



# IRS System

**User Manual**

# IRS

## fire service rescue loop system

Subject to technical changes

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### BRIEF DESCRIPTION

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#### INTENDED USE

- The IRS fire service rescue loop system serves as a simple securing device for retention, rescue and self-rescue in compliance with FWDV 1 chapter 17 and 18 for one person.
- The IRS replaces the fire service work positioning belt DIN 14927 in all functions in compliance with FWDV 1.
  - Observation of the instructions in this user manual (GAL).
  - Compatibility of the fire service operations jacket with the IRS system.
  - All the parts stated in the GAL must be available in full, integrated and operational.
  - The wearer of the protective clothing must be briefed about in the safe use of this IRS system as defined in this GAL.

Intended use is identical to the use of the fire service work positioning belt and is described in the FWDV 1 „Basic activities – extinguishing and assistance“ chapter 17 and 18 and in the BGI / GUV-I8651 „Fire fighting safety“ chapter C 13. Use of this equipment is based on an assumption that the user is familiar with handling personal protective equipment against falls from a height and the risks of working in areas where there is a risk of falling.

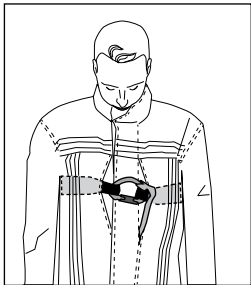
Also, the IRS can be used for fast rescue of comrades in emergency situations and emergencies where respiratory equipment is used.

**All other uses are deemed improper. The company BORNACK will not be liable for any resulting damage. The user bears the sole risk**

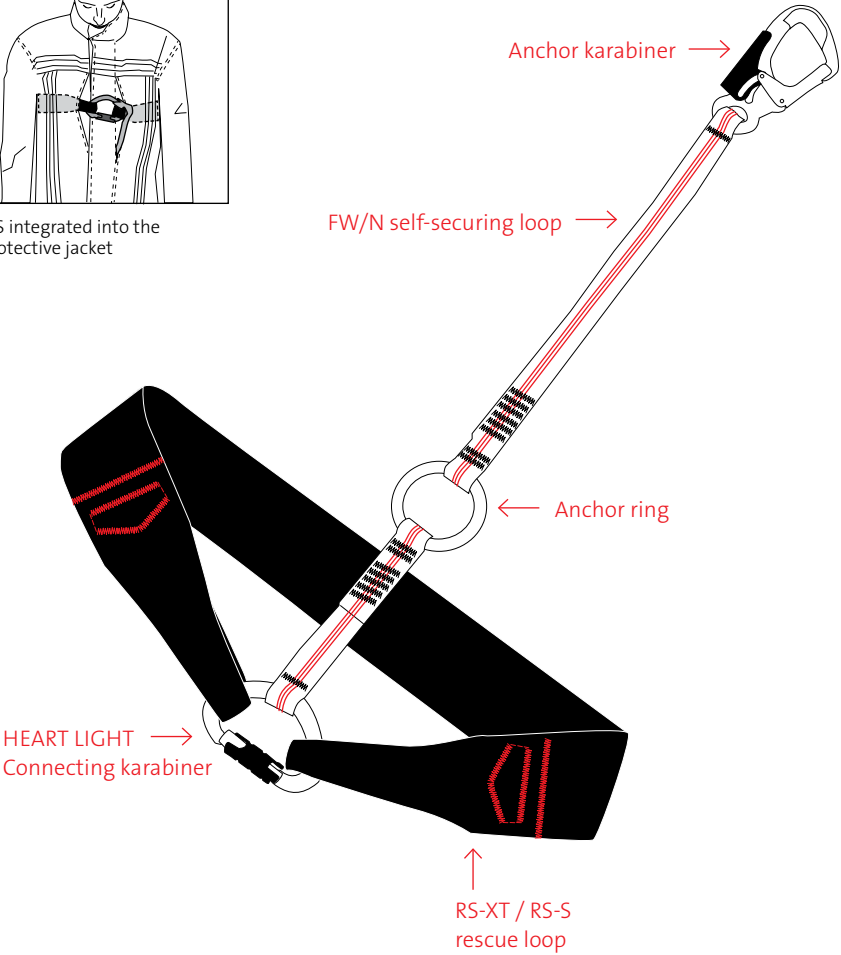
#### EQUIPMENT

- Rescue loop RS for integration into the fire service operations jacket. Tested according to EN 1498-A and EN 358.
- RS XT flame-resistant PES fabric
- RS S polyamide
- Special karabiner HEART LIGHT EN 362 / EN 12275
- Self-securing loop FW/N. Tested according to EN 795-B / EN 354 / EN 566.
- If necessary, next expert inspection!

