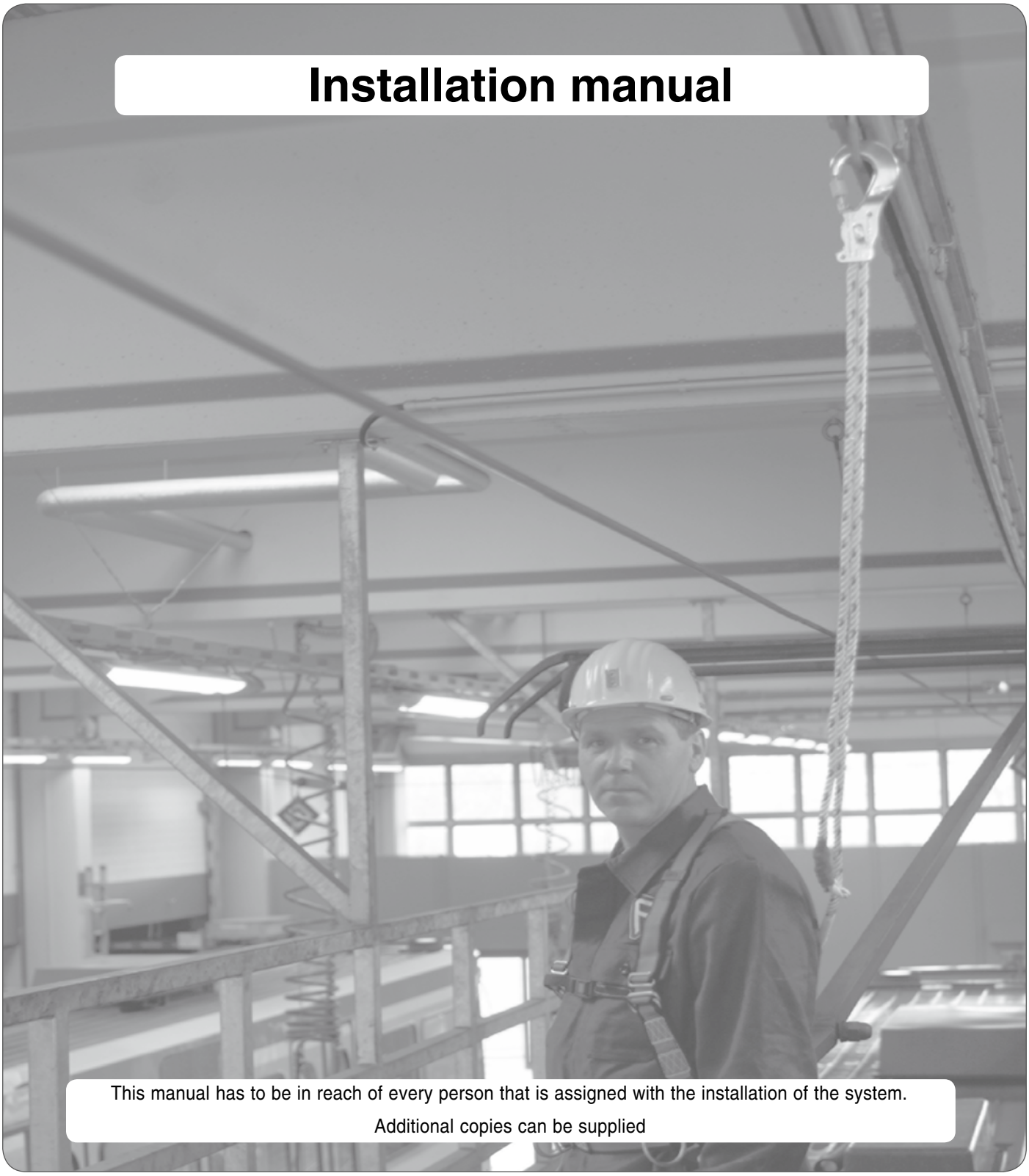
FABA™ SAFETY

Horizontal Anchorage System

System AW1

Installation manual



This manual has to be in reach of every person that is assigned with the installation of the system.

Additional copies can be supplied

Tractel® Group®

www.tractel.com

CE

Information about this manual

Date of issue

1st edition: November 2008

Copyright

Address of the producer

Greifzug Hebezeugbau GmbH
Scheidtbachstraße 19-21
51469 Bergisch Gladbach
Postfach 20 04 40
51434 Bergisch Gladbach
Phone: +49 (22 02) 10 04-0
Telefax: +49 (22 02) 10 04-50 + 70

Contents

1. Definitions and symbols used

1.1 Definitions

The following terms are important in this manual:

„anchorage system“: horizontal safety device

„technical expert“: „A person who, in view of his or her expert training and experience, has sufficient knowledge in the field of personal safety equipment as a protection against inadvertent falling and who is familiar with the current and valid government safetx at works regulations to the extentthat he or she can evaluate the safe working conditions and correct application of personal safety equipment dsigned to protect against inadvertent falling.

“Operator”: Person or company in charge of operating the product for the job it is intended for. Do not confuse with “User”.

“Technician”: Qualified person in charge of the maintenance operations, competent in the use of the product and conversant with it as assigned to the user by the manual.

“User”: Person or company responsible for the management and the safety of use of the product described in this manual.

