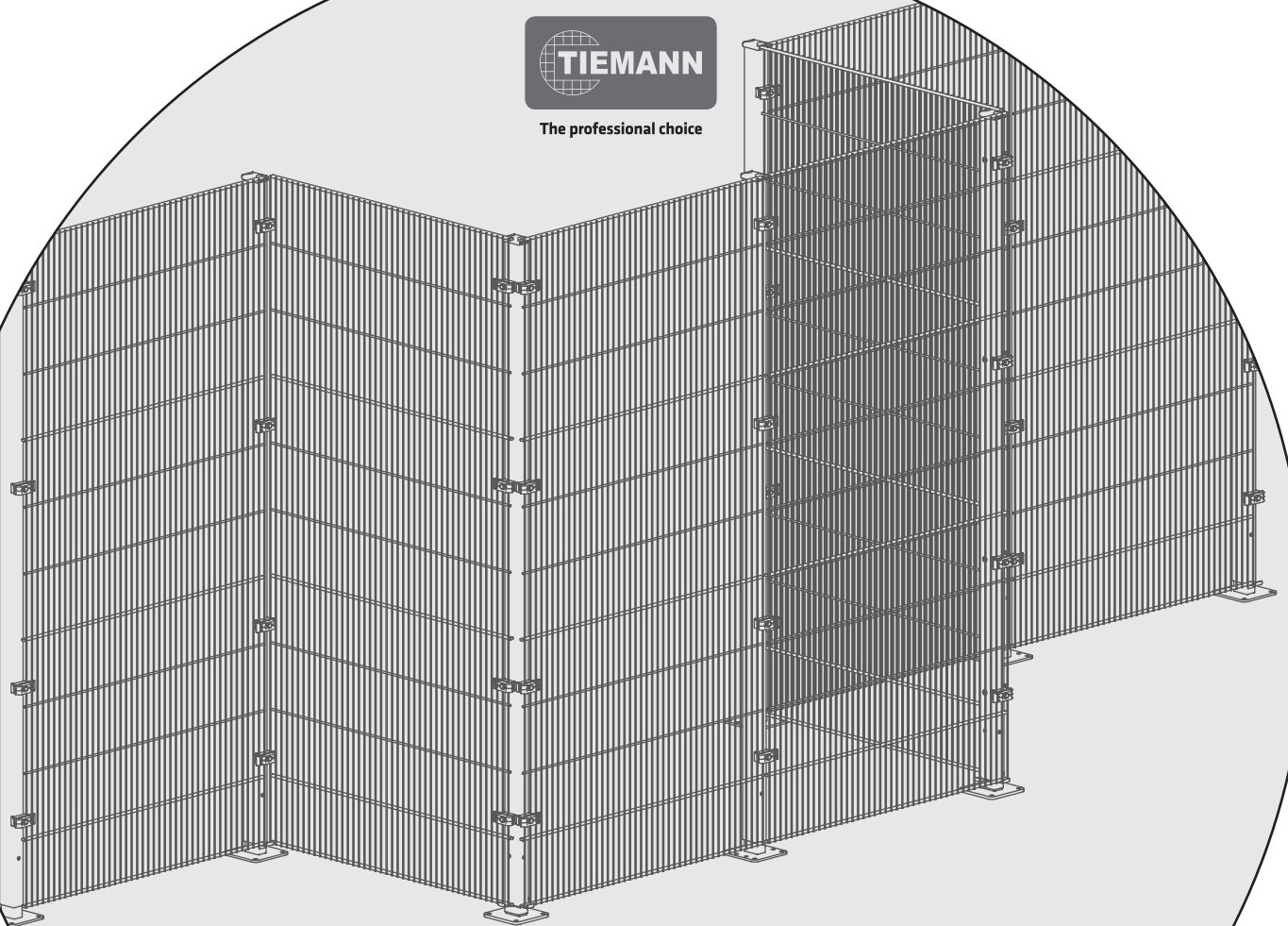




These operating instructions contain important product information and safety instructions.
This information must be taken into consideration prior to carrying out any activities relating to the product and observed throughout.
These operating instructions must be made available to all parties and stored in a safe place.