**IRS – FIRE SERVICE RESCUE LOOP SYSTEM**



IRS integrated into the protective jacket



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## SAFETY INSTRUCTIONS

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**Always check every  
time before use!**

- The IRS is no substitute for a full body harness DIN / EN 361.
- The IRS is not suitable for fall arrest purposes. If there is a risk of falling or a free fall, suitable equipment such as that described in e.g. DIN 14800-17 Standard fall protection equipment, must be used.
- The users of the IRS must be briefed in how to use the IRS system safely before using the system for the first time, however at least once a year.
- The sitting and wearing properties must guarantee the functions of the fire service clothing and the IRS system.
- Intended use must be observed as for the use of the fire service work positioning belt. This is described in the FWDV 1 „Basic activities – extinguishing and assistance“ chapter 17 and 18 and in the BGI / GUV-I8651 „Fire fighting safety“ chapter C 13.
- To use the IRS system for this procedure, the entire system including the self-securing loop FW/N must always be used.
- If even the slightest of faults is detected during the inspection, the personal protective equipment may not be used.
- Any components of the personal protective equipment that are faulty may only be tested and repaired in a workshop authorised by the company BORNACK.

### VISUAL INSPECTION

- Check that the rope protection equipment is complete. Are all components available?
- All seams are undamaged. Textile components do not show any visible signs of damage or damage that can be felt.
- Fittings, D-rings, buckles, karabiners do not show any visible signs of damage and are not bent. The karabiner and the lock are functional.
- After being used for the last time the IRS is visually inspected and ready for future use.

### FUNCTION TEST

- Visual inspection of the closed IRS and manual test to ensure it functions safely.

### ANCHOR POINTS

- Anchor points must be sufficiently strong, EN 795, and positioned above the user. If in an emergency or for tactical reasons no EN 795-conform anchor point is available, a suitable, adequately strong anchor point can be selected on the basis of a fast local risk assessment.

### KARABINER

#### CAUTION:

Risk of cross-load on the karabiner!  
Observe special user manual for the karabiner.



## IRS IN USE

### PREPARATION

BORNACK and the manufacturer of the protective clothing cooperate to integrate the IRS into the fire service operations jacket and to define the right size.

The suiting and wearing properties must guarantee the functions of the fire service clothing and the IRS. The width is adjusted to suit the wearer of the protective clothing in a closed condition when all operations clothing is worn. The adjustment guarantees that the wearer of the equipment does not slip out when suspended freely, and that the freedom of movement crawling sideward, when bending or in a crouched position is not restricted, and also that breathing is not restricted. The clothing size (length) of the IRS system must be adapted to the sizes used by the respective manufacturer.

### INTEGRATION INTO THE PROTECTIVE JACKET

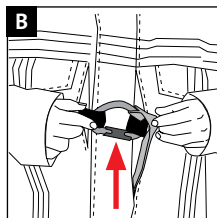
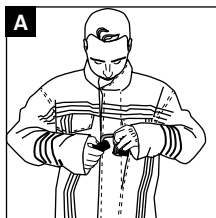
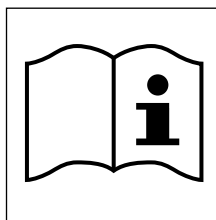
Please note the information in the user manual of the jacket manufacturer about integrating the IRS system into the protective jacket.

### CLOSING

- A** When putting on the protective jacket, the rescue loop must be closed immediately and its immediate safe function guaranteed.
- B** The rescue loop is closed into a ring using the special HEART LIGHT karabiner.

### CAUTION:

The lock of the HEART LIGHT connecting karabiner must point downwards.



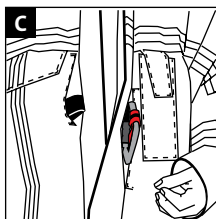
## IRS IN USE

### IN USE OR IN DRILLS

- The IRS is always worn „ready for use“ and stowed away correctly. Please observe the user instructions issued by the manufacturer of the jacket about stowing the device.
- If a risk is identified that could pose a risk to the use of the panic function on the zip of the jacket, the wearer of the protective jacket decides, if possible in agreement with his superior, about the protection goals based on the local risk assessment at the damaged area.