„PPE“: personal protective equipment, e.g. safety shoes, gloves

„PPE against falls from a height“: Personal protective equipment against falls from a height, e.g. safety harness, fastener

1.2 Symbols in Use

The following symbols are used in this manual:

Symbol	Signal word	Meaning	Possible damages if not observed
SAFETY INSTRUCTIONS			
	**Danger**	**possible** threatening **danger**:	**Death, severe or light injury!**
	**Important**	**possible** dangerous **situation**:	**Failure or damage to the product**

Commandments			
	**None**	Information about written documentation	None
	None	Instruction for the use of PPE agianst falls from a height	**Death, severe or light injury!**
	None	Instruction for reading the documentation	**Death, severe or light injury!**
Additional Information			
	**Note**	Important: Useful Information for best use of the product	None

1.3 Safety information

⚠ Danger

Death, severe or light injuries, caused by improper use

➜ follow all instructions as stipulated in this manual

a) Installation and/or operation of the anchorage system must only be performed by persons who are fully trained.
They must be authorised by their employer to carry out the relevant tasks.

b) Installation and maintenance personnel must be healthy and at least 18 years of age.
They must know the relevant accident prevention regulations and should have received the corresponding training.
They must have read and understood these installation instructions.

They must have received training in the use of „Personal protective equipment against falls from a height".

c) A copy of this installation manual must be provided and readily available to installation and maintenance personnel at all times.

d) In case more than one person is entrusted with the above mentioned tasks, the employer must appoint a supervisor who is authorised to issue instructions.

e) **While in operation, all persons moving on the anchorage system must wear personal protective equipment against falls from a height** which they must fasten to the rigging points provided for this purpose.

The clearance beneath the system must be left free.

f) During operation, means of communication such as a mobile telephone must be carried along in case of an emergency.

g) Only technically sound anchorage systems, travellers and fasteners must be used.

h) Check that no parts are missing and that all the parts are in perfect condition.

i) The user has to be mentally and physically able for working at heights.

k) Please ensure that all the structural parts to be used are suitable for the existing loads, prior to installing the anchorage system.

l) If faults or damages are found **during operation** or any circumstances arise, which would **endanger the safety**:

Stop working immediately and inform the supervisor and/or the employer!

m) Damaged elements must not be used and have to be replaced.

n) If **load bearing parts** are being repaired or replaced, **a qualified person must check the operating safety of the system**.

o) The use of non-original parts will invalidate the Manufacturer's warranty as well as the CE approval.

p) Modifications, retrofitting or conversions to the anchorage system cannot be made without the manufacturer's written authorization.

q) The manufacturer will not accept any liability for damages resulting from modifications and conversions made to the devices as well as from the use of non-original parts, which have not been authorised by the manufacturer.

Fig. 1 Guide rail

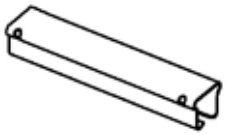


Fig. 2 Connector

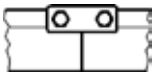


Fig. 3 Brackets and Fittings

a) b)

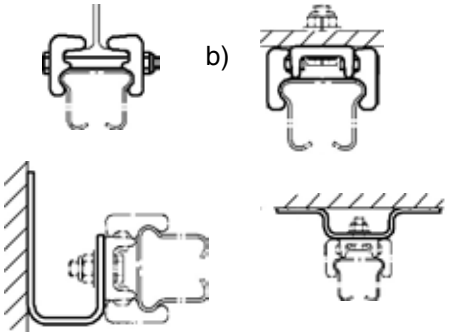


Fig. 4 Safety catch

a) b)

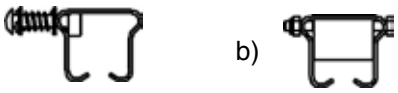
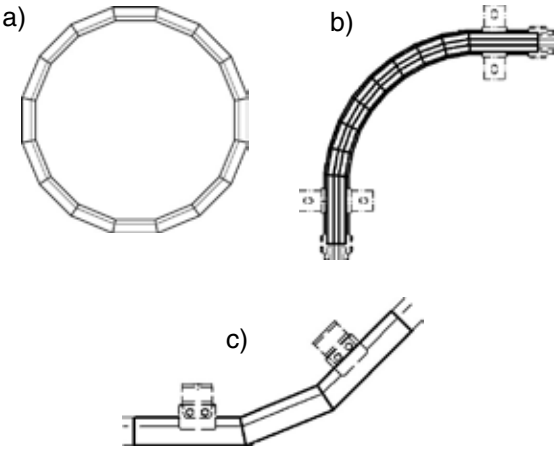


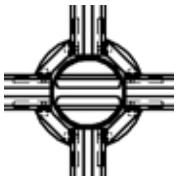
Fig. 5 bends (example)

a) b)



c)

Fig. 6 Junction



2. Presentation

2.1 Delivery conditions and format

2.1.1 Conditions of delivery

The anchorage system is delivered unmounted.

2.1.2 Scope of delivery

The following elements can be part of the composition:
– Guide rail (Fig. 1)
– Connector (Fig. 2)
– Bracket for steel beam I-120 (Fig. 3a) (optional)
– Bracket (Fig. 3b)
– Detachable safety catch (Fig. 4a)
– Fixed safety catch (Fig. 4b)
– optional: guide rails as a loop (Fig. 5a)
– optional: guide rails as rectangular bends (Fig. 5b)
– optional: guide rails as other bends (Fig. 5c)
– optional: junction (Fig. 6)
Scope of delivery depends on customer order

2.1.3 Documentation

The following documentation is delivered with the anchorage system
– Installation manual
– Logbook
– CE-Certificate
– User manual traveller W3
– drawing (possibly; special design)

2.2 Product description

2.2.1 Definition and purpose of use

The FABA™-anchorage system is a „permanently installed anchorage system containing a fixed horizontal guide rail“ in accordance with EN 795, Class D. The system is designed to protect from fall from a height. It is installed via brackets, which are designed for the corresponding ground or substructure. **The max. distance between brackets for the anchorage system is 1.50 m. FABA™-anchorage systems must not be used by more than 3 Persons at the same time. The load-bearing capacity of the substructure has to be at least 12 kN for each bracket.**

2.2.2 Mode of operation

The traveller W3 travels in the guide rail which is connected to the PPE against falls from a height as a travelling fall arrester. The traveller follows the user as he is travelling along the system without the user having to handle the traveller manually. In the case of a fall, the traveller secures the fall protection system and avoids further falling.

