

(1) **Type Examination Certificate**(2) No. of the Type Examination Certificate: **ZP/B287/18**(3) Product: **Anchor device type A**
Type: Safety eyelet(4) Manufacturer: **SafetyBull A/S**(5) Address: **Roskijdevej 342, 2630 TAASTRUP, DENMARK**

(6) The design of this product and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(7) The certification body of DEKRA EXAM GmbH certifies that this product comply with the fundamental requirements of the standard listed under item 8 below. The examination and test results in the test and assessment report PB 18-213.

(8) The requirements of the standard are assured by compliance with


DIN EN 795:2012**DIN CEN/TS 16415:2017**

(9) This Type Examination Certificate relates only to the design, examination and tests of the specified product in accordance to the standard list. Further requirements of the Directive apply to the manufacturing process and supply of this personal protective equipment. These are not covered by this certificate.

(10) This Type Test Certificate is valid until 2023-11-08.

DEKRA EXAM GmbH
Bochum, 2018-11-09signed: Mühlenbruch
Certification bodysigned: Stickdorn
Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.



Certification body



Special services unit

TRANSLATION

- (11) Appendix to
- (12) **Type Examination Certificate**
ZP/B287/18
- (13) 13.1 Subject and Type
Anchor device type A
Type: Safety eyelet

13.2 Description

The anchor device, type: safety eyelet serves as a single anchor point to protect a maximum of two persons against falls from a height (fig. 1 – 2). The anchor device is attached on the corresponding mounting surface by means of the flange and a M20 screw.

On the base plate (t = 9.5 mm) two hinged eyelets are welded. The user can secure himself to one of the eyelets using his personal protective equipment against falls from a height.

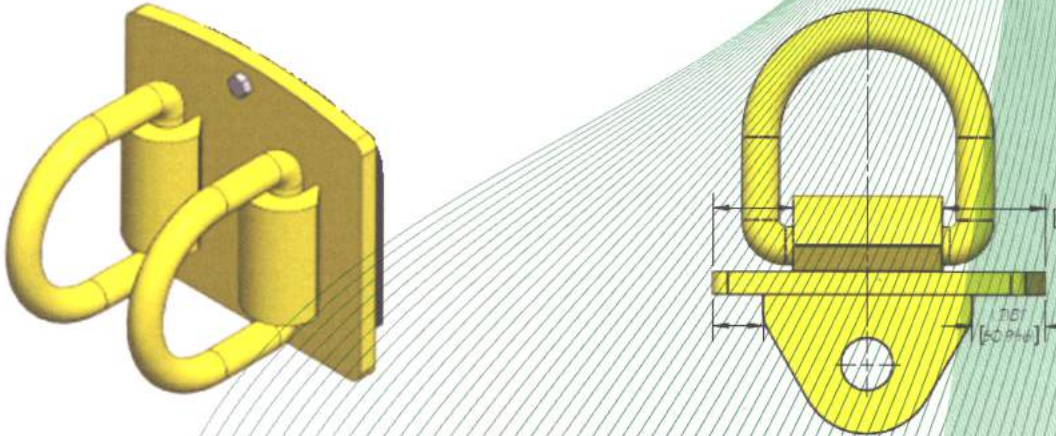


Fig. 1 and Fig. 2: Anchor device, type: safety eyelet

Note: The type examination certificate relates exclusively to the anchor device described above. The mounting at the building structure or at technical facilities is not subject of this certificate.

- (14) Test and Assessment Report
PB 18-213 dd. 2018-11-09

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Our ref. 20180274

Your ref.
Your message

Report PB 18-138_Rev.01

on the test of an anchor device of type A and following type E
according to EN 795:2012 and DIN CEN/TS 16415:2017
Type: attachment eyelet at a safety cart

Client:
Faldsikring.nu Aps
Roskildevej 342
2630 TAASTRUP
DENMARK

Evaluator: B. Eng. Jens Böhm

This test report consists of 20 pages and shall only be relayed entirely and unabridged unless prior written permission of the DEKRA EXAM Test Laboratory for Component Safety has been granted to publish the report in parts.