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TRANSLATION OF THE ORIGINAL OPERATING INSTRUCTIONS

ECONFENCE®
protection · german made

BASIC LINE **ZINC**

PROTECTIVE FENCING

System heights 2000 | 2400 mm
Version: 03/2021



NOTES

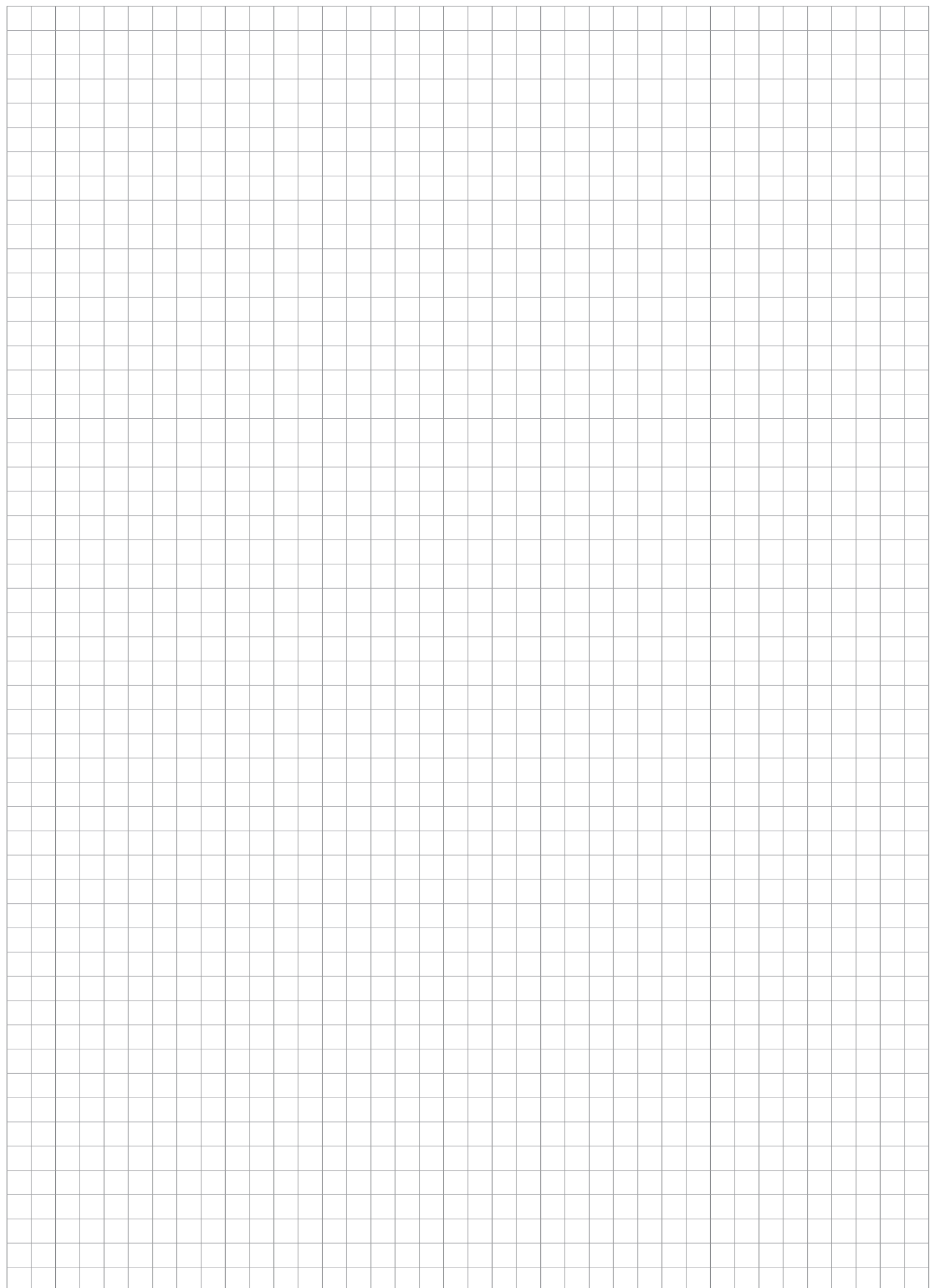


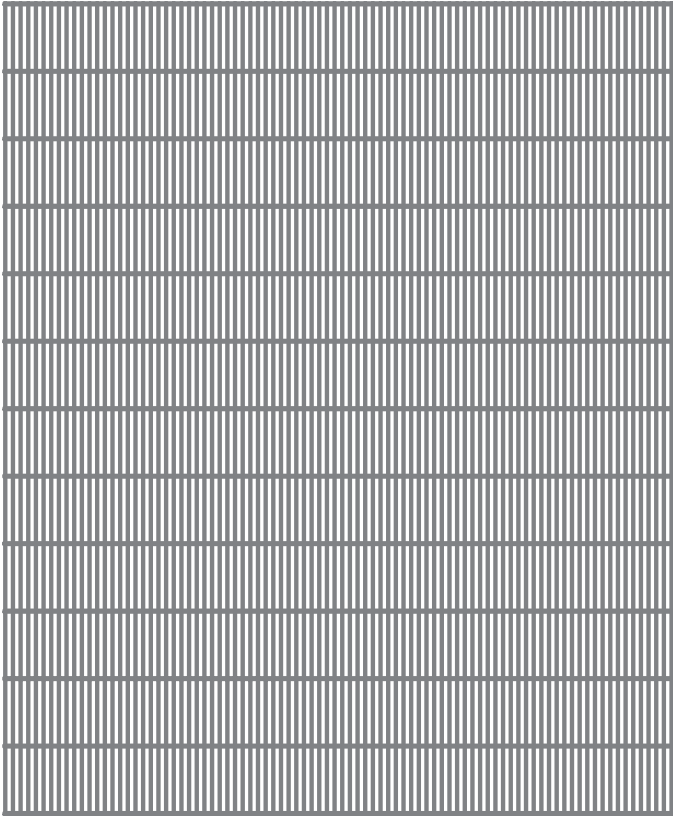
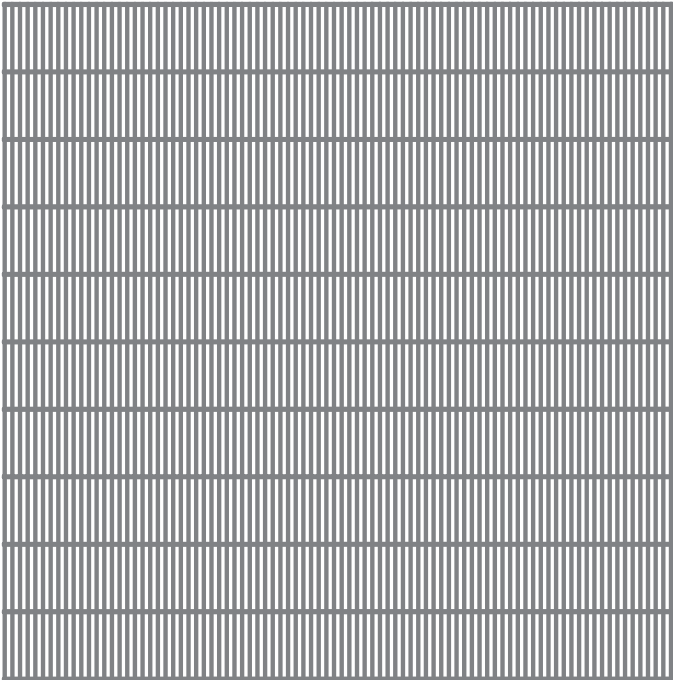
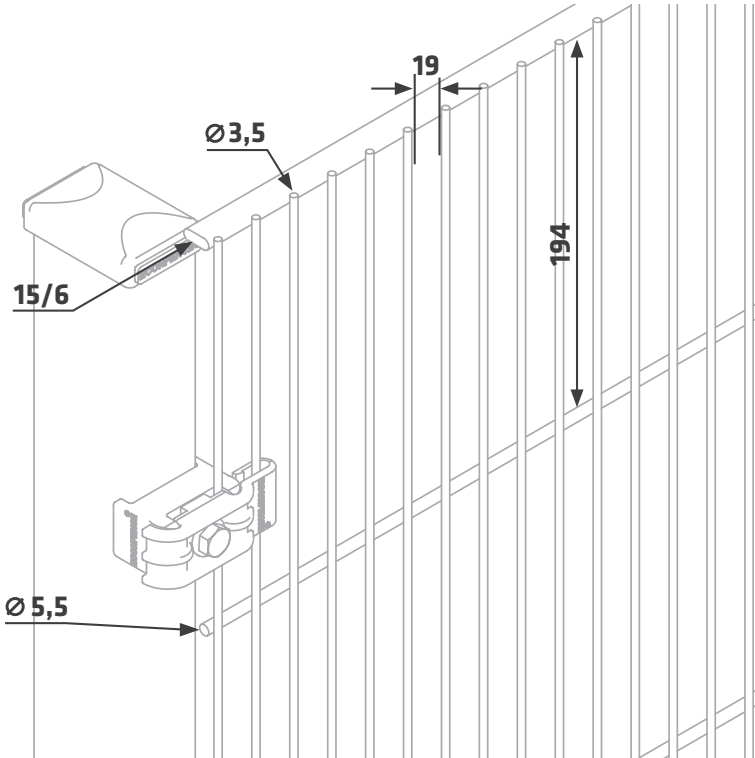
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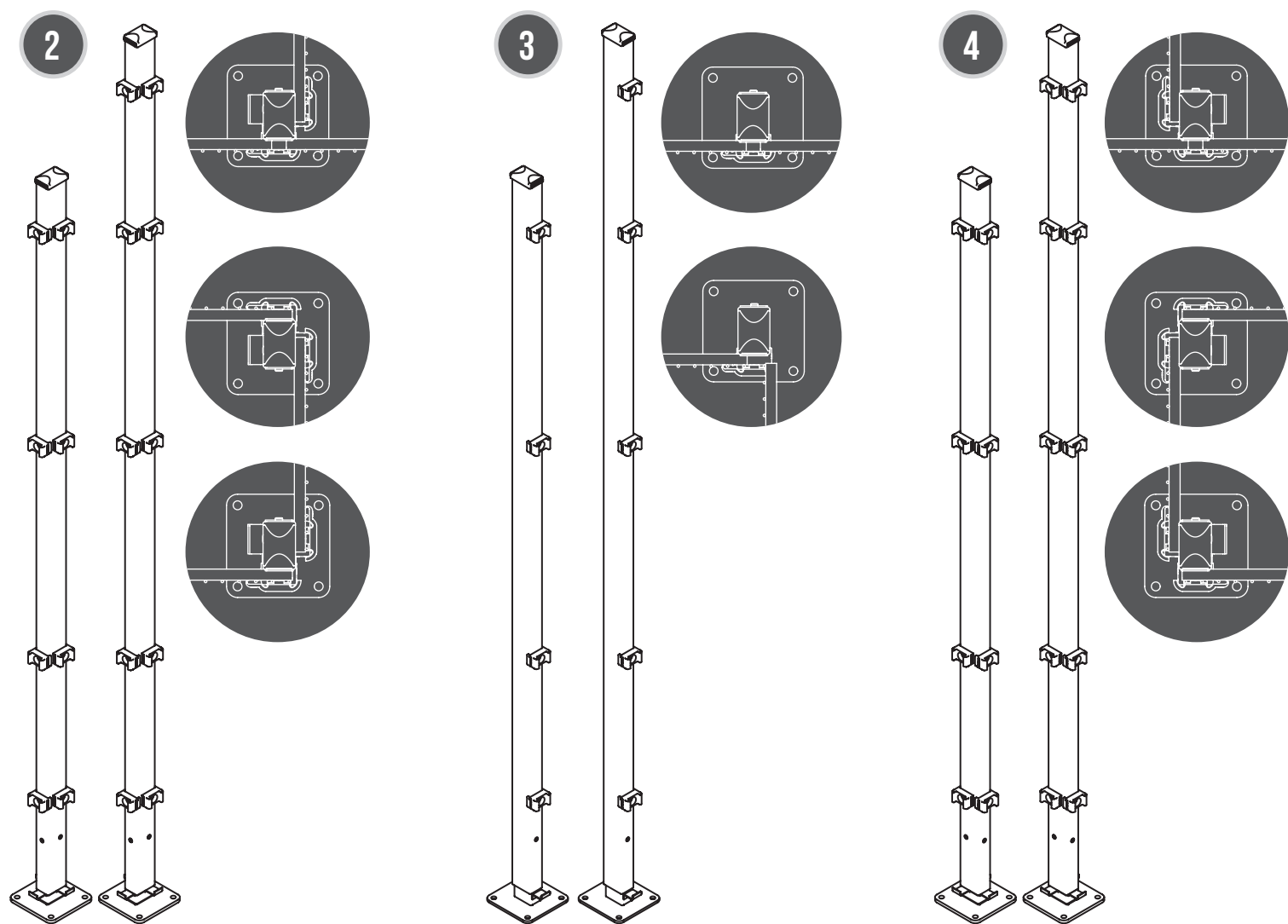
1. Product description and technical data

The protective fencing elements are available in the following design as standard:

1



1. Product description and technical data



BASIC LINE ZINC	Widths (mm)	Opening widths (mm)	Heights (mm)	Weights (kg)
1 Mesh element	1983	--	2006	23
	1983	--	2406	26
2 Universal corner post Left	60/40	--	2045	7,88
	60/40	--	2445	9,17
3 Row post	60/40	--	2045	7,33
	60/40	--	2445	8,56
4 Universal corner post Right	60/40	--	2045	7,88
	60/40	--	2445	9,17

2. Intended use and limitations



The ECONFENCE® BASIC LINE ZINC protective fencing system is designed to establish a fixed, safe distance to protect people from coming into contact with hazardous machinery and facilities. Not for using as a zone protection. The fencing elements are designed for use as fixed guards according to ISO 14120.

Any other use shall require the written approval of the manufacturer. If machines or systems are not surrounded entirely by the protective fencing system, the open areas (such as material transfer points and personnel access points) must be secured by the plant engineer in accordance with the risk assessment and the relevant legislation.

Intended use also includes taking the operating instructions into consideration and observing the cleaning, maintenance and inspection conditions. The guard has been designed for industrial machine and system construction and may only be mounted, operated, maintained and repaired by trained, instructed specialists.

The owner / operator must check whether the currently valid standards and regulations require the protective fencing to have a protective earth connection.

The protective earth connection may only be carried out by a qualified electrician.

When incorporating the protective fencing systems into the overall security concept of the machine or system, the following standards must be taken into consideration:

DIN EN ISO 12100	Safety of machinery – General principles for design – Risk assessment and risk reduction
DIN EN ISO 11161	Safety of machinery – Integrated manufacturing systems – Basic requirements
DIN EN ISO 13857	Safety of machinery – Safety distances to prevent hazard zones being reached by upper and lower limbs
DIN EN 349	Safety of machinery – Minimum gaps to avoid crushing parts of the human body
DIN EN ISO 14120	Safety of machinery – Guards – General requirements for the design and construction of fixed and movable guards
DIN EN ISO 14119	Safety of machinery – Interlocking devices associated with guards – Principles for design and selection
DIN EN ISO 13849-1	Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design

Depending on the machine / system constellation, other standards which are not listed here must also be taken into consideration.

The system is not intended for outdoor use. Any kind of manipulation is prohibited.

The protective fencing may only be set up in an environment with temperatures from 10°C to max. 50°C (not corrosive ambient air).



...we protect people!

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EG-KONFORMITÄTSERKLÄRUNG

im Sinne der EG Maschinenrichtlinie 2006/42/EG, Anhang II A

EC DECLARATION OF CONFORMITY

according to EC Machinery Directive 2006/42/EC, Annex II

Hersteller | Manufacturer

Tiemann Schutz-Systeme GmbH
Lübbecker Str. 16
32257 Bünde / Germany



Hiermit erklären wir, dass das Produkt

Produktbezeichnung:

Trennende Schutteinrichtung

Typ :

ECONFENCE® BASIC LINE **ZINK**

Baujahr bzw. Seriennummer:

as of 05/2016

den einschlägigen Bestimmungen der Richtlinie 2006/42/EG entspricht.

Es wurden folgende harmonisierte Normen angewandt:

- DIN EN ISO 14120:2016-05

We hereby declare that the product:

Product designation:

Separating guard

Type:

ECONFENCE® BASIC LINE **ZINC**

Year of build or serial number:

as of 05/2016

meets the relevant provisions of directive 2006/42/EC.

The following harmonised standards have been applied:

- DIN EN ISO 14120:2016-05

Bünde,
Ort
City

Datum
Date

Unterschrift*
Signature*

Axel W. Tiemann
Geschäftsführer
Managing Director

Der Unterzeichner ist verantwortlich für die Zusammenstellung der technischen Unterlagen und gleichzeitig der verantwortliche Herausgeber der technischen Dokumentation.

*The signatory is responsible for the composition of the technical documents and at the same time the responsible publisher of the technical documentation.

4. Safety instructions and explanation of symbols

The security symbols are to be noted and observed in each of the relevant sections of these operating instructions.

Symbol	Explanation
	Safety note (Failure to observe this warning may result in injury or death)
	Functional instruction (Failure to observe will result in malfunctions or material damage)
	Hazardous area
	Non-hazardous area
	Magnified/detailed view
	Installation height
	Essential tool (refer to page 10)
	Use ear protectors
	Use protective eyewear

5. Assembly and installation

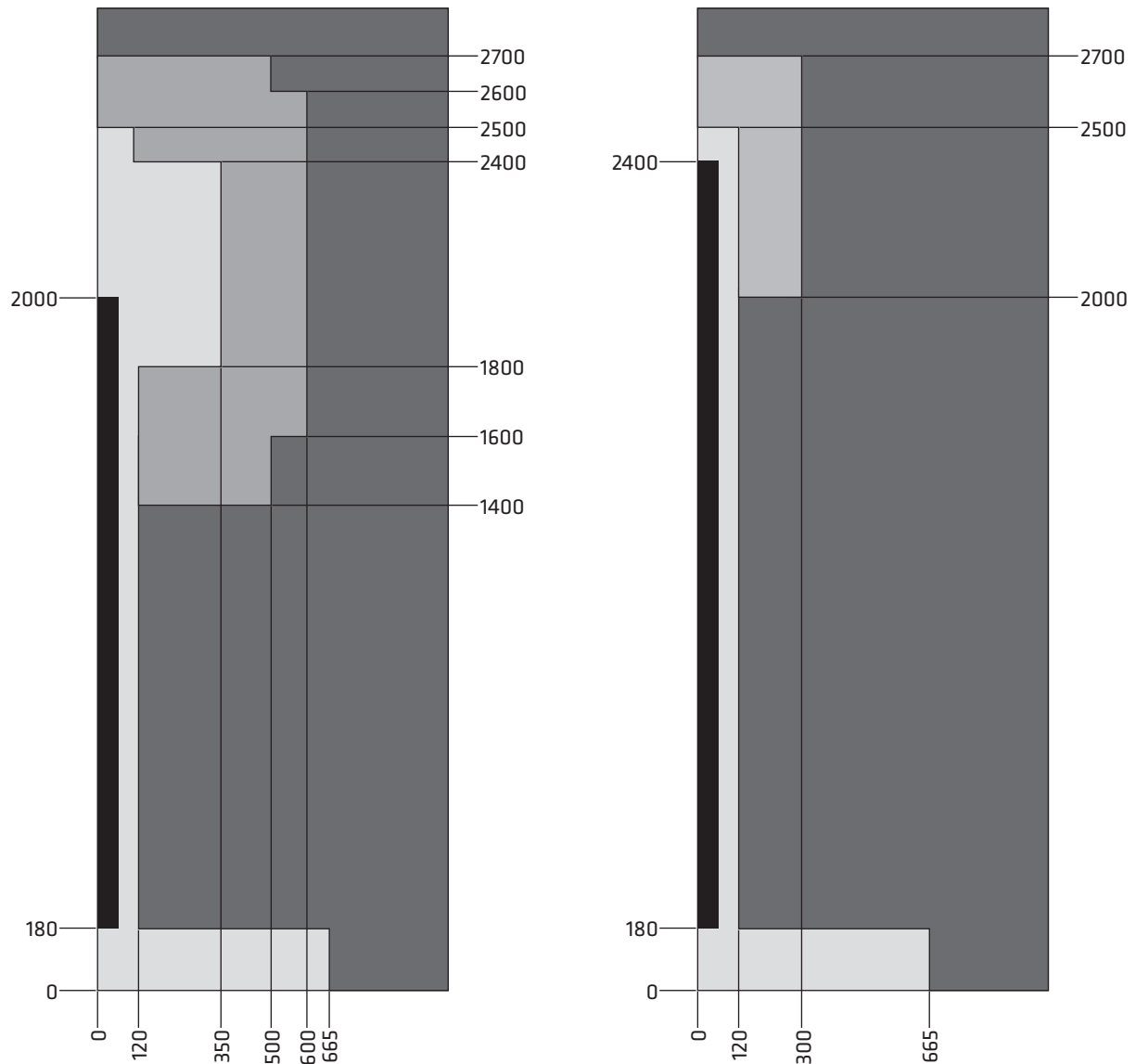


At least two people are required for assembly and installation. Wear personal protective equipment or fastened working clothes, wear safety footwear and head protection. In addition, goggles with side protectors must be worn during drilling in concrete. If dusts occur, filter mask of at least FFP 1 must be worn.

