. Sebastian Lo	n N	
٥.	9. L		0.	J 2 2 2 2 3 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		

Page 2 of 2

Manager Structural Analysis and Benchmarking

Body

18slo0146.docx





Datei: 22kw1484.docx 07.09.2022

## Certificate

This is to certify that the safety cups provided by:

Beck+Heun GmbH Reinhold-Beck-Straße 2 35794 Mengerskirchen

have been tested at the Institute for Automotive Engineering (ika), RWTH Aachen University. The safety cups with the label "Beck+Heun" have fulfilled all requirements after being triggered 4 times and therefore they have been approved. The manufacturer has been instructed that all safty cups must be triggered 4 times before delivery and assures that he will follow this instruction. This certificate is only valid for this type of safety cup; any changes will require a new testing procedure.



Aachen, September 2022

Univ.-Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. (FH) Werner Kochems

Institutsleitung: Univ.-Prof. Dr.-Ing. L. Eckstein
Institut für Kraftfahrzeuge (ika) · RWTH Aachen University
Steinbachstraße 7 · 52074 Aachen · GERMANY
office@ika.rwth-aachen.de



date: 18.12.2018

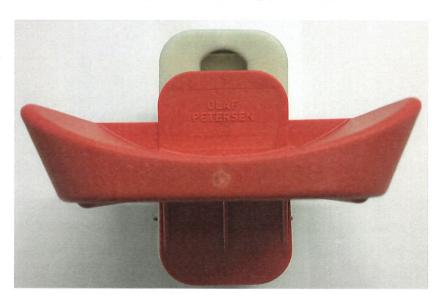
reference: 18slo0484.doc

## Certificate

This is to certify that the safety cups provided by:

## Olaf Petersen Equestrian Jumps & Course Design Eichbergstr. 4 82396 Paehl

have been tested at the Institut für Kraftfahrzeuge Aachen, RWTH Aachen University. The safety cups with the label "Olaf Petersen" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, December 2018

Univ.-Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. Sebastian Lovski





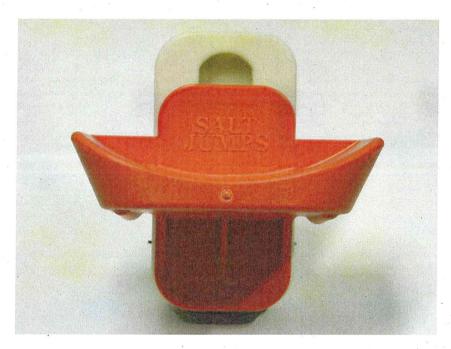
Datei: 22kw0384.docx 20.12.2022

## Certificate

This is to certify that the safety cups provided by:

> Riel GmbH & Co. KG Hagenfeldstrasse 11-13 75038 Oberderdingen

have been tested at the Institute for Automotive Engineering (ika), RWTH Aachen University. The safety cups with the label "SALT JUMPS 18" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cup; any changes will require a new testing procedure.



Aachen, December 2022

Univ.-Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. (FH) Werner Kochems

Institutsleitung: Univ.-Prof. Dr.-Ing. L. Eckstein Institut für Kraftfahrzeuge (ika) · RWTH Aachen University Steinbachstraße 7 · 52074 Aachen · GERMANY office@ika.rwth-aachen.de





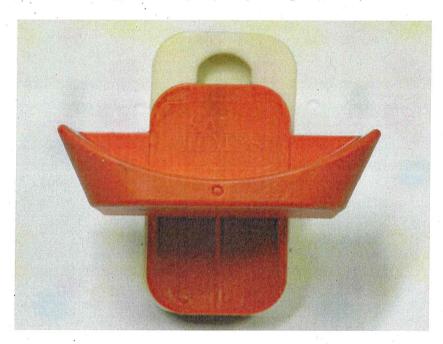
Datei: 22kw0484.docx 20.12.2022

## Certificate

This is to certify that the safety cups provided by:

> Riel GmbH & Co. KG Hagenfeldstrasse 11-13 75038 Oberderdingen

have been tested at the Institute for Automotive Engineering (ika), RWTH Aachen University. The safety cups with the label "SALT JUMPS 20" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cup; any changes will require a new testing procedure.