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Appendix

1 General

1.1 Client

Faldsikring.nu Aps, Roskildevej 342, 2630 TAASTRUP, DENMARK

The tests were carried out at the premises of:

ABS Safety GmbH at Gewerbering 3 in 47623 Kevelaer, Germany

1.2 Order commission

Written application of 29.05.2018

1.3 Scope of the order

Tests carried out at an anchor device of type A according to EN 795:2012 and DIN CEN/TS 16415:2017, type: attachment eyelet

The tests were also carried out in conjunction with a safety cart following type E of EN 795:2012 and DIN CEN/TS 16415:2017: the mentioned anchor device is mounted at the safety cart and positioned on the structure due to its own weight.

1.4 Place and date of the examination

The tests for dynamic and static strengths were carried out at the premises of ABS Safety GmbH: Gewerbering 3, 47623 Kevelaer on 23.05.2018 (system examination).

1.5 Samples and documents submitted

1 anchor device of type attachment eyelet (type A) mounted at steel constructions
reg. no. PFB 18-441 dated 05.06.2018

9 anchor devices of type attachment eyelet mounted at fall safety carts (type E)
reg. no. PFB 18-442 dated 05.06.2018

Drawings

The documents submitted have been compiled in the Appendix of this test report.

2 Description

2.1 Test specimen

The anchor device of type attachment eyelet is used as a single anchor point to protect a maximum of two people against falls from a height (Fig. 1-2). The anchor device is fastened to the respective assembly surface using a flange and an M20 bolt. Two foldable eyelets are welded to the base plate ($t = 9.5 \text{ mm}$). To each, one user can connect his personal protective equipment to protect himself against falls from a height.

Fig. 3-4 show the attachment eyelet mounted at a safety cart. The total weight of the standard cart variant is 273 kg. In relation to the surface of the structure, the safety cart can be loaded with up to 145 kg.

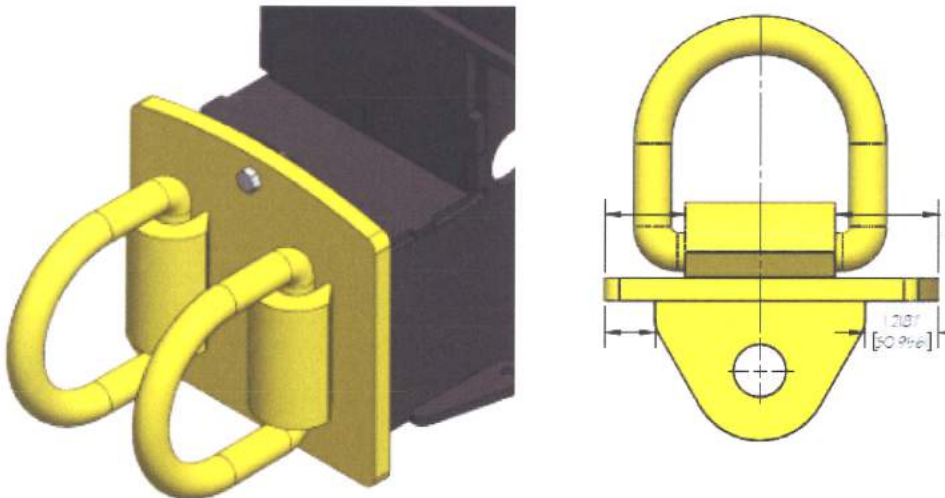
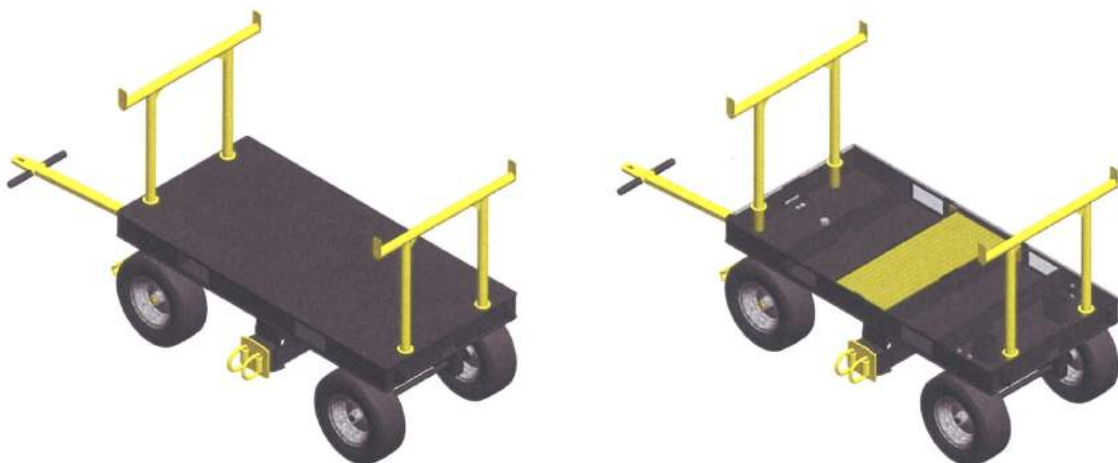