Only specialist personnel are authorised to carry out assembly and installation. Prior to commencing the installation work, the machine or system being enclosed must be switched off or else made safe.

Before assembly, the machine / system must be switched off (electrically, pneumatically) and secured with a lockout/tagout lock against unauthorized restarting. The key must always be carried on your person. Establish / check the required safety distances from the hazardous areas of the machine/system in accordance with DIN EN ISO 13857:

Safety distances according to DIN EN ISO 13857



Low risk

High risk

Please note: In the event of a risk posed by slips or misuse, the use of safety distances to prevent hazardous zones being reached by lower limbs in accordance with DIN EN ISO 13857, Annex B may not be suitable. If this is the case, then the safety distances must be defined by the plant manufacturer in accordance with the risk assessment.

Safety distances only apply with the use of ECONFENCE® mesh elements with a mesh size of 19/194 mm.

When dimensioning the safety distances, the dynamic deformation behavior of the safety fence under impact effects may also have to be taken into account, see also test reports BLZ202010-1 and BLZ201910-2, pages 23 and 24. Information on dimensions and weight specifications of the system components can be found in Section 1. Technical data, page 4.

The system is only intended to be used on the following surface (see page 10).

Only the fastening elements provided are to be used.

When installing the electrical equipment (such as cables, switches, control cabinet etc.) for the protective fencing system, the Requirements of DIN EN 60204-1 must be observed.



Should you have any further questions, please contact our Customer Service team on +49 (0) 5223 791995-0

5.1. Essential tools

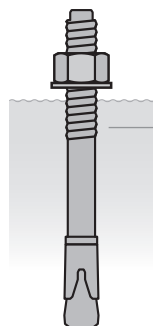
Product	Tools
Post assembly (page 11)	Drill with Ø 10 mm concrete drill bit Pin chuck ZB10076 (see page 13 and 15) Hammer 17 mm socket wrench 6 mm Allen key
Mesh assembly (page 12 - 17)	6 mm Allen key 13 mm socket wrench

5.2. Post assembly

Substrate material: Concrete (uncracked) C20/25 to C50/60

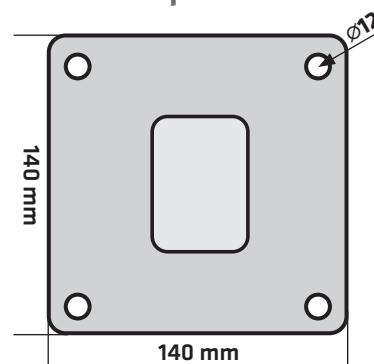


See page 10



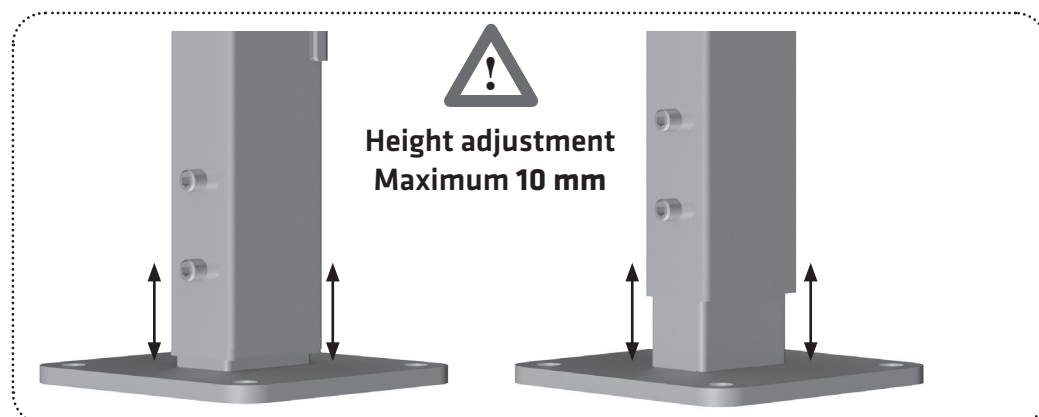
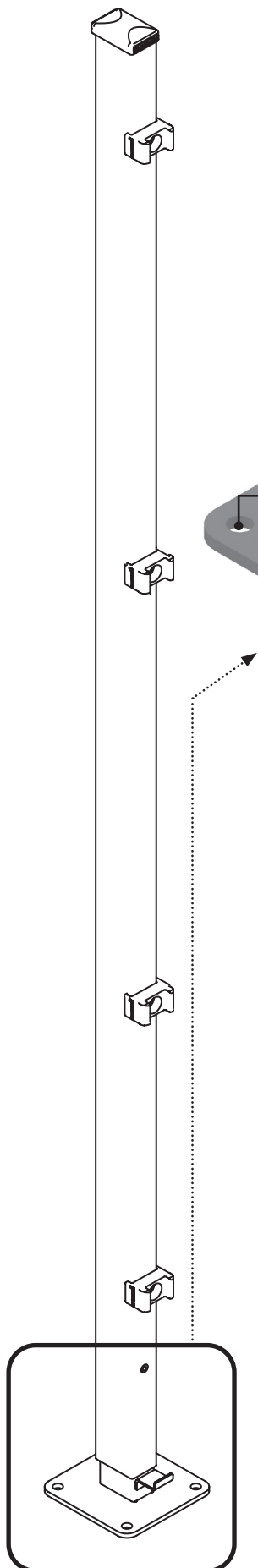
4 x  HSA M10x113 50/40/10

Top view



Technical data:

Dowel size	M10
Dowel length	113 mm
Approvals	ETA-11/0374
Substrate material	Concrete (uncracked) C20/25 - C50/60
Environmental factors	Indoors, dry
Edge clearance	50 mm
Operating principle	Torque-controlled expansion anchor
Standard embedment depth	50 mm
Nominal drill diameter	10 mm
Borehole depth	80 mm
Required tightening torque	25 Nm