Aachen, December 2022

Univ.-Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. (FH) Werner Kochems





ika RWTH Aachen University

Steinbachstraße 7

52074 Aachen

Philippe Maynier Fédération Equestre Internationale HM King Hussein I Building Chemin des Délices 9

Switzerland

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email date +49 241 80 25600

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office@ika.rwth-aachen.de

www.ika.rwth-aachen.de

+49 241 80 22147

Dipl.-Ing. Birger Klaus Queckenstedt

BQ, 11bq0018.docx +49 241 80 25607

queckenstedt@ika.rwth-aachen.de

2011-02-21

## Certification of safety cups

Dear Mr Maynier,

Safety System AB from Sweden asked us to test their safety cups. We have done the FEI approval testing to receive the certificate. In addition to the test of the static release force, the safety cups were inspected visually.

After these tests the safety cups received the certificate. A copy of the certificate is added to this letter.

If you have any questions, don't hesitate to contact me.

Kind regards,

n n

Dipl.-Ing. Daniel Wegener

Group Leader Vertical Dynamics and Durability

p.p.

Dipl.-Ing. Birger Klaus Queckenstedt

Chassis Department



date: 18.02.2011

reference: 11bq0029.docx

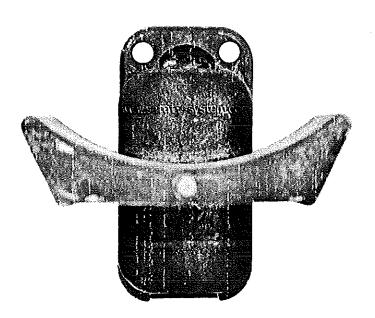
## Certificate

This is to certify that the safety cups provided by:

Safety-System AB Tillinge Tibble 745 94 Enköping

## Sweden

have been tested at the Institut für Kraftfahrzeuge Aachen. The safety cups with the label "www.safety-system.com" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, February 2011

Univ.-Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. Birger Queckenstedt Chassis Department

Director: Univ.-Prof. Dr.-Ing. L. Eckstein Phone: +49 241 80 25600 · Fax: +49 241 80 22147



date: 19.01.2011

reference: 11bq0011.docx

## Certificate

This is to certify that the safety cups provided by:

Tecnoplastica Perletti srl Via S. L. Cavellas, 39 24060 Casazza (BG)

Italy

have been tested at the Institut für Kraftfahrzeuge Aachen. The safety cups with the label "Tecnoplastica Perletti" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, January 2011

Univ.-Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. Birger Queckenstedt Chassis Department

Director: Univ.-Prof. Dr.-Ing. L. Eckstein
Phone: +49 241 80 25600 · Fax: +49 241 80 22147

e-mail: office@ika.rwth-aachen.de  $\cdot$  Internet: http://www.ika.rwth-aachen.de Institut für Kraftfahrzeuge  $\cdot$  RWTH Aachen University  $\cdot$  Steinbachstr. 7  $\cdot$  52074 Aachen



ika RWTH Aachen University

Steinbachstraße 7

52074 Aachen

Tecnoplastica Perletti srl Via S. L. Cavellas, 39 24060 Casazza (BG)

Italy

Institut für Kraftfahrzeuge Steinbachstraße 7

D-52074 Aachen

Germany

phone (office) fax (office)

name

our reference

phone

email date Head of the Institute

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+49 241 80 22147

Dipl.-Ing. Birger Klaus Queckenstedt

BQ, 11bq0018.docx

+49 241 80 25607

queckenstedt@ika.rwth-aachen.de

2011-01-27

## Certification of safety cups

Dear Sir or Madam,

You have sent us three samples of your safety cups with the label "Tecnoplastica Perletti – Made in Italy". We have done the FEI approval testing to receive the FEI certificate. In addition to the test of the static release force, the safety cups were inspected visually.