Fig. 1-2: anchor device, type attachment eyelet



Safety cart (standard variant)

Variant with additional optional weight in the vehicle frame

Fig. 3-4: attachment eyelet mounted at safety cart

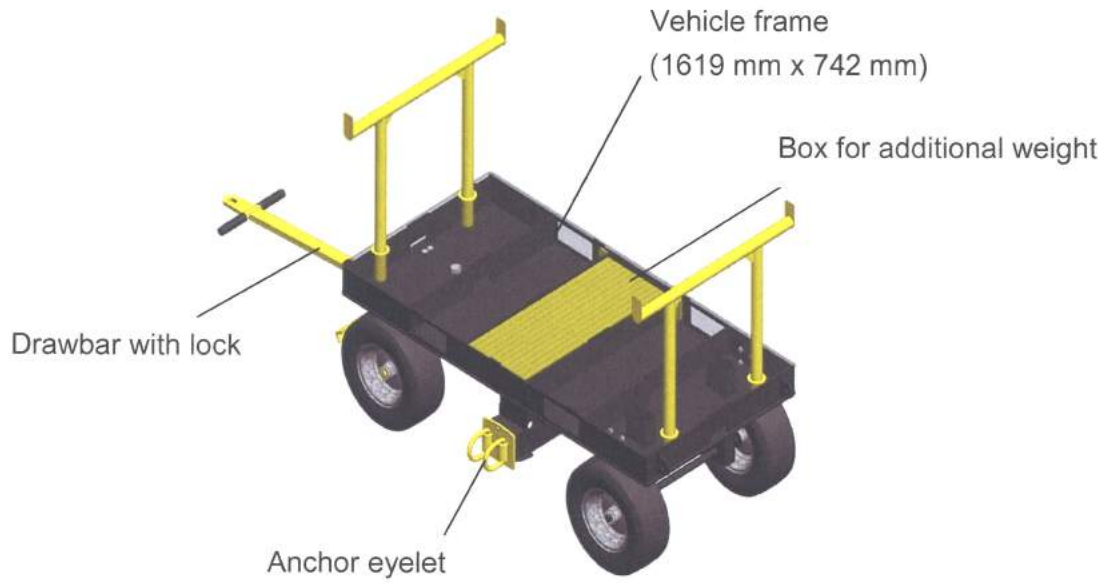


Fig. 5: details of safety cart

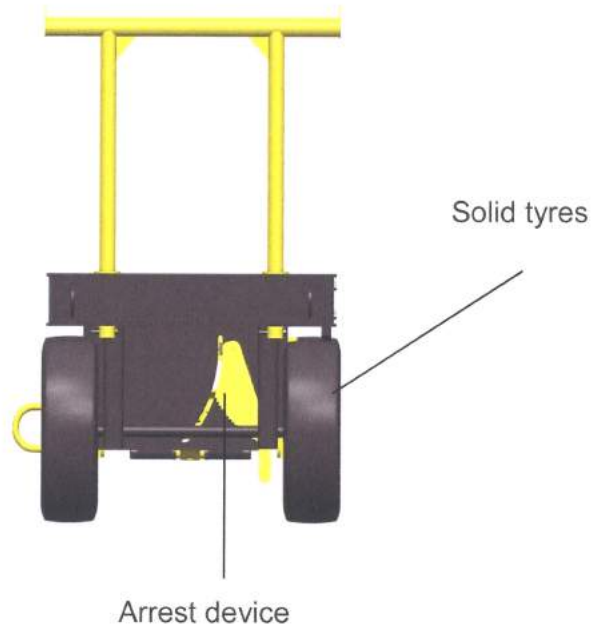


Fig. 6: details of safety cart, side view

2.2 Test layouts

The following Figures show the principal test layouts used to test the dynamic and static strengths at the anchor device of type attachment eyelet. For that purpose, the anchor device was fastened to a test facility that simulated the structure.