### TAKING OFF THE PROTECTIVE JACKET

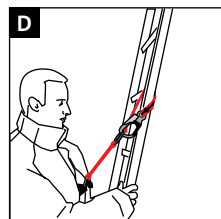
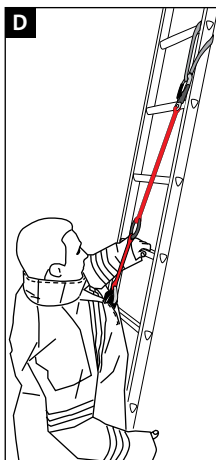
- C** The HEART LIGHT karabiner is unhooked on one side of the rescue loop. The self-securing loop FW/N remains hooked in and stowed in the storage place.



### RETENTION

- D** Create an anchor point with lanyards. Including bars and rungs. Hook the FW/N self-securing loop into the lanyard.

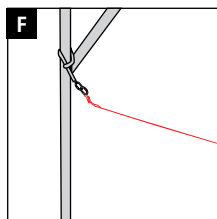
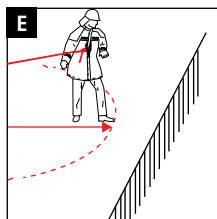
**CAUTION:**  
When anchoring the BORNACK self-securing loop FW/N for retention purposes, always ensure that the anchor point lies clearly above the belay point (locking karabiner). (Fall factor < 0.5, fall height < 0.3 m)



## IRS IN USE

### RETENTION

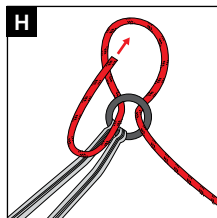
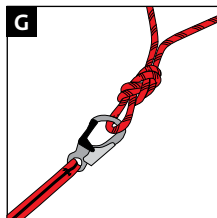
- E** The IRS is anchored to an anchor point so that the fall edge is not reached. This prevents falls.



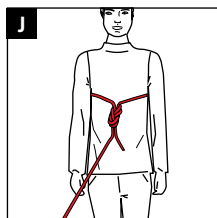
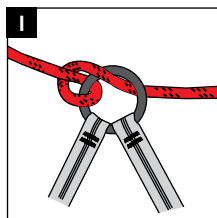
### RESCUING PERSONS

- F** Attach the fire service line to an adequately strong anchor point.

- G** Attach the fire service line via an 8-knot to the anchor karabiner as a retention system.



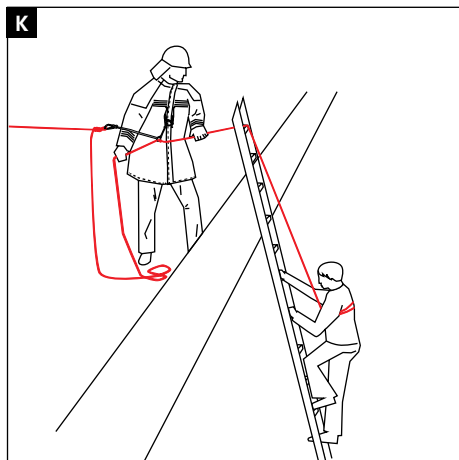
- H** Feed the fire service line via a HMS knot through the anchor ring. Feed the line with a bay anchor knot (as shown in the picture above) through the steel ring, thread the rope bag through the bay anchor knot



- I** Check the function.

- J** Attach the fire service line to the person being rescued using a check strap or rescue harness EN 1498.

- K** Lower the rescued person slowly. Simple steering via the HMS.



## IRS IN USE

### SELF-RESCUE

- L** Attach the fire service line to an adequately strong anchor point.

Feed the fire service line via a HMS knot through the anchor ring. Feed the line with a bay anchor knot (as shown in the picture above) through the steel ring, thread the line bag through the bay anchor knot.

- M** Feed the fire service line via a HMS knot through the anchor ring.

- N** Move up to the exit edge. When crossing, e.g. straddling, the edges (e.g. window) ensure that the anchor ring is already positioned behind the exit edge before abseiling.