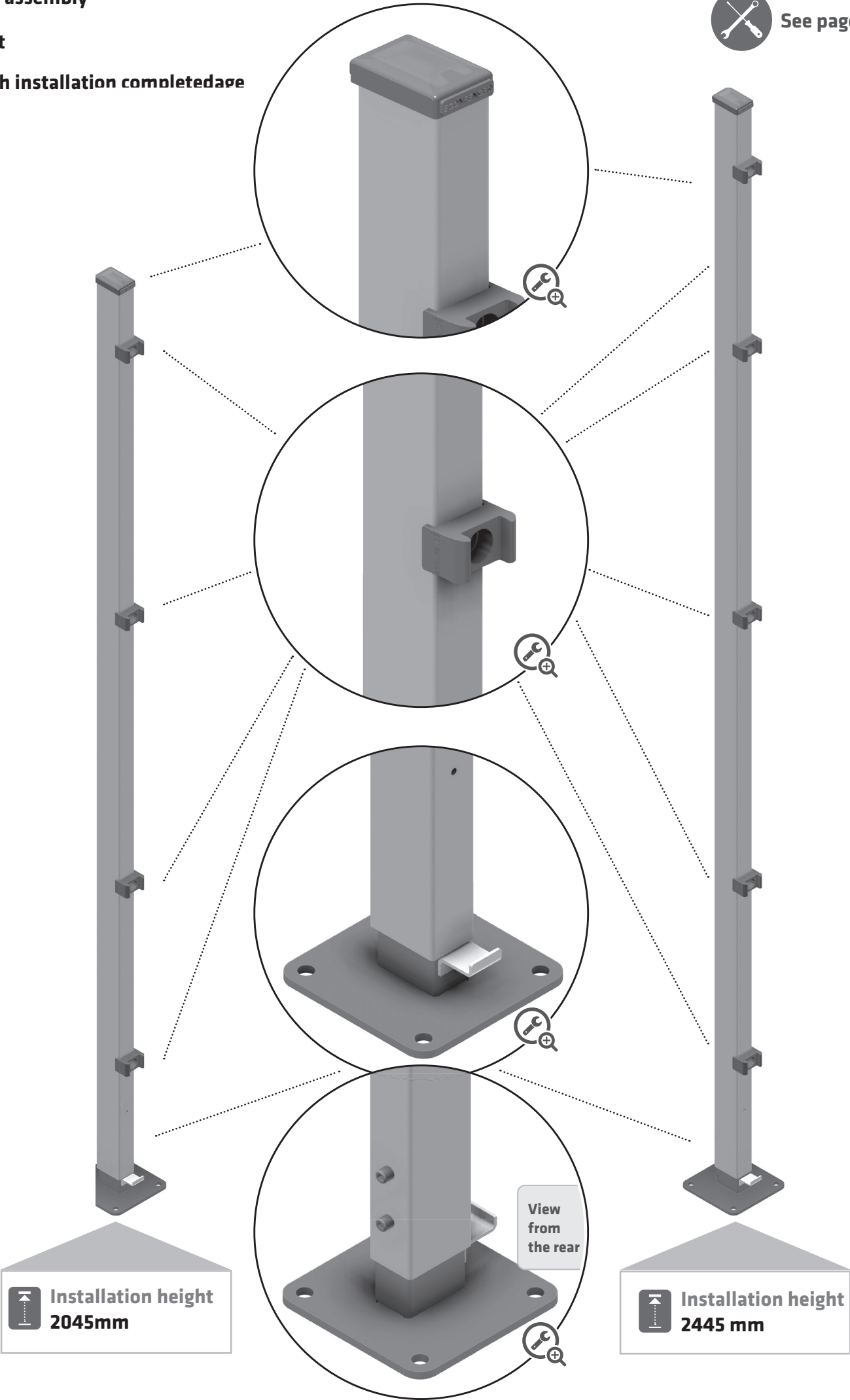
5.2. Post assembly

Row post

View with installation completed



See page 10

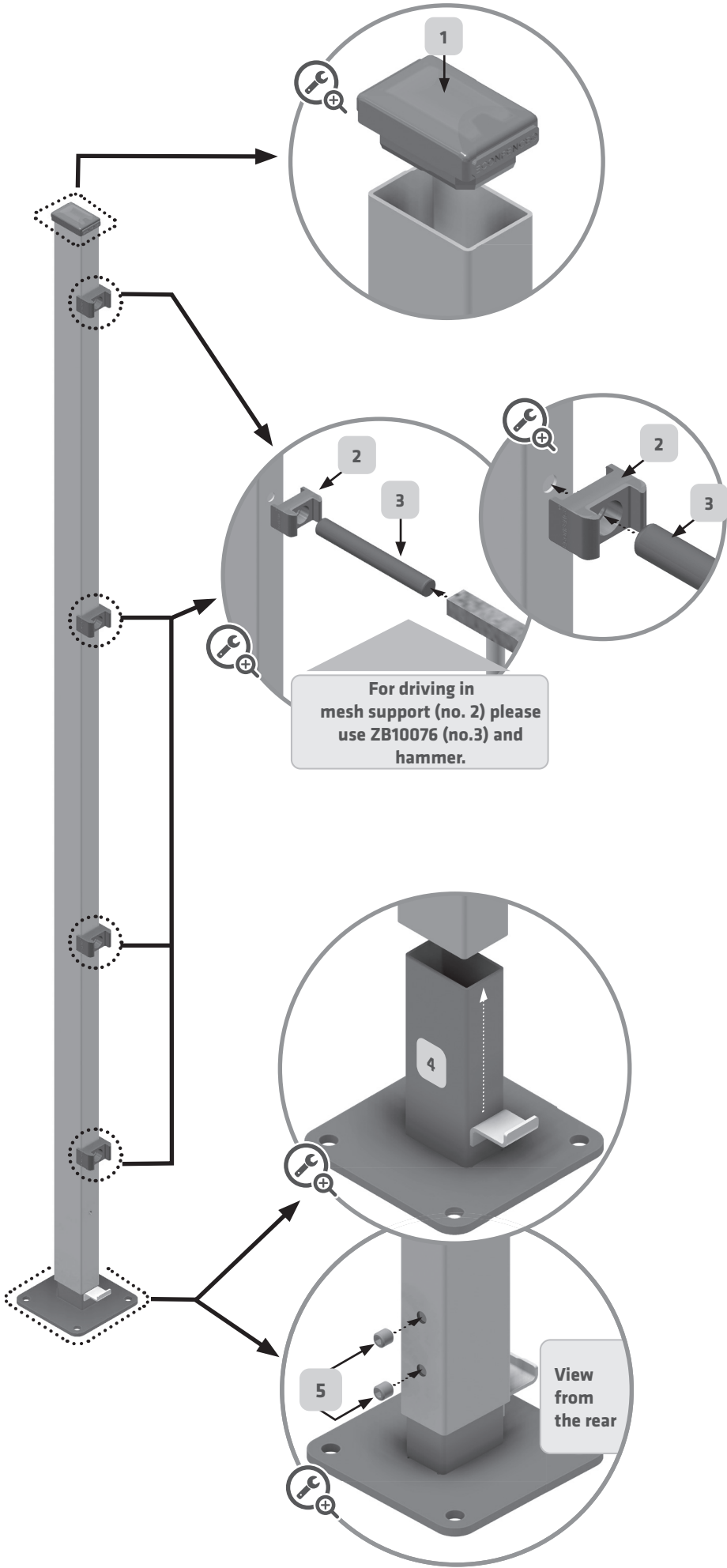


5.2. Post assembly

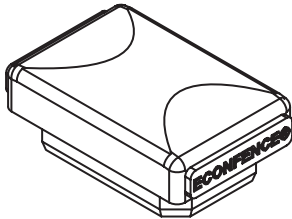


See page 10

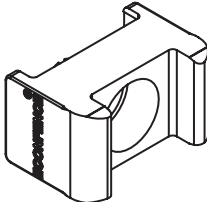
Row post



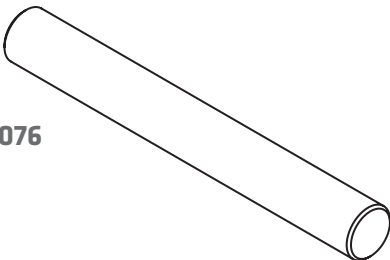
1 ZB20097



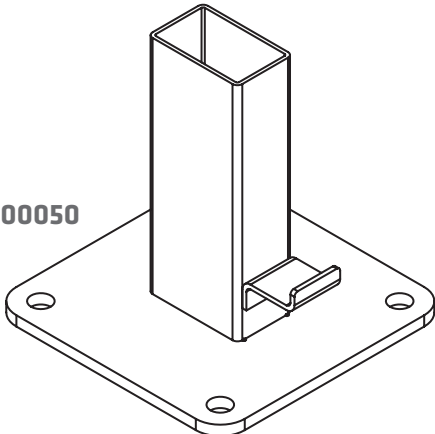
2 ZB21008



3 ZB10076



4 S00050



5 DIN913 M10x10



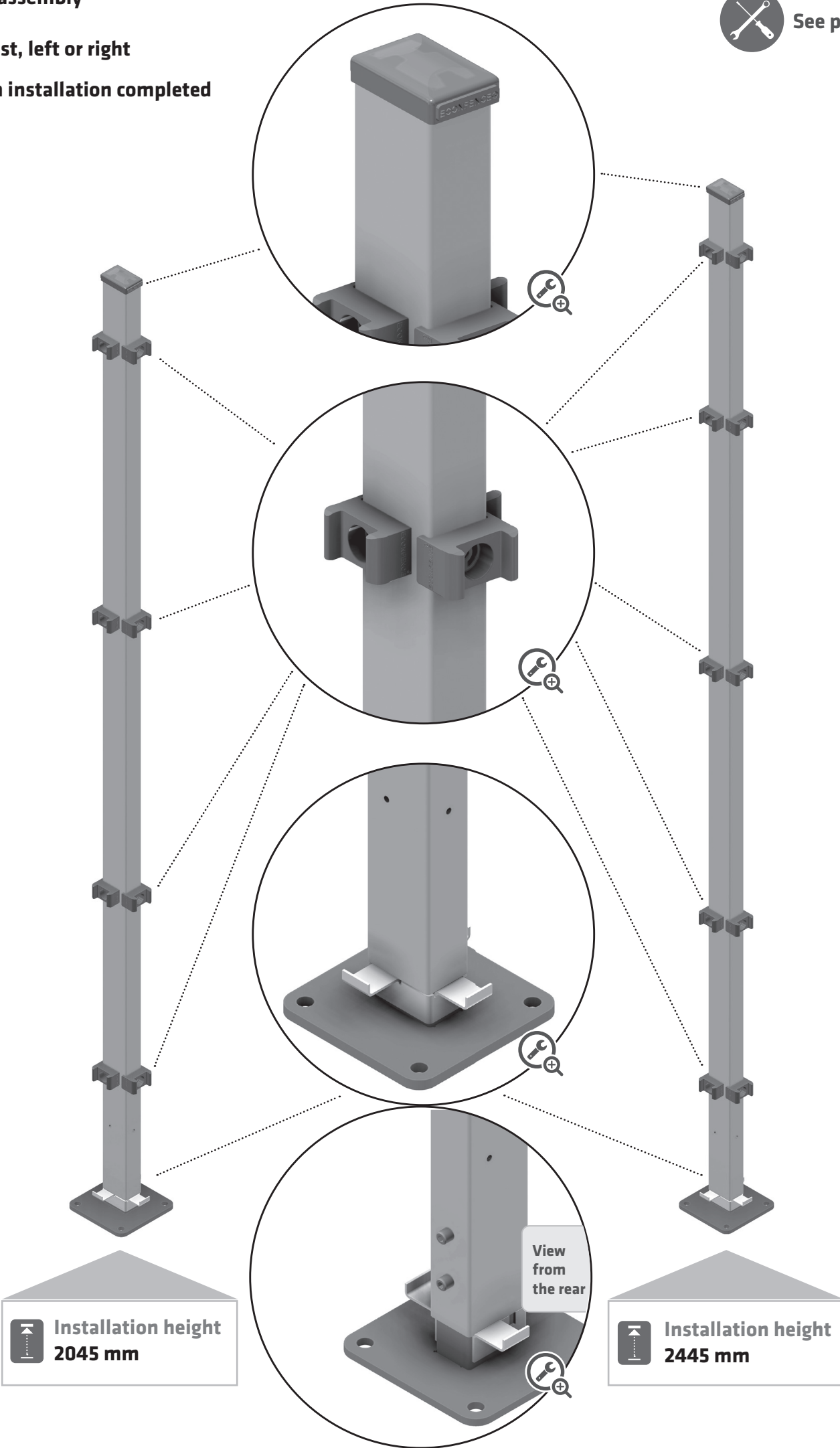
5.2. Post assembly



See page 10

Corner post, left or right

View with installation completed