Fig. 7 shows the anchor device mounted at a steel construction. Fig. 8 shows the anchor device mounted at a fall safety cart. This cart is placed on a surface that resembles the surface of the structure.



Fig. 7: anchor device type attachment eyelet, mounted at steel construction



Fig. 8: anchor device type attachment eyelet, mounted at fall safety cart and placed on a surface resembling the structure (here: OSB surface)

2.3 Directions of loads applied

Fig. 9-10 show the directions of the forces applied.

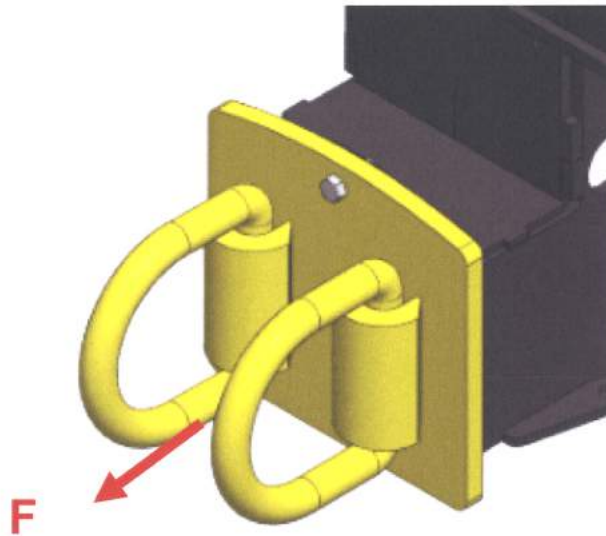


Fig. 9: anchor device type attachment eyelet, mounted at steel construction and indicating the direction of the force applied