2.2.3 Limits

The FABA™-anchorage system AW1 is designed for the protection against falls from a height on horizontal walkways only. The system should not be in an inclined position. Do not connect more than three persons at the same time or transport loads using the anchorage system.

The FABA™-anchorage system AW1 must be used only in conjunction with approved PPE against falls from a height (EWG 89/686/CE or national regulations). Before each usage sequence, the user should carry out a visual inspection of the lifeline in order to ensure that it is in good condition for use, that the associated PPE are also in good repair and that they are compatible, correctly in place and connected.

The necessary clearances below the system are described in the corresponding of the PPE against falls from a height user manual which is used with the safety harness.
Whenever the safety harness is used in conjunction with the PPE against falls from a height the user must ensure beforehand that there is necessary clearance below the system. This ensures that the user cannot hit the ground in the case of a fall.

2.3 Regulations and standards

2.3.1 Implementation

After professional installation, the FABA™-anchorage system must be inspected and cleared for use. The results of the inspection must be documentated in the logbook.
Other than that the regulations and statutory provisions as stated in 2.3.3 apply. The rules and standards that apply in the country of use have to be observed as well.

2.3.2 Maintenance and inspection

Only persons authorised by the Tractel Group are allowed to perform maintanance and inspection on the anchorage system.

2.3.3 Statutory Provisions

89/686/EEC	Council Directive on Personal Protective Equipment
EN 795	Anchor devices
EN 354	Lanyards
EN 355	Energy absorbers
EN 358	Belts for work positioning and restraint and work positioning lanyards
EN 360	Retractable type fall arresters
EN 361	Full body harness
EN 362	Connectors
EN 363	Arrest systems
EN 364	Testing Procedures
EN 365	Instructions for use and marking
ArbSchG	Law on the implementation of protective measures to improve the safety and health of employees at work (Occupational safety act)
PSA-BV	Ordinance on safety and health protection during use of personal protective equipment at work (Ordinance on the use of PPE)
ArbStättV	Ordinance on working premises
BGR 198	Regulations for the use of personal protective equipment against fall from a height
BGR 199	Regulations for the use of personal protective equipment for arresting and rescuing.
BGG 906	Basic regulations for the selection, instruction and certification of competence of experts in personal protective equipment against falls from a height