#### CAUTION:

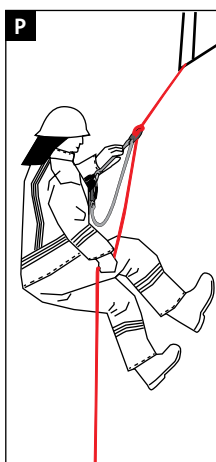
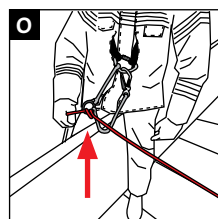
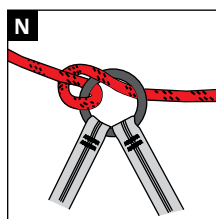
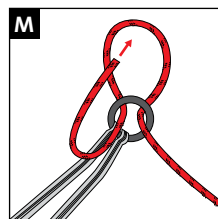
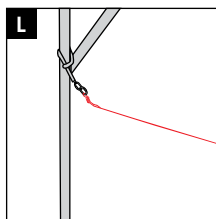
Prevent edge loads. Protect hands and arms. Do not clamp hands or arms below the rope.

- O** Guide the rope with one hand, avoid rope slack and jerk-like loads.

#### CAUTION:

Self-rescue with the IRS is only allowed in emergency situations where there is an immediate danger to life and limb. Self-rescue must be learned and trained with an independent securing system.

An independent securing system is e.g. a top rope lock with fall prevention equipment in compliance with DIN 14800-17.



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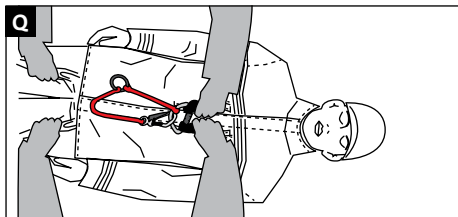
## IRS IN USE

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### **IMMEDIATE RESCUE (CRASH RESCUE)**

Dragging out a comrade by two fire service members.

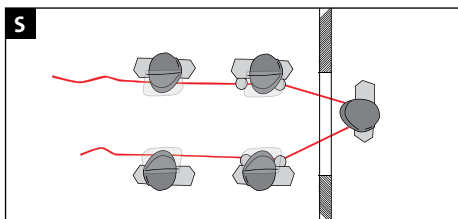
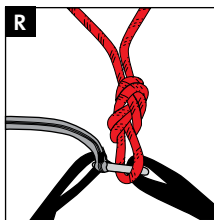
- P** Hold the casualty with one hand respectively on the rescue loop. You can now pull the casualty from the danger zone.



### **LIFTING OR LOWERING**

At least four fire service members are required to lift or lower a casualty.

- Q** Use an 8.knot to attach the middle of the fire service line to the HEART LIGHT karabiner or the IRS.
- R** Position two fire service members on each side of the ends of the fire service line. You can now lower or lift the casualty slowly.



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## SAFETY INSTRUCTIONS

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### **There is a risk of life-threatening injuries if the safety instructions are not observed.**

- If even the slightest of faults is detected during the inspection, the personal protective equipment may not be used.
- Damaged, fall-stressed, dubious personal protective equipment or safety devices must be immediately withdrawn and not used. The equipment may only be inspected by an expert or the manufacturer. This must be entered into the test card.
- No independent changes or repairs may be carried out.
- The rope protection system is part of the personal protective equipment and should be assigned to a specific person.
- This personal protective equipment may only be used by trained and experienced persons or under appropriate supervision.
- Trained and experienced persons within the meaning of this GAL must be familiar with handling PPE against falls from heights, their correct use, application limits, possible risks, ways of avoiding these risks and they must also know the rescue plan.
- In accordance with the accident prevention guidelines (UVV), the users of fall protective equipment (Category III) must attend a theoretical training course and a practical training course. Make use of the training competence of the BORNACK training centres: [hotline@bornack.de](mailto:hotline@bornack.de)
- Before using for the first time, in particular when introducing the IRS system for the first time in a fire service, in-depth briefing of multipliers / fire service members of the respective fire services by BORNACK or training centres authorised by BORNACK is necessary.
- The in-depth briefing of multipliers / fire service members requires at least 8 training sessions.
- Accessories from other manufacturers may only be used if approved by BORNACK and may not impair the function and safety of the protective equipment.
- Clothing and shoes must be suitable for the task at hand and the weather conditions.
- The minimum protective equipment according to FWDV 1 chapter 2.1 must be worn.
- Only use if you are fully fit.
- Health impairments can impact on the safety of the user when working at heights or depths.
- The anchor point for the rope protection must be adequately strong (EN 795) and positioned correctly. If possible select an anchor point above head.
- If in an emergency or for tactical reasons no EN 795-conform anchor point is available, a suitable, adequately strong anchor point can be selected in the basis of a fast local risk assessment.
- This PPE is has not been tested for horizontal use.
- Edge loads always pose a risk.
- Select an anchor that is as high as possible.
- Protect personal protective equipment during storing, use and transportation against the effects of heat (e.g. welding flames or sparks, burning cigarettes) and chemicals (e.g. acids, alkalis, oils) and mechanical effects (e.g. sharp edges).