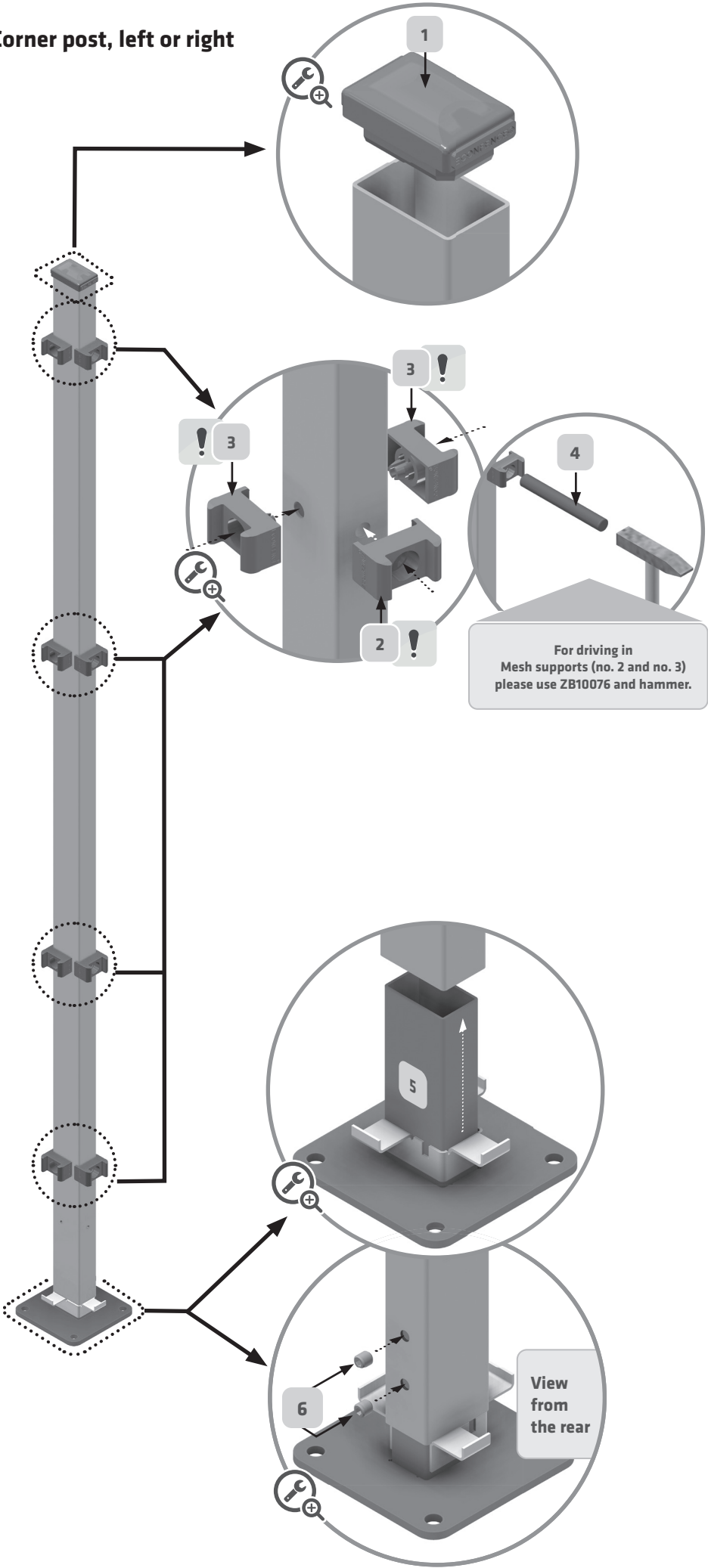


5.2. Post assembly

Corner post, left or right



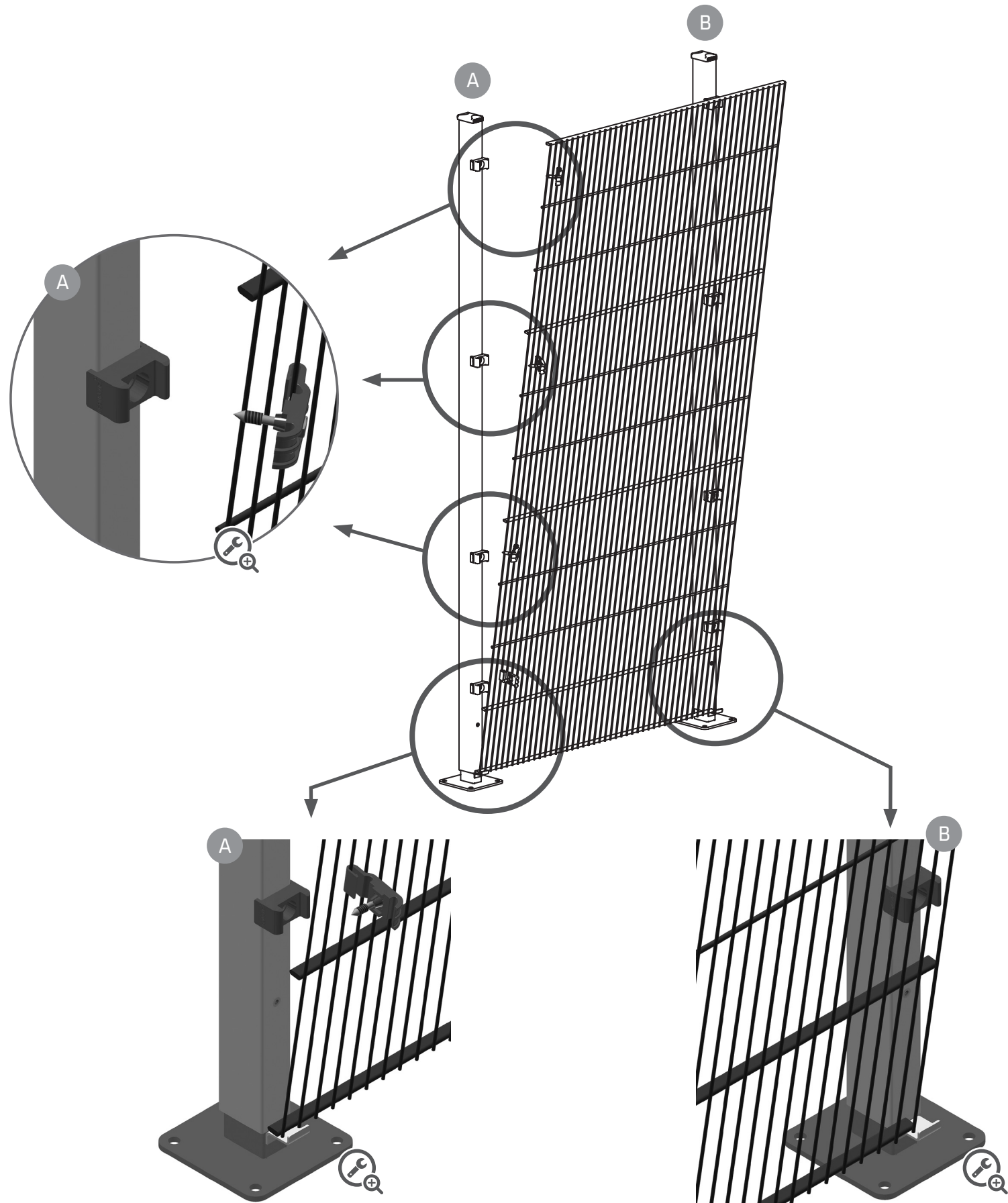
See page 10



1	ZB20097	
2	ZB21008	
3	ZB21012	
4	ZB10076	
5	S00070	
6	DIN913 M10x10	



Installation of clamping element ZB31004



5.3. Mesh assembly

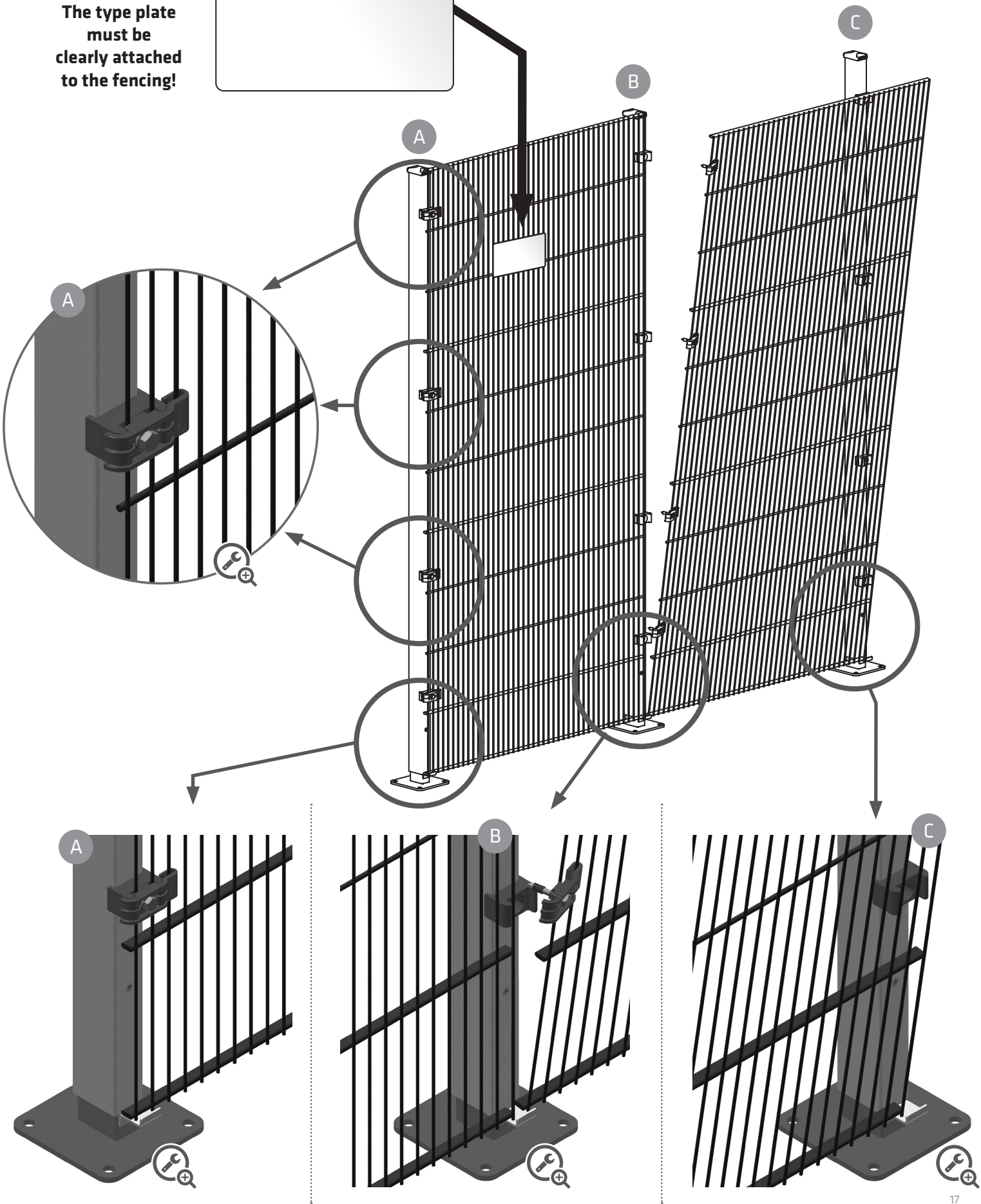
Installation of clamping element ZB31004



See page 10



The type plate
must be
clearly attached
to the fencing!

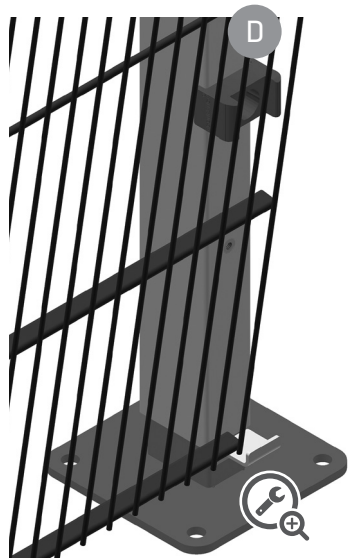
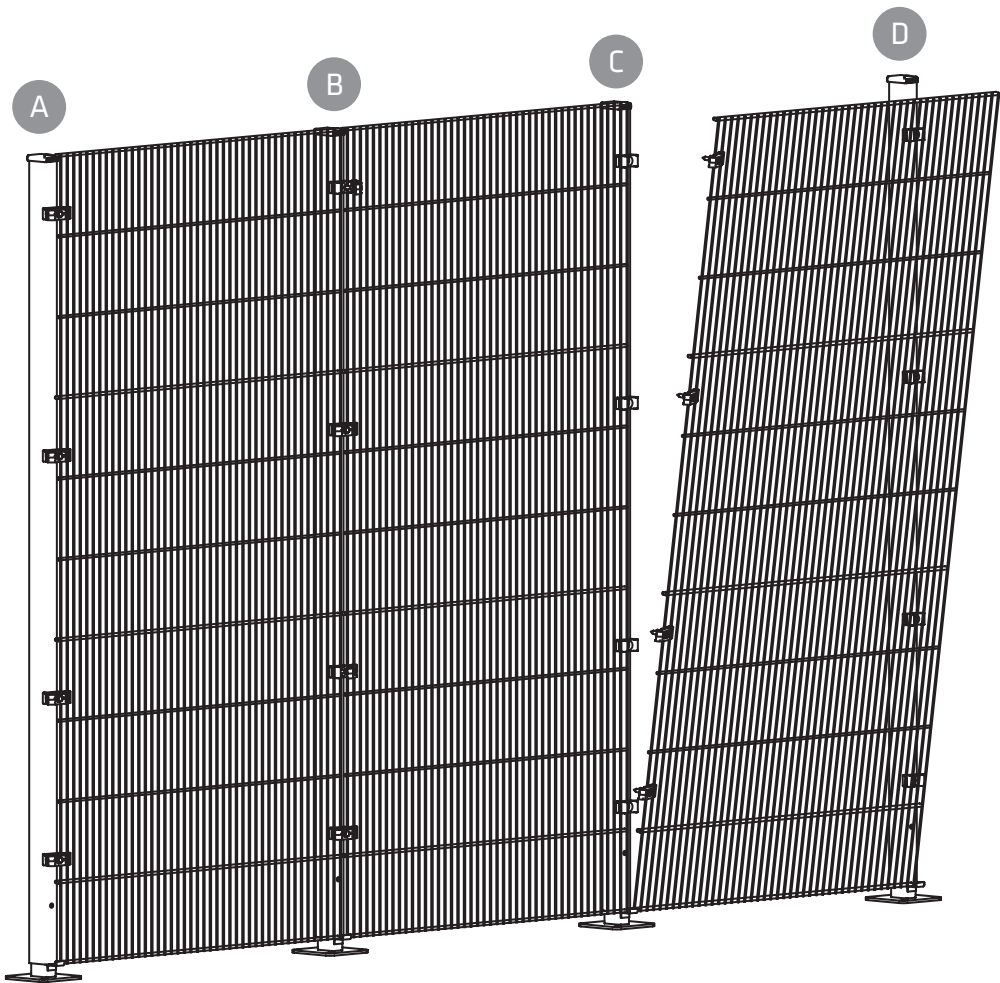
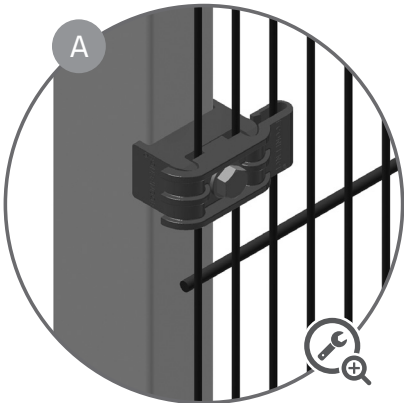