3. Elements

3.1 System structure, overhead and lateral

3.1.1 System structure, overhead and lateral (Fig.7)

3.1 System structure, overhead only (Fig. 8)

Fig.7

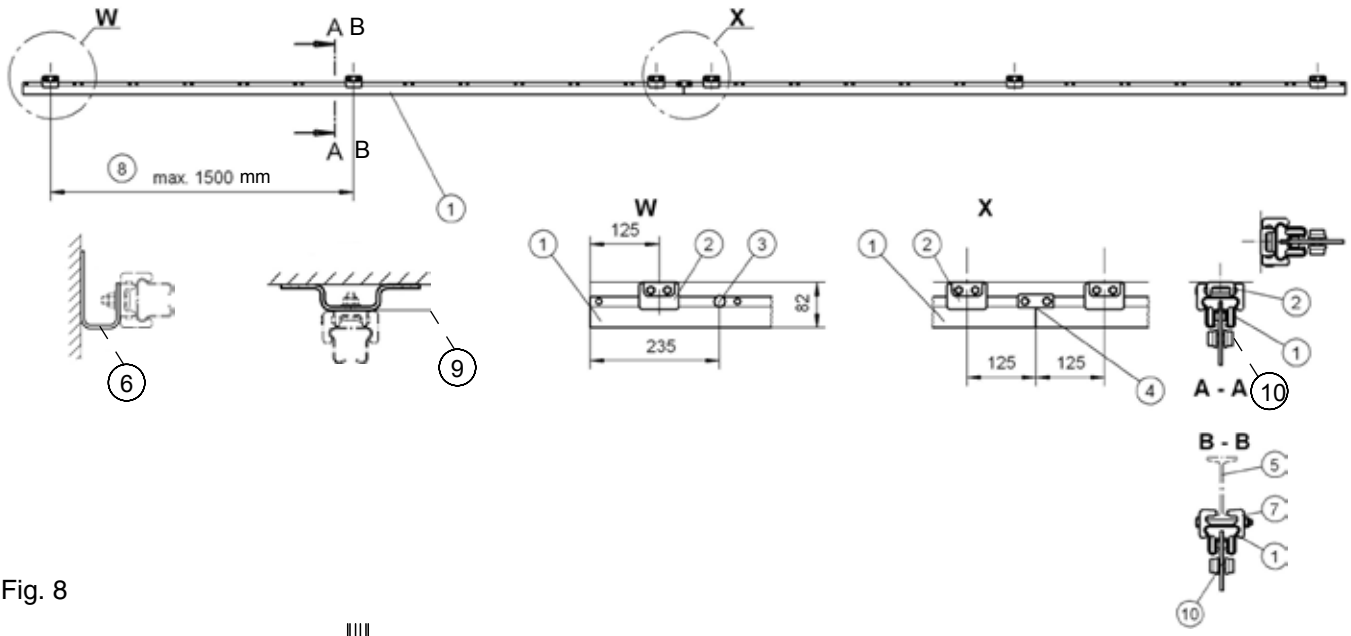
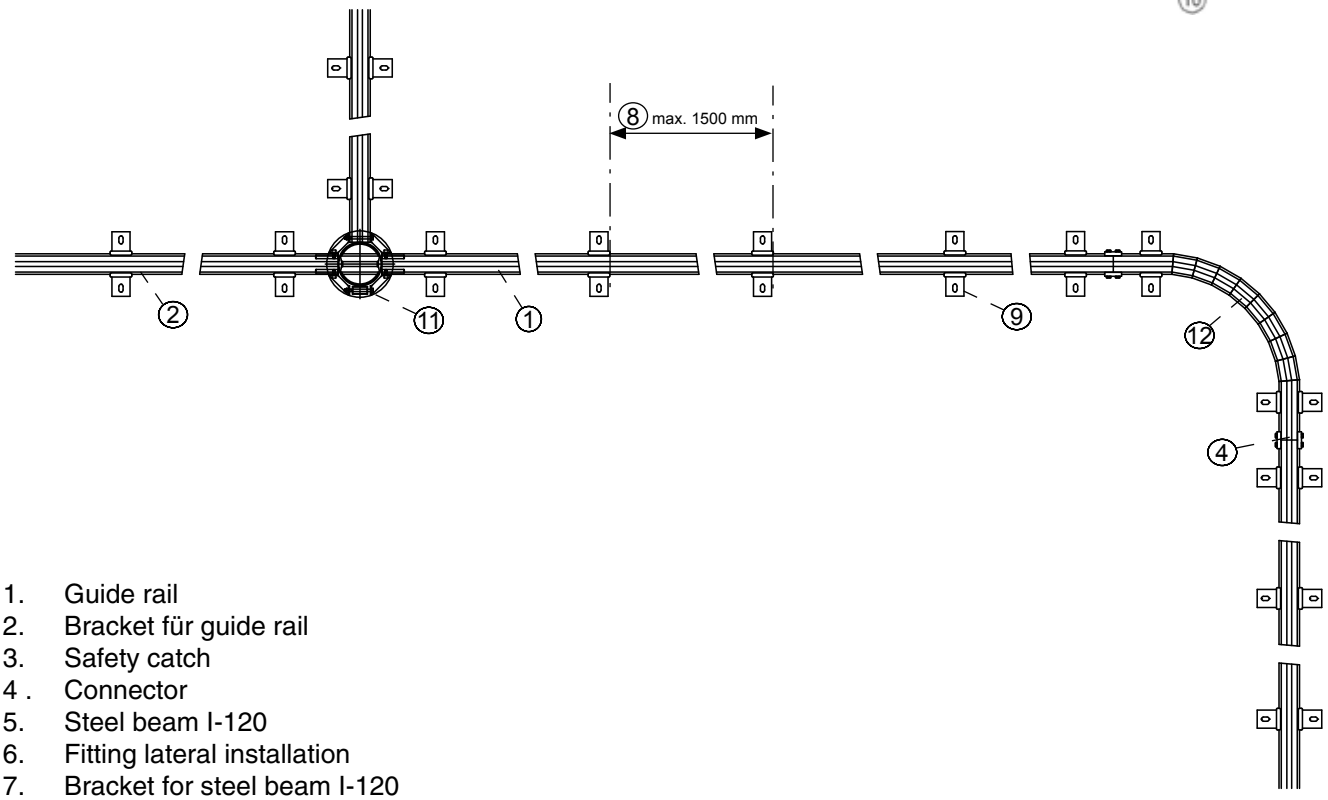


Fig. 8

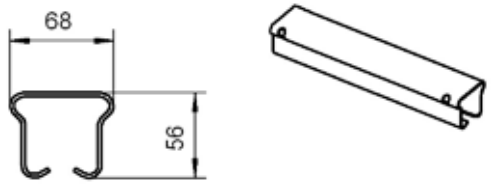


1. Guide rail
2. Bracket für guide rail
3. Safety catch
4 . Connector
5. Steel beam I-120
6. Fitting lateral installation
7. Bracket for steel beam I-120
8 . Distance between brackets
9. Fitting for over-head installation
10. Traveller W3
11. Junction
12. Bend 90°

3.2 Elements

3.2.1 Guide rail

Fig. 9



The guide rail (Fig. 9) is used to insert the traveller W3.

length: 1,000 mm - 6,000 mm
Weight depending on length: 3.8 - 22.7 kg
Material: Hot-dip galvanized or INOX 1.4571

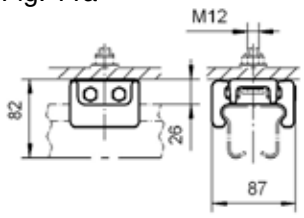
Fig. 10

3.2.2 Connector

The connector (Fig. 10) is used for joining two or more guide rails.

Kit: 2 bolt nuts, 4 screws M8, 2 pressure pieces
Weight per kit: 0.27 kg
Material: INOX 1.4571

Fig. 11a



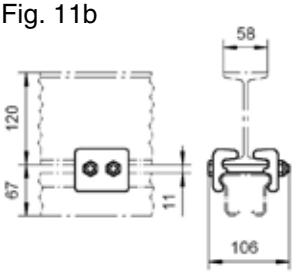
3.2.3 Brackets and fittings

The brackets and fittings (Fig. 11a- d) are used for installing the guide rail (Fig. 9) on different substructures.