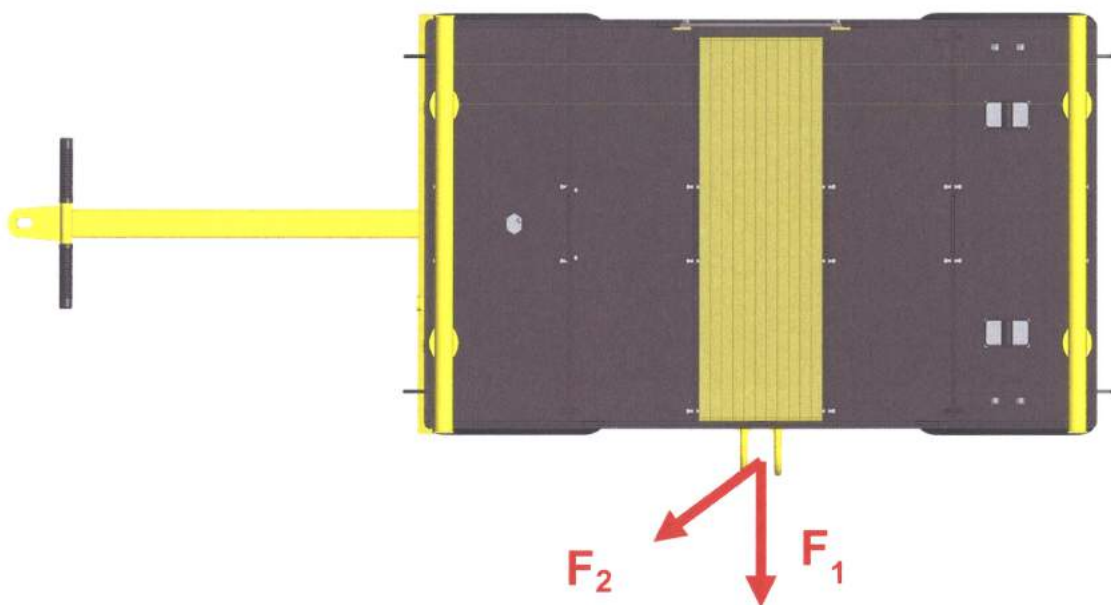


Fig. 10: anchor device type attachment eyelet, mounted at fall safety cart and indicating the directions of the forces applied

3 Tests

3.1 Test of dynamic strength and integrity

(No. 4.4.1.2 EN 795:2012 and No. 4.2.1.1 DIN CEN/TS 16415:2017)

The test of dynamic strength and integrity was done according to the procedure documented in tables 1 and 2.

The results of the test of dynamic strength and integrity are compiled in the test layouts 1-9.

Table 1: procedure to test the dynamic strength and integrity if the anchor device is used by more than one person

Users	Forces applied [kN]	Test mass [kg]	Test rope
1 and 2	12	200	Dynamic mountain rope according to EN 892:2014

Immediately after the dynamic strength test, the integrity was tested using a load of 600 kg and over a period of 3 min.

Table 2: procedure to test the dynamic strength and integrity if the anchor device is used by one person

Users	Forces applied [kN]	Test mass [kg]	Test rope
1	9	100	Dynamic mountain rope according to EN 892:2014

Immediately after the dynamic strength test, the integrity was tested using a load of 300 kg and over a period of 3 min.

3.2 Test of static strength

(No. 4.4.1.3 EN 795:2012 and No. 4.2.1.2 DIN CEN/TS 16415:2017)

The test of static strength was carried out at the anchor device of type attachment eyelet using a specific test force over a period of 3 min. The anchor device was loaded applying the force direction F shown in Fig. 9. The results are compiled in test layout 1.

4 Results

Below, the results of the tests for dynamic and static strength at the anchor device are documented (test layouts 1-9, Fig. 11-40).

The directions of the forces applied are documented in Fig. 9-10.

4.1 Test layout 1: attachment eyelet at steel constructions

Eyelet at steel constructions				
User	Direction	Arresting force [kN]	Static strength	Result
1 and 2	F	12.07	13 kN / 3min	Test mass and test load arrested



Fig. 11, test layout 1: attachment eyelet at steel construction

4.2 Test layout 2: safety cart on OSB surface

Eyelet at safety cart, placed on OSB (t = 18 mm)

Variant safety cart: standard (273 kg)

User	Direction	Arresting force [kN]	Result
1 and 2	F ₁	7.26	Test mass arrested, test load arrested for integrity test
	F ₂	6.54	