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## SAFETY INSTRUCTIONS

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- Before starting work, the responsible person must draw up a plan of rescue measures that defines how to rescue casualties quickly and safely and ensures first aid measures. Free suspension in the IRS must be restricted to a minimum (< 2.0 min). BORNACK can help you draw up tailor-made rescue plans and will incorporate your rescue plans into the training courses.
- The local safety guidelines and the accident prevention guidelines for the specific industry must be observed.
- Application temperature +80°C to -40°C.
- Safety regulations and tactical application information is also available in the FWDV 1 „Basic activities – extinguishing and assistance“ chapter 17 and 18 and in the BGI / GUV-I8651 „Fire fighting safety“ chapter C 13 and in the GUV-C53 accident prevent guidelines for fire services.

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## OTHER

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### APPROVAL

Type testing and production control by:  
TÜV Süd Product Service GmbH  
Daimlerstr. 11, 85748 Garching  
CE 0123

Quality assurance by the manufacturer.  
Production monitoring by a certified office  
(Cat. III)

### SALES

If the goods are marketed in countries where German is not spoken, the dealer must ensure that user manuals in the respective national language are enclosed with deliveries. The respective translation must be authorised by BORNACK.

### SERVICE

If you have any questions about the safe use of this personal protective equipment or other services provided by BORNACK, such as

- risk analysis
- rescue plans
- training
- expertise tests

Please contact our e-mail hotline:  
hotline@bornack.de  
We will be happy to help!

### REGULAR INSPECTIONS

- Carry out a visual and functional test every time before and after use to check for damage and to check the function.
- Regular inspections, at least once a year, by an expert or the manufacturer.
- The result must be documented in the test card or the equipment management system of the fire service.

### MAINTENANCE

- Oil moving parts of karabiners and other equipment with oil. Keep joints running smoothly.
- Protective equipment that is well looked after will last longer!

### CLEANING

- Dry damp personal protective equipment in the air, not on artificial heat sources. Dry metal components with cloths.
- If the personal protective equipment comes into contact with saltwater, keep it wet until it can be rinsed with distilled water.
- Brush soiled textile components carefully or clean with lukewarm water and a little detergent for delicates, rinse with clean water. No other cleaning agents may be used

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## OTHER

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### LIFE SPAN

Usage period = Storage period + usage period  
The usage period ends at the end of the life span.

The following recommendations are made for using PPE against falls from heights in intervention departments and by rescue services:

#### **Maximum storage period before using for the first time**

Rescue loop RS, self-securing sling FW/N up to 3 years

#### **Maximum usage period after being used for the first time**

Rescue loop RS up to 10 years

Self-securing sling FW/N up to 8 years

Intensive use and/or extreme conditions, e.g. sharp edges, chemical influences, contact with contaminated extinguishing water, extinguishing water additives, extinguishing gases, the impact of acidic or aggressive flue gases, thermal damage caused by heat, flames, melting damage from glowing parts will reduce the usage period.

The company owner must take these influences and the usage conditions that could reduce the service life into account.

For more details, please visit the website [www.bornack.de](http://www.bornack.de) in the BORNACK brochure „Life span of textile personal protective equipment components“.

The company owner must ensure compliance with the maximum usage periods by documenting first-time use in the equipment card.

### REPAIRS

Repairs may only be carried out by the manufacturer or authorised workshops.