The bracket (Fig. 11a) is used for installing guide rails on substructures where a push-through installation is possible.

Weight: 0.95 kg
Material: Hot-dip galvanized or INOX 1.4571

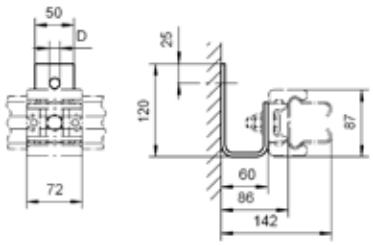
Fig. 11b



The bracket for steel beam I-120 (Fig. 11b) is used for installing the guide rail on a steel beam I-120.

Weight: 1.0 kg
Material: Hot-dip galvanized

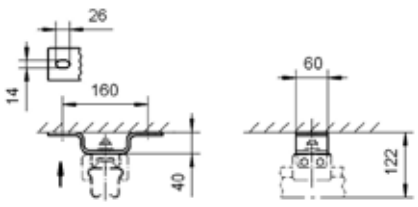
Fig. 11c



The fitting for lateral installation (Fig. 11c) is used for installing the guide rail (Fig. 9) lateral e.g. on a wall using a bracket (Fig. 11a). The fitting is installed using an anchor bolt. The slot points to the side.

Weight: 1 kg
Material: Hot-dip galvanized or INOX 1.4571

Fig. 11d



The fitting for over-head installation (Fig. 11d) is used for installing the guide rail e.g. underneath the ceiling using anchor bolts. The bracket (Fig. 11a) is necessary in addition to this. The slot points downward.

Weight: 1 kg
Material: Hot-dip galvanized or INOX 1.4571

Fig. 12 a

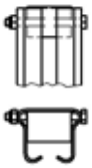


Fig. 12 b

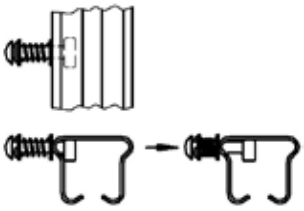


Fig. 13 a

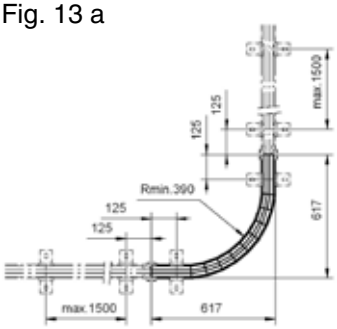


Fig. 13 b

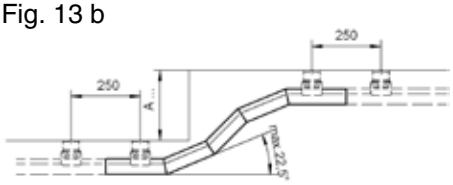


Fig. 13 c

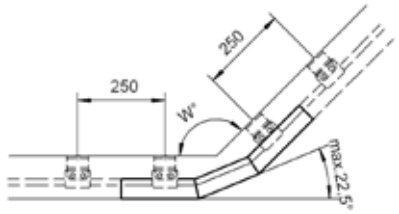


Fig. 13 d

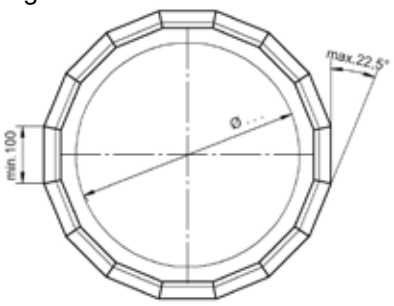
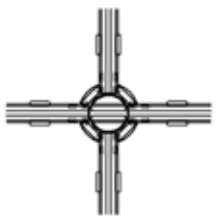


Fig. 14



3.2.4 Safety catches

Unintentional sliding out of the guide rail can be prevented by using safety catches (Fig. 12 a - b).

The fixed safety catch (Fig. 12a) is installed permanently. The traveller can neither be inserted nor taken out of the system at this point.

Kit: pipe section, Screw M 8, self securing nut

Weight: 0.1 kg
Material: INOX 1.4571

The detachable safety catch (Fig. 12 b) is installed at the end of the guide rail where the traveller will be inserted or removed.
Kit: Bolt , spring, 2 washers, split-pin, cover cap

Weight: 0.1 kg
Material: INOX 1.4571

3.2.5 Bends

The bends (Fig. 13 a-d) are needed for the change of direction within one anchorage system.

Fig. 13 a - d show some possible bends. Other bends are obtainable as well.

All bends are specially designed for customer needs.

3.2.6 Junction

The junction (Fig. 14) is used for joining two guide rails, which are rectangular. It is possible to use the crossing guide rail without having to take out the traveller.
The junction is a special design and is produced on customer request only.

3.5 Technical data and weights

3.5.1 General

Technical data and weights are stipulated in descriptions of the elements.

Fig. 15

3.5 Products as a component of the anchorage system

3.5.1 Traveller W3

The traveller W3 (Fig. 15) is inserted into the guide rail at one end of the system. It is used as a protection. One person can be connected to the anchorage system with one traveller. The maximum number of persons who are allowed to use the system at the same time is three.
The traveller runs along automatically as the user is walking along the anchorage system.

4. Additional accessory

4.1 Personal protective equipment against falls from a height

Every person that is using the anchorage system must be protected by PPE against falls from a height at all times. The PPE against falls from a height has to be bought seperately, and must comply with all regulations and standards. PPE against falls from a height which is used with the anchorage system has to enable the user to move along the anchorage system without restrictions of any kind. The user must only leave the anchorage system at a point where it is safe to do so.