The release force is at the lower limit of the required force of  $135 \pm 15$  daN (popular kg). The length of the shallow holding part in pole direction is at the minimum of 80 mm. Furthermore, there were no noticeable problems detected in the visual inspection.

After these tests the safety cups you sent us received the certificate. The certificate and the test report are added to this letter. Additionally we will send a copy of the certificate to the Fédération Equestre Internationale (FEI). Any technical changes will require a new testing procedure.

If you have any questions, don't hesitate to contact me.

Best regards,

p.p.

Dipl.-Ing. Daniel Wegener

Group Leader Vertical Dynamics and Durability

p.p.

Dipl.-Ing. Birger Klaus Queckenstedt

Chassis Department



# Test of Safety - Cups:

Date:	19.01.201
Project Number:	103251
Person in charge: BC	BQ

Name and address of manufacturer (optional label):

Tecnoplastica Perletti s.r.l.

Via S. L. Cavellas 39

24060 Casazza, Italy

2+000 Casazza, Italy phone: +39-35-812000

fax: +39-35-811750

Label of provided safety cup: TECNOPLASTICA PERLETTI - MADE IN ITALY

- 2 Supplied samples and drawing
- a) 3 samples of Safety Cups

<u>2</u>

 $\boxtimes$  yes

\_ □

 $\boxtimes$  yes

<u>و</u>

⊠ yes

<u>ا</u>

 $\boxtimes$  yes

2

⊠ yes

- b) 1 original strip of 30 cm length
- c) detailed drawing
- Function of the Safety Cup

3

- a) Basic concept O.K.
- b) Vertical parallel shifting is proved
- c) The moving out part is easy to be
- removed in its initial position

<u>و</u>

 $\boxtimes$ 

n D ۵ ا

- $\boxtimes$  yes Lubrication of moveable parts is possible ত
- $\boxtimes$  yes Safety - Cup is corrosion resistant (e

4	Dime	Dimensions of Safety Cups				
	a)	Dimensions follow the specification by drawing		⊠ yes	☐ no	
	b)	Length of shallow holding part in				
		pole direction is at least 80 mm		⊠ yes	no	
	c)	Material thickness is at least 5 mm				
		(in case of steel)		yes	☐ no	
5	Weig	ht of Safety Cups				
	a)	Total weight:	219 g			
	b)	Weight of moving parts:	130 g			
6	Statio	c release force				
	Sam	ole 1: 120 daN				
	Sam	ole 2: 120 daN				
	Sam	ole 3: 120 daN				
7	Sumi	mary				
	Test	passed		⊠ yes	no	
8	Com	ments				
The s	static r	release force is within the required limit of	of 135±15 c	laN (popular kg).		
The length of shallow holding part in pole direction is at the minimum of 80 mm.						
		Ī				
4.Coo						
Univ. Prof. DrIng. Lutz Eckstein  DiplIng. Birger Queckenstee						
	Director			Chassis Department		



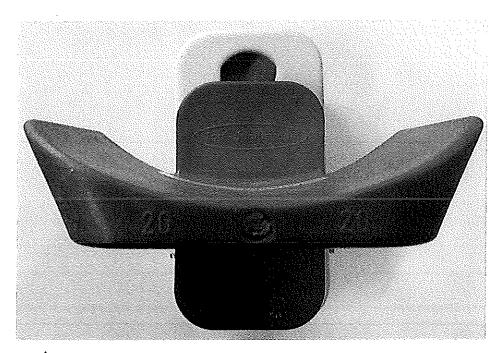
date: 16.03.2012 reference: 12ri0033.doc

## Certificate

This is to certify that the safety cups provided by:

## Top-Jumps BVBA Vekestraat 44 1910 - Kampenhout - Belgium

have been tested at the Institut für Kraftfahrzeuge Aachen, RWTH Aachen University. The safety cups with the label "Top-Jumps" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, March 2012

Univ.-Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. Matthias Rittinger Chassis

Director: Univ.-Prof. Dr.-Ing. L. Eckstein
Phone: +49 241 80 25600 • Fax: +49 241 80 22147
e-mail: office@ika.rwth-aachen.de • Internet: http://www.ika.rwth-aachen.de
Institut für Kraftfahrzeuge • RWTH Aachen University • Steinbachstr. 7 • 52074 Aachen



ika RWTH Aachen University Steinbachstraße 7 52074 Aachen

Fédération Equestre Internationale

Philippe Maynier

HM King Hussein I Building

Chemin des Délices 9

1006 Lausanne

Switzerland

Institut für Kraftfahrzeuge Steinbachstraße 7

D-52074 Aachen

Germany

phone (office)

fax (office)

name our reference

phone

email

date

Head of the Institute

Univ.-Prof. Dr.-Ing. L. Eckstein

office@ika.rwth-aachen.de www.ika.rwth-aachen.de

+49 241 80 25600

+49 241 80 22147

Dipl.-Ing. Matthias Rittinger

RI, 12ri0034.doc

+49 241 80 25607

rittinger@ika.rwth-aachen.de

2012-03-20

## Certification of safety cups

Dear Mr. Maynier,

Mrs. Moens from Belgium asked us to test the safety cups with the label "Top-Jumps". We have done the FEI approval testing to receive the certificate. In addition to the test of the static release force, the safety cups were inspected visually.

After these tests the safety cups received the certificate. A copy of the certificate is added to this letter.

If you have any questions, don't hesitate to contact me.

Best regards

Dipl.-Ing. Daniel Wegener

Manager Vertical Dynamics and Durability

Dipl.-Ing. Matthias Rittinger



date: 27.04.2011

reference: 11bq0081.docx

## Certificate

This is to certify that the safety cups provided by:

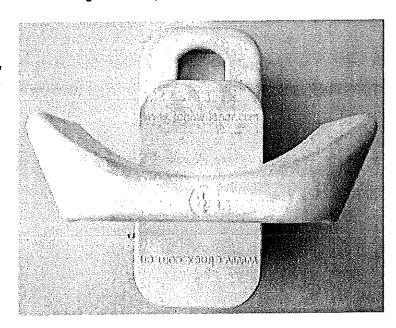
John Wilsher

P.O. Box 8418 East

Mount Gambier, 5291

## **South Australia**

have been tested at the Institut für Kraftfahrzeuge Aachen. The safety cups with the label "www.johnwilsher.com" - "www.elmex.com.cn" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, April 2011

Unfv.-Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-ling. Birger Queckenstedt

Chassis Department





ika RWTH Aachen University Ste

Steinbachstraße 7

52074 Aachen

Philippe Maynier
Fédération Equestre Internationale
HM King Hussein I Building
Chemin des Délices 9
1006 Lausanne

Switzerland

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name our reference phone

email date Head of the Institute Univ.-Prof. Dr.-Ing. L. Eckstein office@ika.rwth-aachen.de www.ika.rwth-aachen.de

+49 241 80 25600 +49 241 80 22147

Dipl.-Ing. Birger Klaus Queckenstedt BQ, 11bq0018.docx +49 241 80 25607

queckenstedt@ika.rwth-aachen.de 2011-05-10

## Certification of safety cups

Dear Mr Maynier,

John Wilsher from Australia asked us to test their safety cups. We have done the FEI approval testing to receive the certificate. In addition to the test of the static release force, the safety cups were inspected visually.

After these tests the safety cups received the certificate. A copy of the certificate is added to this letter.

If you have any questions, don't hesitate to contact me.

Kind regards,

p.p.

Dipl.-Ing. Daniel Wegener

Group Leader Vertical Dynamics and Durability

p.p.