5.3. Mesh assembly

Installation of clamping element ZB31004

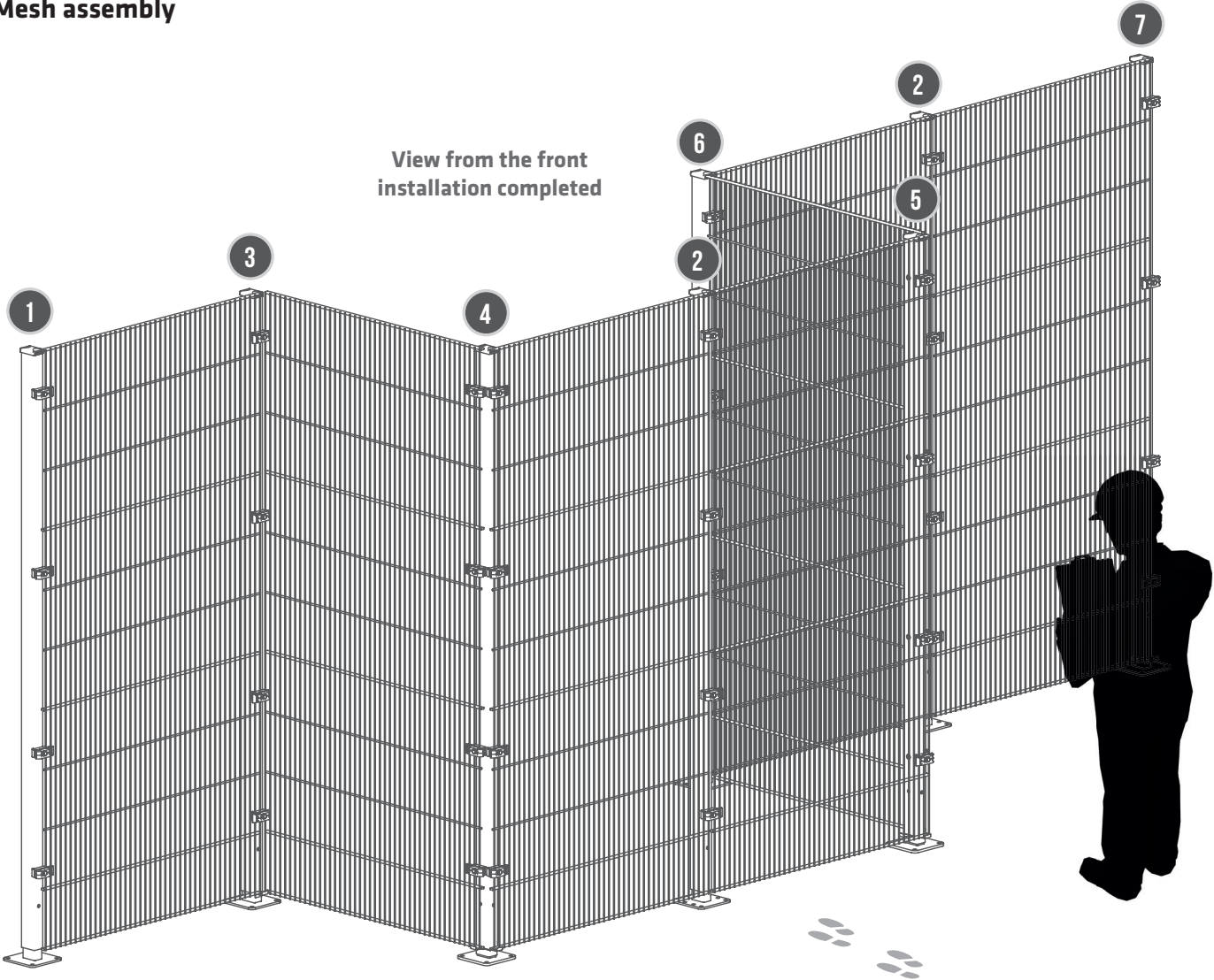


See page 10

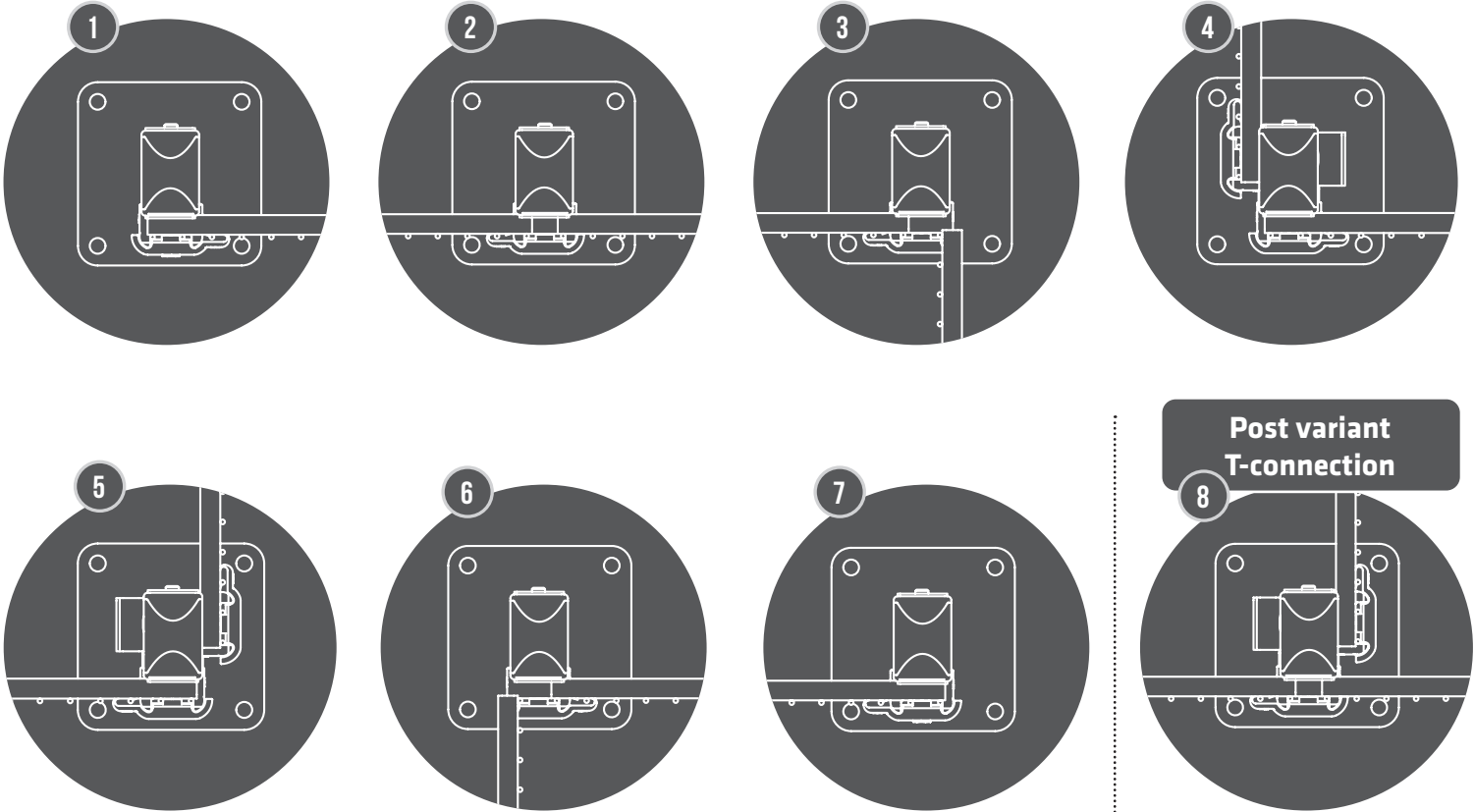


5.3. Mesh assembly

View from the front
installation completed

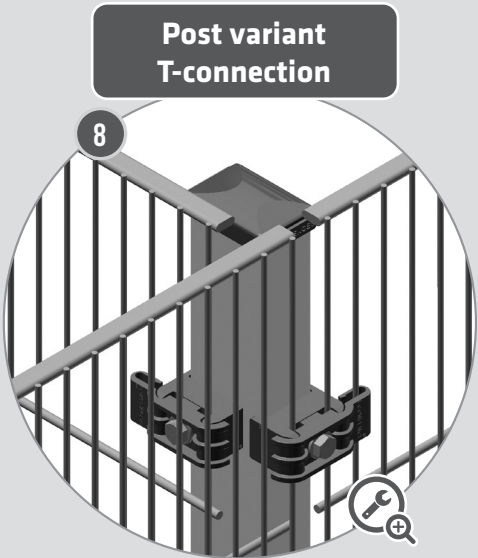
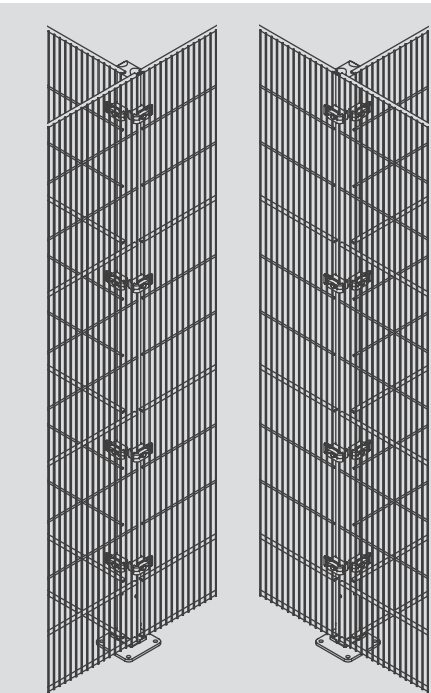
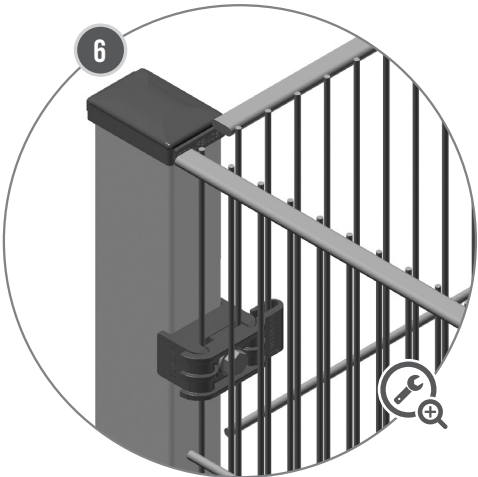
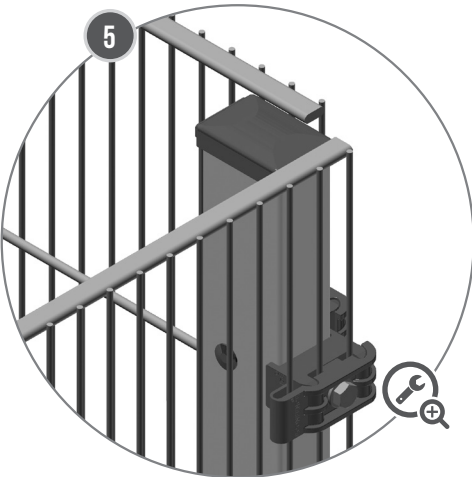
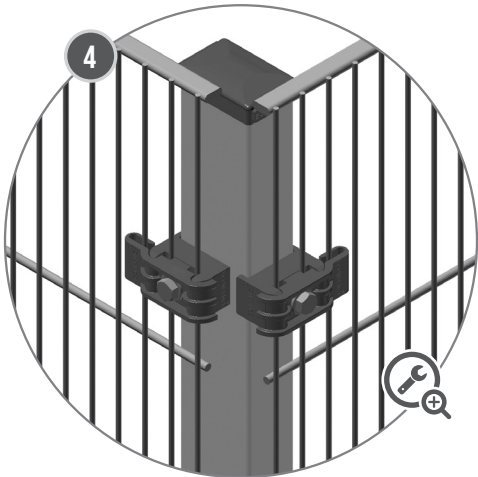
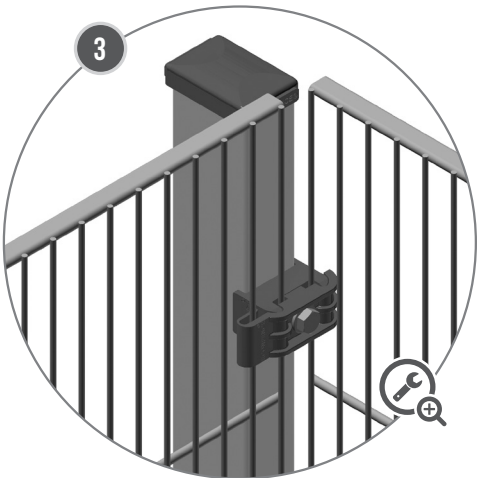
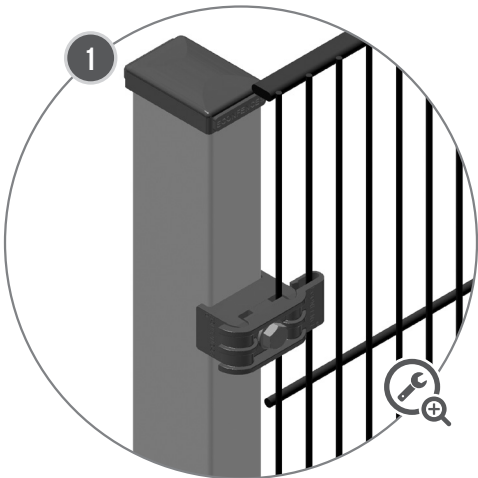