5. Logbook

A logbook has to be kept, in which the following details must be documented.

– Inspection, Maintenance and trouble-shooting

– Record of defects

The logbook is part of the composition of delivery. It is in the responsibility of the operator to observe the inspection intervals and that the record is kept correctly.

6. Installation and maintenance

6.1 Important information for the installation of the guide rails

– When using anchor bolts make sure that the anchor bolt is building-authority approved. Ask the producer of the anchor bolt you wish to use whether it is suitable for the existing ground conditions.
– The ground or building the anchorage system is supposed to be installed on has to have at least 12 kN load-bearing capacity. This has to be checked by a qualified specialist engineer.
– The possible fall distance has to be reduced to a minimum
– There has to be a sufficient clearance underneath the system
– The guide rails have to be installed absolutely horizontally. They should not be in an inclined position.
– The distance between the brackets must not exceed 1.5 m.
– The last bracket before the end of the guide rail has to be installed 125 mm before the end.
– Two brackets must be installed at a distance of 125 mm on either side of a connector.
– The brackets which are installed in front of the junctions be at a distance of 250 mm from the middle of the junction.

6.2 Required tools and devices

Wrench	M8, M10, M12
Torque wrench	M8, M10, M12 up to 100 Nm
Measuring equipment	Level, measuring tape or folding meter
PPE against falls from a height for technicians PPE	– Authorised safety harness – Safety rope with shock absorber – Lanyards – Helmet – Gloves – Safety shoes

6.3 Inspection of the scope of delivery

Prior to the installation the scope of delivery has to be checked for completeness.

The elements must not be deformed or damaged in any way. Damaged elements must not be repaired or used. They have to be replaced.

Fig. 16

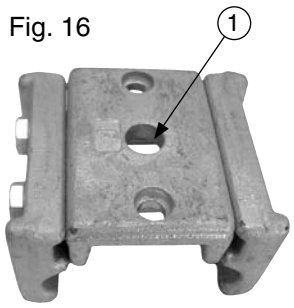


Fig. 17 a

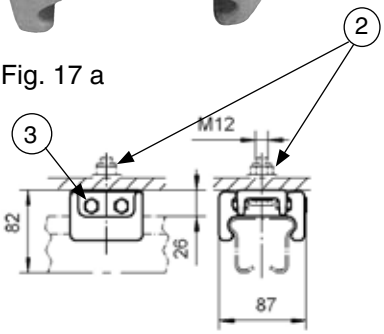
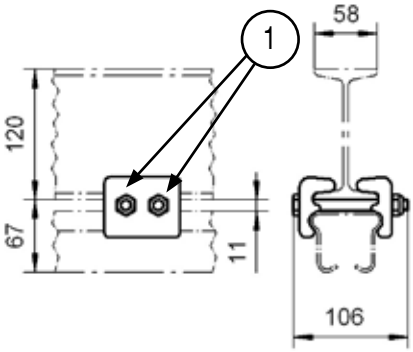


Fig. 17 b



6.4 Installation of the elements

6.4.1 Bracket (Fig. 16 -17 a)

1. The bracket (Pos. 2) is fixed to the substructure with a screw M12 (2) .
2. The screw M12 (2) is pushed-through the middle hole (1) of the bracket.
3. It is secured with a self securing nut on top of the sub-structure.

Torque for screw fitting: M12 (2) = 60 Nm
M 8 (3) = hand-tight

6.4.2 Bracket for steel beam I-120 (Fig. 17 b)

1. The bracket for steel beam I-120 (Pos. 7) is fitted to the steel beam which already exist on site. The screws are pre-assembled hand-tight.
2. The screws are thightened, after fitting the guide rail (see 6.4.5) into the brackets.

Torque for screw fitting: M10 = 35 Nm

Fig. 17 c

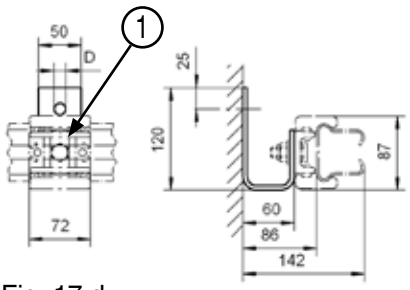


Fig. 17 d

Fig. 17 e

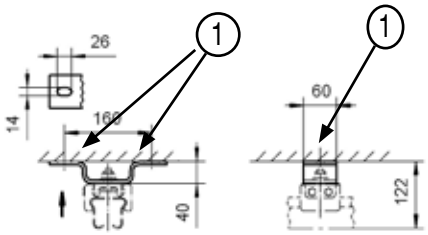


Fig. 17 f

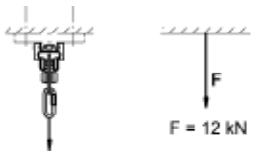


Fig. 18 a

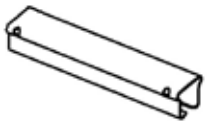


Fig. 18 b

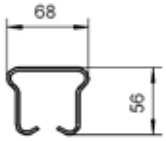


Fig. 19 a

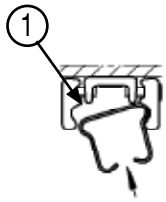


Fig. 19 b

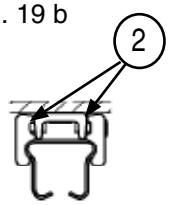
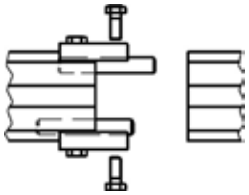


Fig. 20 a

Fig. 20 b

Fig. 20 c



6.4.3 Fitting for lateral installation of the guide rail (Fig. 17 c)

1. The fitting (Pos. 6) is installed by using building-authority approved anchor bolts in a concrete wall (concrete strength min. B 25).
2. After that the bracket is installed as stated in 6.4.1.