Maximum displacement: 350 mm



Fig. 12-15, test layout 2: safety cart on OSB surface

4.3 Test layout 3: safety cart on PVC foil

Eyelet at safety cart, placed on PVC foil on a base of Styrodur and trapezoidal sheet
 Variant safety cart: standard (273 kg)

Users	Direction	Arresting force [kN]	Result
1 and 2	F ₁	7.82	Test mass arrested, test load arrested for integrity test
	F ₂	8.57	

Maximum displacement: 335 mm



Fig. 16-19, test layout 3: safety cart on PVC foil

4.4 Test layout 4: safety cart on concrete

Eyelet at safety cart, placed on concrete (pavement slabs)

Variant safety cart: standard (273 kg) + 145 kg additional load

Users	Direction	Arresting force [kN]	Result
1	F ₁	6.14	Test mass arrested, test load arrested for integrity test
	F ₂	5.72	

Maximum displacement: 370 mm



Fig. 20-22, test layout 4: safety cart on concrete

4.5 Test layout 5: safety cart on bitumen (I)

Eyelet at safety cart, placed on bitumen on a base of Styrodur (100 mm) and trapezoidal sheet

Variant safety cart: standard (273 kg) + 145 kg additional load

Users	Direction	Arresting force [kN]	Result
1 and 2	F ₁	7.94	Test mass arrested, test load arrested for integrity test
	F ₂	8.35	

Maximum displacement: 115 mm



Fig. 23-24, test layout 5: safety cart on bitumen

4.5.1 Test layout 5-1: safety cart on bitumen (II)

Eyelet at safety cart, placed on bitumen on a base of Styrodur (100 mm) and trapezoidal sheet

Variant safety cart: standard (273 kg)

Users	Direction	Arresting force [kN]	Result
1 and 2	F ₁	7.94	Test mass arrested, test load arrested for integrity test
	/	/	

Maximum displacement: 290 mm



Fig.: 25-26, test layout 5-1: safety cart on bitumen

4.6 Test layout 6: safety cart on PVC foil and rockwool

Eyelet at safety cart, placed on PVC foil on a base of rockwool (300 mm) and trapezoidal sheet

Variant safety cart: standard (273 kg) + 145 kg additional load

Users	Direction	Arresting force [kN]	Result
1 and 2	F ₁	7.66	Test mass arrested, test load arrested for integrity test
	F ₂	/	

Maximum displacement: 120 mm



Fig.: 27-30, test layout 6: safety cart on PVC foil and rockwool

4.7 Test layout 7: safety cart on bitumen (III)

Eyelet at safety cart, placed on bitumen on a base of roof sheets with rockwool (300 mm) and trapezoidal sheets

Variant safety cart: standard (273 kg) + 145 kg additional load

User	Direction	Arresting force [kN]	Result
1 and 2	F ₁	7.97	Test mass arrested, test load arrested for integrity test
	F ₂	8.32	

Maximum displacement: 55 mm



Fig. 31-33, test layout 7: safety cart on bitumen

4.8 Test layout 8: safety cart on bitumen (IV)

Eyelet at safety cart, placed on bitumen on a base of Styrodur and trapezoidal sheet
 Variant safety cart: standard (273 kg)

Users	Direction	Arresting force [kN]	Result
1	F ₁	5.96	Test mass arrested, test load arrested for integrity test
	F ₂	5.62	

Maximum displacement: 125 mm



Fig. 34-36, test layout 8: safety cart on bitumen

4.9 Test layout 9: safety cart on bitumen (V)

Eyelet at safety cart, placed on bitumen on a base of rockwool and trapezoidal sheet

Variant safety cart: standard (273 kg)

User	Direction	Arresting force [kN]	Result
1	F ₁	6.12	Test mass arrested, test load arrested for integrity test
	F ₂	4.70	
Maximum displacement: 75 mm			



Fig. 37-38, test layout 9: safety cart on bitumen

5 Note

The test results listed above solely refer to the test samples submitted.

Evaluator:



B. Eng Jens Böhm

Appendix