Dipl.-Ing. Birger Klaus Queckenstedt

Chassis Department



Univ.-Prof. Dr.-Ing. Henning Wallentowitz

## Certificate

This is to certify that the safety cups provided by

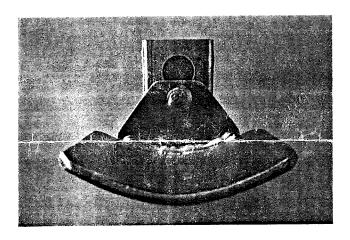
Potter Steel Service
287 Collins Corner Rd.

N. Dartmouth

MA 02747-1305

USA

have been tested at the Institut für Kraftfahrwesen Aachen. The safety cups have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, August 2003

Univ.-Prof. Dr.-Ing. H. Wallentowitz

H. Walle town



date: 23.07.2018

reference: 18slo0334.doc

## Certificate

This is to certify that the safety cups provided by:

Bejing VSVN International Equestrian Equipment Manufacturing CO., LTD

Room A02, 5F, Reignwood Center, No.8, YongAnDongLi

Jianguomenwai Ave, Chaoyang district, Beijing 100022 China

have been tested at the Institut für Kraftfahrzeuge Aachen, RWTH Aachen University. The safety cups with the label "VSVN" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, July 2018

Univ.-Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. Sebastian Lovski





RWTH Aachen University Steinbachstraße 7

52074 Aachen

Fédération Equestre Internationale

Philippe Maynier

HM King Hussein I Building

Chemin des Délices 9

1006 Lausanne

Switzerland

Institut für Kraftfahrzeuge

Steinbachstraße 7 D-52074 Aachen

Germany

phone (office) fax (office)

name

our reference

phone

email

date

Head of the Institute

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+49 241 80 22147

Dipl.-Ing. Matthias Rittinger

RI, 12ri0022.doc

+49 241 80 25607

rittinger@ika.rwth-aachen.de

2012-02-14

## Certification of safety cups

Dear Mr Maynier,

Mr Riel from Germany asked us to test the safety cups with the label "RIEL" and "CARO". We have done the FEI approval testing to receive the certificate. In addition to the test of the static release force, the safety cups were inspected visually.

After these tests the safety cups received the certificate. A copy of the certificate is added to this letter.

If you have any questions, don't hesitate to contact me.

Best regards

Dipl.-Ing. Daniel Wegener

Manager Vertical Dynamics and Durability

Dipl.-Ing. Matthias Rittinger



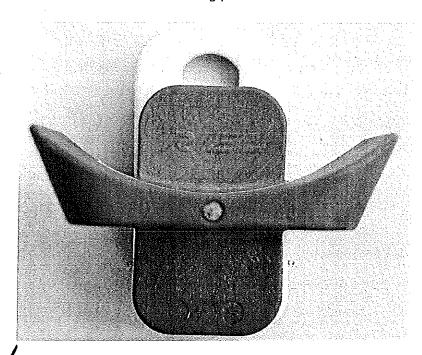
date: 06.02.2012 reference: 12ri0017.doc

## Certificate

This is to certify that the safety cups provided by:

Riel GmbH & Co. KG Hagenfeldstr. 11-13 75038 Oberderdingen

have been tested at the Institut für Kraftfahrzeuge Aachen, RWTH Aachen University. The safety cups with the label "RIEL" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, February 2012

Univ./Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. Matthias Rittinger



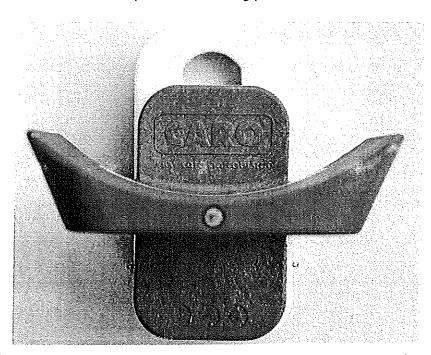
date: 06.02.2012 reference: 12ri0018.doc