The anchor bolt fixing must have a min. capacity of 12 kN (Fig. 17d).

6.4.4 Fitting for overhead installation of the guide rail (Fig. 17e)

1. The fitting (Pos. 9) is installed by using two building-authority approved anchor bolts over-head on the ceiling (Concrete strength min. B 25).
2. After that the bracket is installed as stated in 6.4.1.

The anchor bolt fixing must have a min. capacity of 12 kN (Fig. 17f).

6.4.5 Guide rail (Fig. 18 u. 19 a + b)

1. The guide rail (Pos. 1) is inserted into the bracket (1) in a tilted position.
2. It is then pushed it into the bracket.
3. After that it is fixed by fastening the two screws M8 (2).

Torque for screw fitting: M8 = 18 Nm

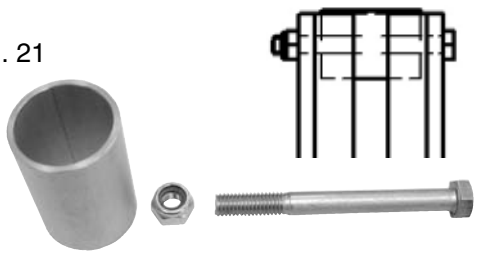
6.4.6 Connector (Fig. 20 a-c)

The connecter is first pre-assembled at one end of the guide rail:

1. The pressure piece is applied to the guide rail from the outside and the screw bolt from the inside on both sides of the guide rail.
2. After that the screw is inserted from the outside and screwed on manually.
3. The second guide rail is fitted on the connector in between the bolt screw and the pressure piece.
4. After that the screws are fitted into the holes and all screws are tightened.

Torque for screw fitting: M8 = 18 Nm

Fig. 21

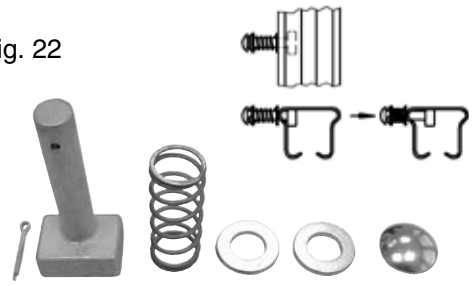


6.4.7 Fixed safety catches (Fig. 21)

The pipe section of the fixed safety catch (Fig. 21) is inserted into the the end of the guide rail. After that the screw M8x80 is pushed throught the holes in the guide rail and the pipe section and fixed by using a self-securing nut DIN 985.

Torque for fitting: M8 = 18 Nm

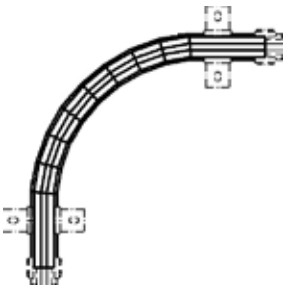
Fig. 22



6.4.8 Detachable safety catch (Fig. 22)

The bolt of the detachable safety catch (Fig. 22) is pushed through the one hole of the guide rail from the inside. On the outside of the guide rail the parts are assembled on to the bolt in the following order: First a washer, then the spring and another washer. These parts are secured by using a split-pin. The split-pin has to be bent at the ends in order to secure it on the bolt. Finally the cover cap is push onto the end of the bolt.

Fig. 23 a



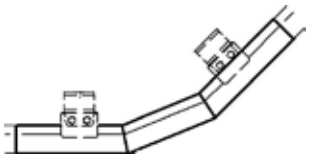
6.4.9 Bends (Fig. 23 a-b)

The bends are assembled on the guide rail using connectors (Pos. 12).

The bracket are installed as stated in 6.4.1-6.4.4. At least two brackets have to be installed for each bend.

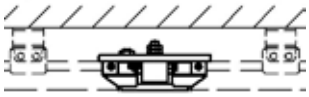
Afterward the bend is installed into the brackets as stated in 6.4.5 and joined by connectors as stated in 6.4.6.

Fig. 23 b



Torque for screw fitting: M8 = 18 Nm

Fig. 24 a

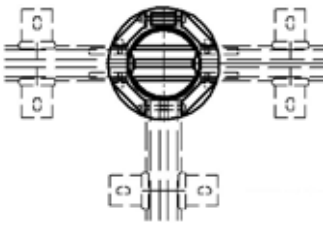


6.4.10 Junction (Fig. 24 a + b)

The guide rails are installed rectangular as stated in 6.4.5.

The junction (Pos. 11) is joined to the end of the guide rails as stated in 6.4.6.
Free ends which are not fitted with guide rails have to be equipped with safety catches. They are delivered with the junction.

Fig. 24 b



Torque for fittings: M8 = 18 Nm

6.3 Inspection prior to the first use

The result of the inspection has to be written down and documented.
A technical expert has to inspect the achorage system according to the logbook and document the result of the inspection.

7. Rescue operations

This system must have a rescue plan. This plan has to include all possible emergencies than may occur while working with the anchorage system. The casualty must be rescued within 15 minutes. Otherwise the casualty‘s life will be endangered.

8. Application, misuse and handling

8.1 Application in accordance with regulations

The horizontal anchorage system is made using state-of-the-art technology as well as the applicable regulations at the point of time of the bringing into circulation within the scope of its application in accordance with the regulations.
It is not possible to eliminate either the forseeable misuse or the remaining risk in construction without limiting the application in accordance with regulations. Information on possible hazards is indicated by special warning notices either on the anchorage system and/or in the technical documentation.