View of post variants from above – complete installation





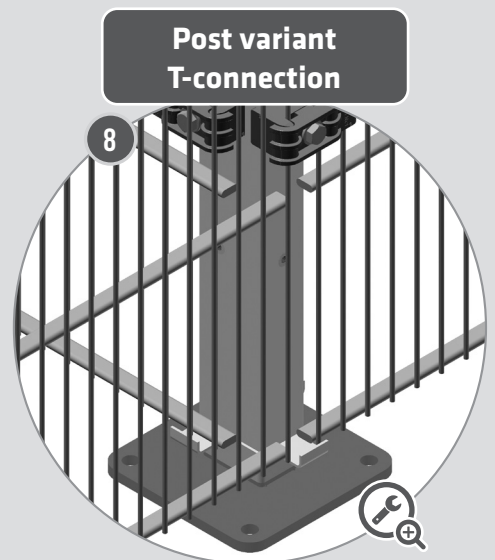
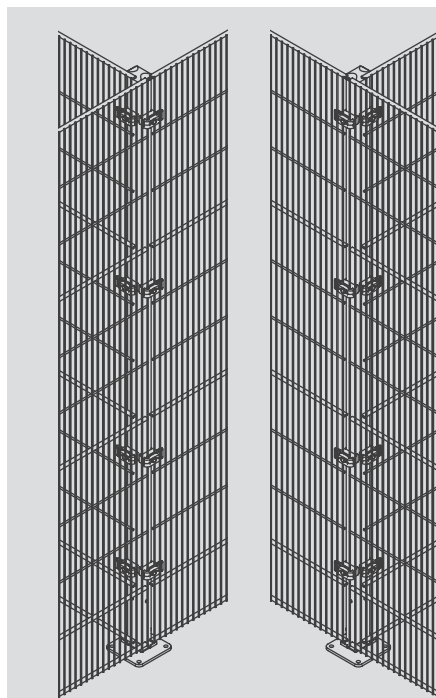
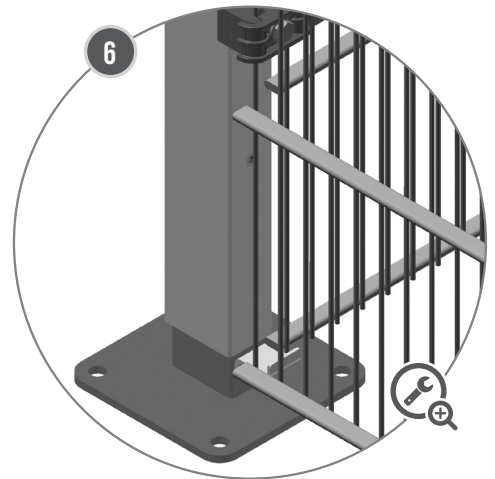
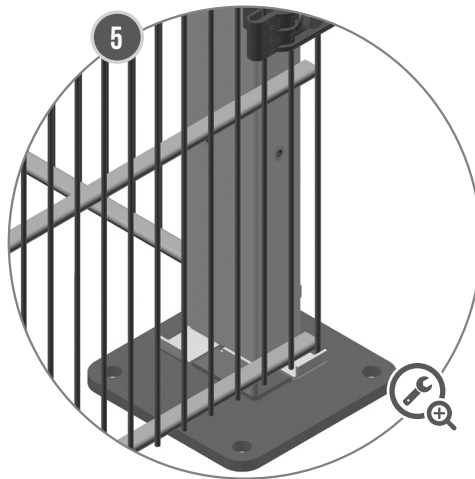
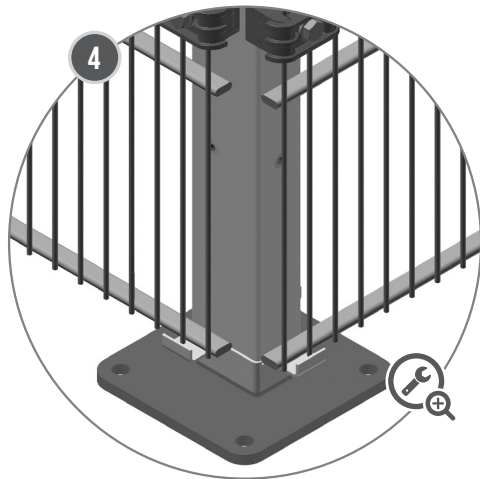
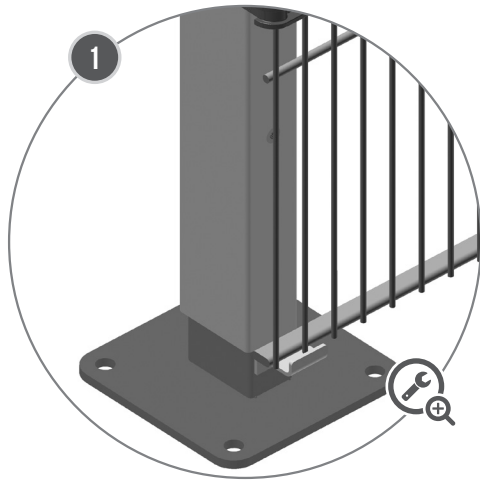
Complete installation views of clamping element ZB31004





5.3. Mesh assembly

Complete installation views of bottom mesh connector



5.4. Creating openings in mesh elements



The size and position of the openings must not compromise the stability of the mesh elements.

The minimum safety distances between hazardous areas and openings must be observed according to DIN EN ISO 13857.



In the case of openings for conveyor technology (such as a conveyor belt or roller conveyor), the requirements of DIN EN 619 must be observed.

Wear protective eyewear and ear protectors when creating the recesses with an angle grinder (Flex).

Once the cutting process is complete, the cut sections must be deburred and sealed if necessary. The use of edge trims is recommended.

6. Maintenance



The ECONFENCE® protective fencing system is essentially maintenance-free.

Annual checks are to be carried out by specialist personnel to ensure its protective function remains intact. Damaged parts must be replaced.

7. Disassembly and disposal



Two people are required for disassembly work and these must both be specialist personnel.

Prior to commencing the disassembly work, the machine or system must be switched off or else made safe.

Any electrical equipment attached to the protective fencing system must be disconnected or else made safe.

The system must be disposed of in line with local regulations.

8. Pendulum test

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The professional choice



BASIC LINE ZINK

ECONFENCE®
protection · german made

PENDELPRÜFVERFAHREN GEMÄSS DIN EN ISO 14120:2015

PRÜFBERICHT NR.

BLZ202010-1

GEGENSTAND
DER PRÜFUNG

Trennende Schutzeinrichtung ECONFENCE® BASIC LINE ZINK
Systemhöhen 2000/2400 mm

PRÜFORT

Bünde

PRÜFDATUM

08.10.2020

AUFPRALLENERGIE

Pendelenergie: 950 Joule
Harter Schlagkörper: 120 kg

$$W = m \cdot g \cdot h = 120 \cdot 9,81 \cdot 0,807 = 950 \text{ J}$$

MATERIAL

Gitter: 2006 X 1983 mm (H x B) mit Maschenweite 19 x 190 mm
Drahtstärke: Horizontale Runddrähte einseitig 5,5 mm bzw. Flachstahl
15/6 mm, senkrechte Drähte 3,5 mm, punktverschweißt
Pfosten: 60/40/2/2045 mm
Gitterklemmelement: Kunststoff, schwarz, Klemmbereich 4 mm,
mit vormontierter Blechschraube ST 8x40 mm
Bodenbefestigung: Hilti Segmentanker HSA M10x113 50/40/10

PRÜFUMFANG

Die Prüfung wurde nach der Pendelschlagtest-Methode gemäß DIN EN ISO 14120 durchgeführt.
Um die Energie von 950 J zu erreichen, wurde das 120 kg Schlagpendel auf 807 mm vom Ausgangspunkt
(Einschlaghöhe) angehoben. Das Schlagpendel wurde so eingestellt, dass der Aufprall das Gitter mittig
bei 2/3 Höhe, über dem Boden traf. Belastungsrichtung von der Anlagenseite.

PRÜFERGEBNIS

Die trennende Schutzeinrichtung, BASIC LINE ZINK, hält sehr hoher Aufschlagenergie stand. Das Resultat ist eine dynamische Verformung von 550-600 mm und eine bleibende Deformierung der Zaunelemente von 200-250 mm, gemessen vom Ausgangspunkt. Trotz der sehr starken Aufprallenergie gab es weder Durchbrüche noch haben sich Kleinteile abgelöst.

.....
Frank Tiemann
Geschäftsführer

.....
Axel Tiemann
Geschäftsführer

8. Pendulum test

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BASIC LINE ZINK

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PENDELPRÜFVERFAHREN GEMÄSS DIN EN ISO 14120:2015

PRÜFBERICHT NR.

BLZ201910-2

GEGENSTAND
DER PRÜFUNG

Trennende Schutzeinrichtung **ECONFENCE® BASIC LINE ZINK**
Systemhöhen 2000mm/2400 mm/ 3000mm/4000mm

PRÜFORT

Bünde

PRÜFDATUM

10.10.2019

AUFPRALLENERGIE

Pendelenergie: 115 Joule
Weicher Schlagkörper: 50 kg

$$W = m \cdot g \cdot h = 50 \cdot 9,81 \cdot 0,235 = 115 \text{ J}$$

MATERIAL

Gitter: 2006 X 1983 mm (H x B) mit Maschenweite 19 x 190 mm
Drahtstärke: Horizontale Runddrähte einseitig 5,5 mm bzw. Flachstahl 15/6 mm, senkrechte Drähte 3,5 mm, punktverschweißt
Pfosten: 60/40/2/2200 mm
Gitterklemmelement: Kunststoff, schwarz, Klemmbereich 4 mm, mit vormontierter Blechschraube ST 8x40 mm
Bodenbefestigung: Hilti Segmentanker HSA M10x113 50/40/10

PRÜFUMFANG

Die Prüfung wurde nach der Pendelschlagtest-Methode gemäß DIN EN ISO 14120 durchgeführt. Um die Energie von 115 J zu erreichen, wurde das 50 kg Schlagpendel auf 235 mm vom Ausgangspunkt (Einschlaghöhe) angehoben. Das Schlagpendel wurde so eingestellt, dass der Aufprall das Gitter mittig bei 2/3 Höhe, über dem Boden traf. Belastungsrichtung von der Bedienerseite.