## Certificate

This is to certify that the safety cups provided by:

> Riel GmbH & Co. KG Hagenfeldstr. 11-13 75038 Oberderdingen

have been tested at the Institut für Kraftfahrzeuge Aachen, RWTH Aachen University. The safety cups with the label "CARO" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, February 2012

Univ.-Prof. Dr.-Ing. Lutz Eckstein

Director

Rillinger Dipl.-Ing. Matthias Rittinger

Chassis

Director: Univ.-Prof. Dr.-Ing. L. Eckstein





RWTH Aachen University Steinbachstraße 7

52074 Aachen

Fédération Equestre Internationale

Philippe Maynier

HM King Hussein I Building

Chemin des Délices 9

1006 Lausanne

Switzerland

Institut für Kraftfahrzeuge

Steinbachstraße 7 D-52074 Aachen

Germany

phone (office) fax (office)

name

our reference

phone

email

date

Head of the Institute

Univ.-Prof. Dr.-Ing. L. Eckstein

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+49 241 80 22147

Dipl.-Ing. Matthias Rittinger

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+49 241 80 25607

rittinger@ika.rwth-aachen.de

2012-02-14

## Certification of safety cups

Dear Mr Maynier,

Mr Riel from Germany asked us to test the safety cups with the label "RIEL" and "CARO". We have done the FEI approval testing to receive the certificate. In addition to the test of the static release force, the safety cups were inspected visually.

After these tests the safety cups received the certificate. A copy of the certificate is added to this letter.

If you have any questions, don't hesitate to contact me.

Best regards

Dipl.-Ing. Daniel Wegener

Manager Vertical Dynamics and Durability

Dipl.-Ing. Matthias Rittinger



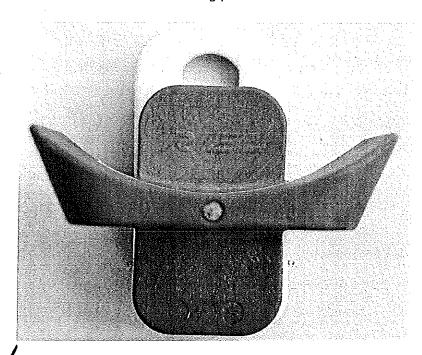
date: 06.02.2012 reference: 12ri0017.doc

## Certificate

This is to certify that the safety cups provided by:

Riel GmbH & Co. KG Hagenfeldstr. 11-13 75038 Oberderdingen

have been tested at the Institut für Kraftfahrzeuge Aachen, RWTH Aachen University. The safety cups with the label "RIEL" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, February 2012

Univ./Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. Matthias Rittinger



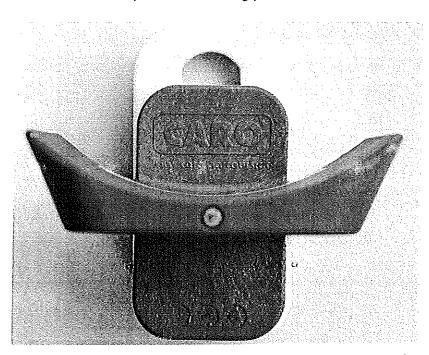
date: 06.02.2012 reference: 12ri0018.doc

## Certificate

This is to certify that the safety cups provided by:

Riel GmbH & Co. KG Hagenfeldstr. 11-13 75038 Oberderdingen

have been tested at the Institut für Kraftfahrzeuge Aachen, RWTH Aachen University. The safety cups with the label "CARO" have fulfilled all requirements and therefore they have been approved. This certificate is only valid for this type of safety cups; any changes will require a new testing procedure.



Aachen, February 2012

Univ.-Prof. Dr.-Ing. Lutz Eckstein

Director

Dipl.-Ing. Matthias Rittinger Chassis

Director: Univ.-Prof. Dr.-Ing. L. Eckstein

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