The anchorage system has to be used as stated in the technical documentation.

Any use that is in line with the application in accordance with the regluations or any actions not described in the technical documentation counts as an unauthorized misuse for which the Tractel Group is not liable.

8.2 Forseeable misuse and handling

If the anchorage system is used as stipulated in the technical documentation, it is guaranteed to be safe. Any improper use puts its safety at risk and must be avoided:

- never attach more than three persons to the anchorage system. Clearance below the system must be ensured at all times.
- Never use a different traveller than the FABA™ traveller W3 in this system. All elements of the anchorage system have to be original parts.
- Never test the anchorage system by deliberately falling.
- Do not try to push the traveller with force if it is blocked.
- Never use a anchorage system that was last inspected over 24 months ago.
- Never connect to the traveller W3, any other element than a PPE against falls from a height.”
- Never intend to use this lifeline if you are not trained, or if you are not in a good health.”
- Never install this lifeline as a vertical lifeline.”
- Never install this lifeline on an inclined plane.”
- Never install this lifeline if the underneath environment is not clear.
- Never use this lifeline if you are pregnant
- Never use this lifeline if a label, normally present on it, is missing or illegible.”
- Never connect to the W 3 traveller any parts of PPE which is not in accordance with the European Directive about PPE 89/686/CE.”
- Never use this lifeline, if there is no emergency and rescue procedures planned.”

9. Transport and storage of anchorage system

While transporting or storing the anchorage system make sure, that no element is damaged. Damaged parts have to be replaced by new ones.

10. Maintenance and trouble-shooting

According to the logbook the anchorage system has to be inspected every 24 months.
An inspection must be carried out after malfunctioning of the system or after falls. Damaged parts must be replaced by new original ones.

11. Ordering spare parts

Please use the corresponding spare parts catalogue for ordering spare parts. Please refer to your local authorised dealer or a member of the worldwide Tractel Group.

Tractel Group

www.tractel.com

D GREIFZUG GmbH

Scheidtbachstr. 19-21 • Postfach 20 04 40
51434 Bergisch Gladbach
Tel. +49 / 2202 / 1004-0 • Fax +49 / 2202 / 1004-70

F TRACTEL S.A.S.

RN 19 Saint-Hilaire-sous-Romilly • B.P. 38
10102 Romilly-sur-Seine
Tel. +33 / 3 / 25.21.07.00 • Fax +33 / 3 / 25.21.07.11

L SECALT S.A.

3, Rue du Fort Dumoulin • B.P. 1113
1011 Luxembourg
Tel. +352 / 43.42.421 • Fax +352 / 43.42.42.200

GB TRACTEL UK Ltd.

Old Lane, Halfway
Sheffield S20 3GA
Tel. +44 / 114 / 248.22.66 • Fax +44 / 114 / 247.33.50

E TRACTEL Ibérica S.A.

Carretera del Medio 265
08907 L`Hospitalet (Barcelona)
Tel. +34 / 93 / 335.11.00 • Fax +34 / 93 / 336.39.16

RUS TRACTEL Russia o.o.o

ul. Yubileynaya, 10, kv.5
Pos. Medvezhi Ozyora
Shtchyolkovsky rayon
Moskovskaya oblast
141143 Russia
T: +7 / 915 / 00 222 45 - Fax: +7 / 495 / 589 3932

I TRACTEL Italiana S.p.A.

Viale Europa 50
20093 Cologno Monzese (MI)
Tel. +39 / 2 / 254.47.86 • Fax +39 / 2 / 254.71.39

NL TRACTEL Benelux B.V.

Paardeweide 38
4824 EH Breda
Tel. +31 / 76 / 543.51.35 • Fax +31 / 76 / 543.51.36

P LUSOTRACTEL LDA

Alto do Outeiro Armazém 1 Trajouce
2785-086 S. Domingos de Rana
Tel. +351 / 21 / 444.20.50 • Fax +351 / 21 / 445.19.24

DK TRACTEL Benelux B.V.

Paardeweide 38
4824 EH Breda
Tel. +31 / 76 / 543.51.35 • Fax +31 / 76 / 543.51.36

USA TRACTEL Inc.

110, Shawmut Road • P.O. Box 188
Canton MA 02021
Tel. +1 / 781 / 401.32.88 • Fax +1 / 781 / 826.36.42

CDN TRACTEL Ltd.

1615 Warden Avenue Scarborough
Ontario M1R 2T3
Tel. +1 / 416 / 298.88.22 • Fax +1 / 416 / 298.10.53

SGP TRACTEL Singapore Plc.

50 Woodlands Industrial Parc E
Singapore 757824
Tel. +65 / 757 / 3113 • Fax +65 / 757 / 3003

UAE TRACTEL Middle East

P.O. Box 25768
Dubai / United Arab Emirates
Tel. +971 / 4 / 343.07.03 • Fax +971 / 4 / 343.07.12

CN TRACTEL China

Room 1507, Zhongyue Building
225 Fuijan Zhonglu, Shanghai 20001, China
Tel. +86/21/63.22.55.70 • Fax +81/21/53.53.09.82

PL TRACTEL Polska sp.zo.o

c/o Logos Polska sp.zo.o - Aleje Jerozolimskie 56 C
00-803 Warszawa
Tel. & Fax: +48 / 22 / 644.42.52

G824 (MA_FABA_HLS.indd) • 10/08 • © GREIFZUG GmbH 2008