### STORAGE

- Dry damp personal protective equipment before storing.
- Store away from light in a dry place.
- Do not store personal protective equipment close to radiators. Permanent temperatures of over +50 °C have a negative impact on the strength of the textile material and will reduce the life span.
- Do not allow personal protective equipment to come into contact with aggressive substances (e.g. oils, greases, acids, chemicals).

### TRANSPORT

Transport the personal protective equipment in the device case or device bag.

## OHTER

### PRODUCT IDENTIFICATION

This fall protection equipment bears the following information:

Product name /  
variant

Product type

Size

Article no.

Charge / yr. of prod.

Series no.

Useful load

EN standards

CE symbol

RS S

Integrale Rettungs-/  
Halteschleufe  
für IRS System

Size: 145  
Art. Nr. 712 086-145  
Charge: 06/13-613-101290  
SN: 001  
max. Pers.: 1

EN 358  
EN 1498-A  
CE 0123



Logo

Contact

Read / observe user  
manual

QR code

Product name /  
variant

Product type

Read / observe user  
manual

Product name

Size

Article no.

Series no.

Charge / yr. of prod.

Break load

Contact

FW/N

Selbstsicherungsschlinge



www.bornack.de

Typ: FW/N  
Size: 75 cm  
Art. Nr. 742 252  
SN: 001  
Charge: 13-613-101982  
Bruchlast: 22kN  
www.bornack.de



Logo

Contact

QR code

EN standards

CE symbol

EN 566,  
EN 354,  
EN 795-B,

CE 0123

TEST CARD

FOR ANNUAL MONITORING

The test card must be completed in full by the expert during the annual inspection.

This test card does not claim to cover all test criteria and does not relieve the expert from his decision about the overall condition.

Type : \_\_\_\_\_

Manufactured on: \_\_\_\_\_

Serial no.: \_\_\_\_\_

Purchase date: \_\_\_\_\_

Date of first use: \_\_\_\_\_

Life span at the latest: \_\_\_\_\_

|         | Date | Signature | Next inspection | Reason for inspection |
|---------|------|-----------|-----------------|-----------------------|
| Year 1  |      |           |                 |                       |
| Year 2  |      |           |                 |                       |
| Year 3  |      |           |                 |                       |
| Year 4  |      |           |                 |                       |
| Year 5  |      |           |                 |                       |
| Year 6  |      |           |                 |                       |
| Year 7  |      |           |                 |                       |
| Year 8  |      |           |                 |                       |
| Year 9  |      |           |                 |                       |
| Year 10 |      |           |                 |                       |

# TEST CARD

FOR ANNUAL MONITORING

Please complete:

|   |   |
|---|---|
| X | ✓ |
|---|---|

[illegible]

TEST CARD

FOR ANNUAL MONITORING

The test card must be completed in full by the expert during the annual inspection.

This test card does not claim to cover all test criteria and does not relieve the expert from his decision about the overall condition.

Type : \_\_\_\_\_

Manufactured on: \_\_\_\_\_

Serial no.: \_\_\_\_\_

Purchase date: \_\_\_\_\_

Date of first use: \_\_\_\_\_

Life span at the latest: \_\_\_\_\_

|         | Date | Signature | Next inspection | Reason for inspection |
|---------|------|-----------|-----------------|-----------------------|
| Year 1  |      |           |                 |                       |
| Year 2  |      |           |                 |                       |
| Year 3  |      |           |                 |                       |
| Year 4  |      |           |                 |                       |
| Year 5  |      |           |                 |                       |
| Year 6  |      |           |                 |                       |
| Year 7  |      |           |                 |                       |
| Year 8  |      |           |                 |                       |
| Year 9  |      |           |                 |                       |
| Year 10 |      |           |                 |                       |

# TEST CARD

FOR ANNUAL MONITORING

Please complete:

[illegible]

Notes:

[illegible]



### **FALLSTOP**

Equipment for securing and rescuing at heights and depths

### **SAFEPOINT**

Stationary securing systems for architecture and industrial applications

#### **BORNACK GmbH & Co.KG**

Bustadt 39  
74360 Ilsfeld  
Germany

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Fax + 49 (0) 70 62 / 26 90 0-550  
info@bornack.de  
www.bornack.de

#### **BORNACK Schweiz**

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5703 Seon, AG  
Swiss

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Fax + 41 (0) 62 / 886 30 41  
info@bornack.ch  
www.bornack.ch