PRÜFERGEBNIS

Die trennende Schutzeinrichtung, BASIC LINE ZINK, hält sehr hoher Aufschlagenergie stand. Das Resultat ist eine dynamische Verformung von 200-250 mm und eine bleibende Deformierung der Zaunelemente von 10-20 mm, gemessen vom Ausgangspunkt. Trotz der sehr starken Aufprallenergie gab es weder Durchbrüche noch haben sich Kleinteile abgelöst.

.....
Frank Tiemann
Geschäftsführer

.....
Axel Tiemann
Geschäftsführer

9. Spare parts and accessories

Order no.	Designation	Fig.
ZB20097	Post cap with collar, black plastic, for a post profile measuring 60x40 mm	1
ZB31004	Clamping element, black plastic, clamping range 4 mm, with pre-assembled steel screw, ST 8x40 mm	2
ZB21008	Mesh support, row post (drive-in version), black plastic, for a post profile measuring 60x40 mm	3
ZB21012	Mesh support, corner post (drive-in version), black plastic, for a post profile measuring 60x40 mm	4
ZB10076	Pin chuck for mesh support (wooden)	
S00050	Post insert base for series installation of profiles measuring 60x40 mm, 140x140 mm plate, galvanised	5
S00070	Post insert base for corner installation of profiles measuring 60x40 mm, 140x140 mm plate, galvanised	6
DIN913 M10x10	Threaded pin for removable post base (2 screws required per base)	
ZB20025	Hilti std stud anchor, galvanised steel, HSA M10x113 50/40/10 for non-cracked concrete	
ZB20027	Hilti capsule adhesive anchor HVU M10x90 with anchor rod HAS M10x90/21 for non-cracked concrete	
ZB40005	Mesh customisations and recesses according to customer layout	

Technical specifications subject to change.

 Should you have any further questions, please contact us on +49 (0) 5223 791995-0.

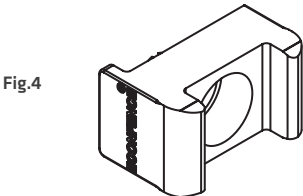
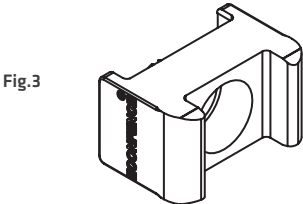
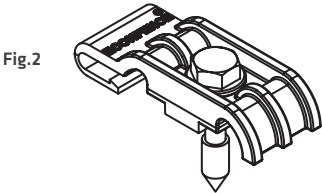
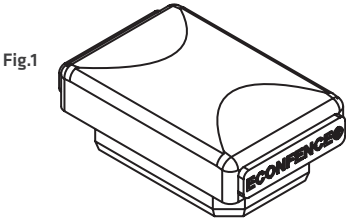


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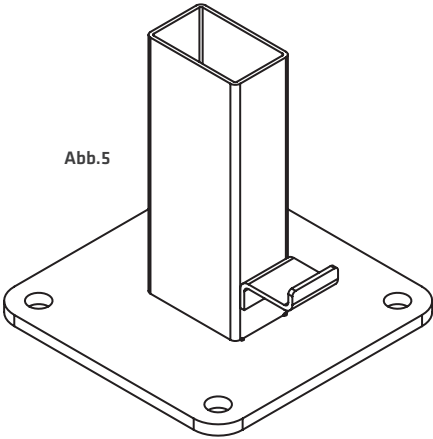
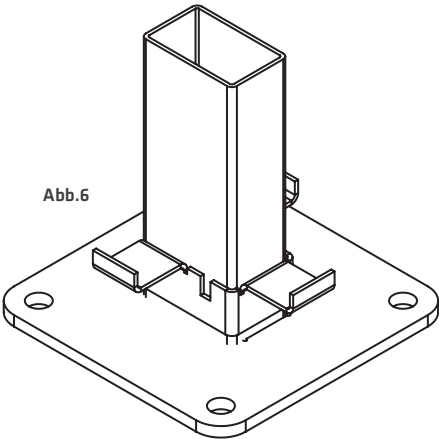
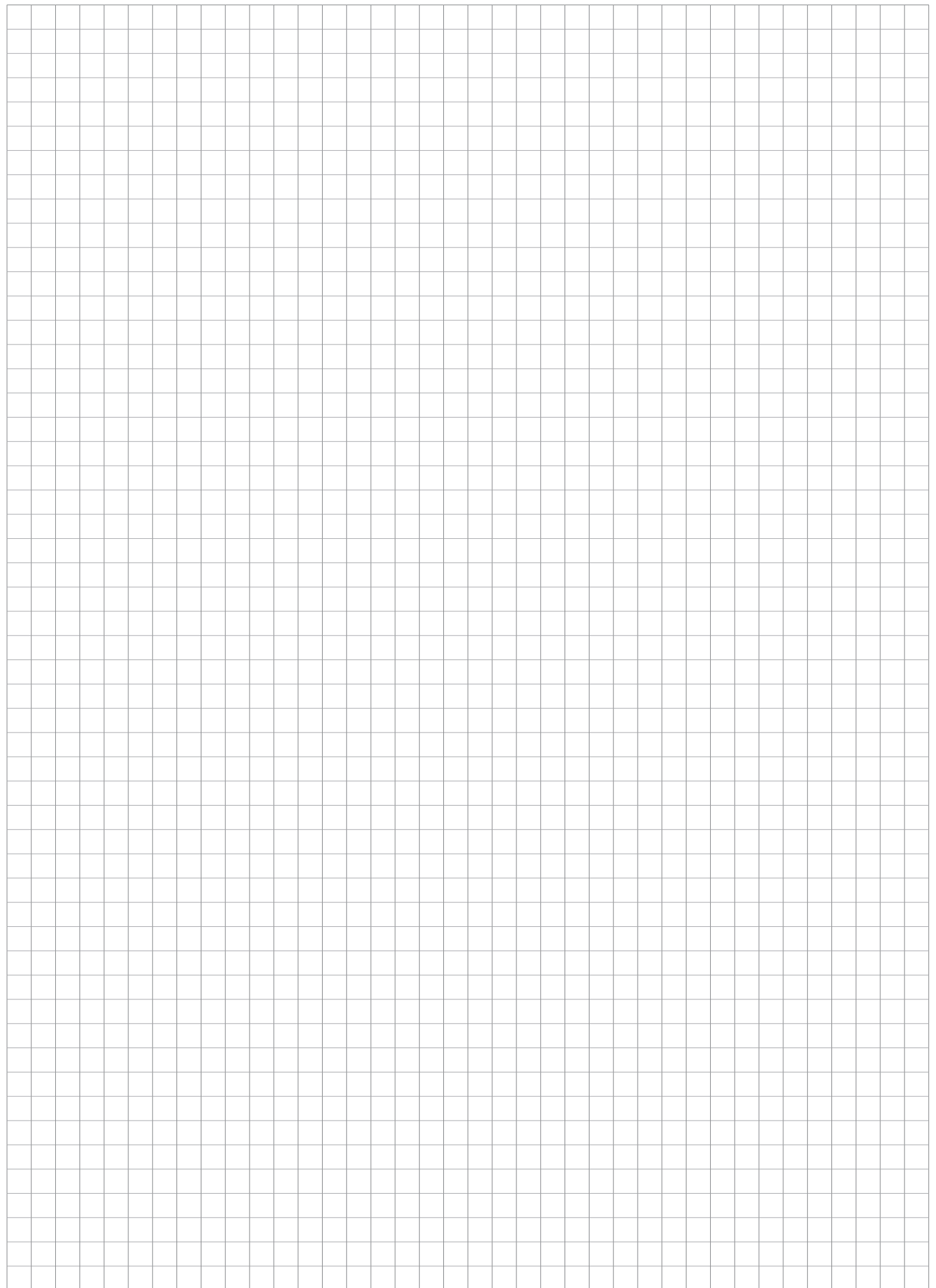


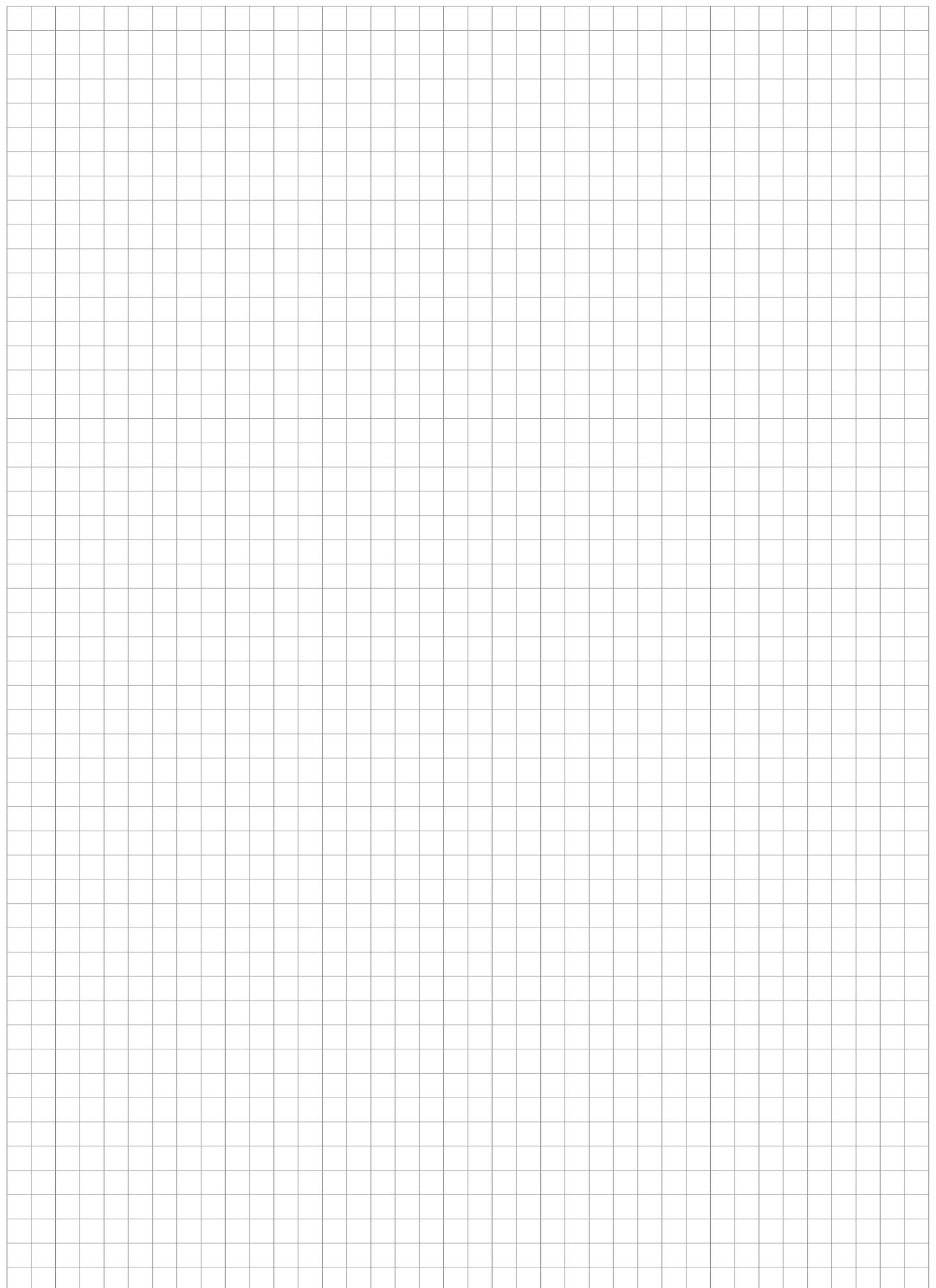
Abb.6



NOTES



NOTES





The professional choice

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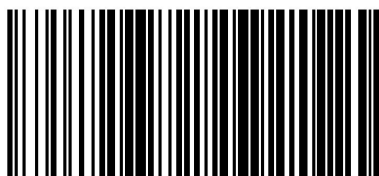
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